

# The Origin of Macroeconomics

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The German Bernacer's Theory

CALIGRAMA

# The Origin of **Macroeconomics**

The German Bernacer 's Theory

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# Dedication

*The effort and method of research are used to lay the bricks –brick by brick- in the construction of the scientific building, but nothing can be compared to the cosmic flight of creativity and imagination, which in essence are as free as condors or eagles. I thus dedicate this book to imaginative and free men.*

*I especially dedicate this book to Paul A. Samuelson, whose spirit combines the creative force and analytical precision. Professor Samuelson was open and excited about the research in this book.*

*My sincere gratitude also goes out to the Caja de Ahorros del Mediterráneo, that financed the translation of this book.*

*Further gratitude to the Bank of Spain, where Germán Bernácer worked, which has shown its competence and prudence.*

# Presentation

Germán Bernácer is one of the Spanish economists that history will undoubtedly recognise some day for his outstanding work and groundbreaking contributions in the construction of economic science. As French and English speakers have dominated the economic arena, it is not uncommon that the merits of Spain's scientists are glossed over and accorded first to foreigners and later, much later, Spaniards are eventually given their due recognition.

This statement is proven true in work done by Professor Robertson, a distinguished economist from Cambridge University who is well known by all Spanish professors. He published the works of Germán Bernácer in the magazine *Economica* under the title 'A Spanish Contribution to the Theory of Fluctuations', in which he referred to Bernácer as 'renowned Spanish economist'.

Manuel de Torres, in the preface to his translation of Robertson's book *Essay on Monetary Theory*, justified the inclusion therein of Bernácer's work on the theory of monetary fluctuations.

It is remarkable to recall that Germán Bernácer set forth his *theory on fluctuations* or, even better, his *theory on disposable funds* in 1923, a full thirteen years before Keynes' opus, *The General Theory*, would appear. Bernácer's work does contain the seed or the essence of part of the field of thought developed later by Keynes. I am not trying to claim that the honoured English economist was inspired by Bernácer's work, which he may not even have been aware of. However, it is not that improbable in light of the friendship Keynes had with Robertson. What is true in any case is that Bernácer had very clear ideas at that time about the role that money had on real economics. That is, he was clear about the influence of monetary economics on real economics.

Several distinguished professors from the Faculty of Economic Sciences at the Complutense University in Madrid have studied Bernácer's work and personality. These professors include Manuel de Torres and Emilio de Figueroa, who are regrettably both deceased. However, it has been Professor José Villacís who has delved into the meaning and importance of the contributions of Professor Bernácer most diligently and in the greatest depth.

The curriculum and lengthy list of publications of Professor Villacís is extensive enough both to convey his academic merits and amply guarantee the work he has done on Germán Bernácer.

Furthermore, he has also studied Germán Bernácer's personality and what I would dare to describe as his multidimensional involvement in the scientific arena. Germán Bernácer came from humble origins and was a self-made man. He would obtain the post of department head for the Testing and Evaluation of Commercial Products at the Business Training School in Madrid (*Escuela Superior de Comercio de Madrid*) after a competitive selection process. When I studied business at the same school, I was lucky enough to have this eminent man as a teacher, because Professor Bernácer also loved chemistry and laboratory work. This never prevented him from performing in-depth economic studies and holding first the post of director and subsequently the post of assistant director of Research Services at the Bank of Spain. This double facet of Professor Bernácer is detailed and commented upon by Professor Villacís, who also clarifies the apparent anomaly of his supposed demotion, which was simply one further

consequence of Professor Bernácer's modesty. The brilliance of the posts he held overwhelmed him when he just wished to have more time available for study and research.

Bernácer was also an eminently refined man and a great pedagogue. He lived in great simplicity and this was particularly clear –if I may say so due to personally knowing him- in how he treated his students. I believe his own character was his biggest enemy and his natural modesty made him indifferent to others acknowledging his achievements and stunning abilities. It was probably his personality, incapable of fighting or confronting his possible doctrinal adversaries, where the explanation can be found for the marginalisation he was subject to in his life, as Villacís correctly emphasises.

His simplicity and the way he shied away from the limelight whenever possible may also have contributed to the fact that his scientific renown was largely ignored by those of us starting out at the recently-opened Faculty of Political and Economic Sciences. Essentially, we went there to read Anglo-Saxon economic literature.

Thus, I find it commendable that a Spanish professor is presently bringing the works and personality of Germán Bernácer to the public eye. I believe that there is no person better qualified to do so than José Villacís González, who has studied his works and life in such depth, despite never personally knowing the man. The work reflects his signature and excellent style and is full of the passion we could expect in this meritorious, just and long-overdue demand for recognition. He stresses the full importance of the contributions of Professor Germán Bernácer in the construction of financial and monetary economics. Therefore, Mr Villacís will bring him to the public eye of new generations of economists who will surely feel true pride that a Spaniard –a humble chemistry professor by all appearances- was ahead of the subsequent monetary theories with his Theory on Disposal Funds.

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# Reading guidelines

This is quite a long book about a new and unknown subject: the macroeconomic theory of Germán Bernácer. Reading such a lengthy treatise on such a heterodox topic may be overwhelming to some readers. Anticipating this situation, I have ‘enveloped’ the book between two small blocks: the first, which starts with a brief and concise introductory summary of the theory that will be developed and, the second, which are a series of conclusions set forth at the end of the book, where the final summary is presented. The book can therefore be read in the following ways:

- **Quick reading:** Read the introduction
- **Average reading:** Read the introduction and then jump to the final conclusions (there are 179), using the ‘Bernacerian’ dictionary as an aid
- **Extensive reading:** Read the entire book
- **Reading technique:** First read the introduction. Subsequently, as you read chapters or sections dealing with specific concepts, try to recap the meaning by rereading the corresponding summary. Thus, working with the book in a cyclical manner, you will also review the summary of the cycles once again. If you would like to go into greater depth after reading the whole book, it is worth matching each part of the book with its respective final conclusion, appearing at the end of the book
- **Comment:** It is possible to understand Bernácer’s thought along general lines through a coordinated reading of the introduction and the 179 final conclusions.
- **Note:** If readers wish, skip the extensive terminologies and arithmetic operations and stick to the textual explanations.

If readers would like to avoid a dense reading and be entertained with the anecdotal side of this book, go directly to the final section, the Biography of Germán Bernácer.



# Original prologue by José Villacís From 1993

‘I had the chance to meet Germán Bernácer.’ This pronouncement by economist Jesús Prados Arrarte would end up changing my life. After many years in exile, Prados exuded the charisma of a political fugitive and the seductive romanticism of those with firsthand knowledge of other economies. As his students, we were captivated by the masterful and improvised lectures he would burst forth with at his home while we graded papers or ate lunch in the cafeteria. These conversations were sprinkled with anecdotes and punctuated by references to famous characters from the world of literature, like Prado’s good friend Federico García Lorca, and about wartime struggles.

Prados would jest that he was an expert on inflations. This was not odd, given that he had studied, suffered and lived through Latin American inflations. He lived for many years in Argentina and did studies on Chilean and Peruvian inflation. He was a critic of the big economists and would end up saying that Milton Friedman ‘was the worst Nobel Prize winner ever chosen’. He was acerbic in his attacks and always devastating.

For this reason, his proclamation of great admiration has always remained vividly in my memory, as if he had been introduced to Adam Smith: ‘I had the chance to meet Germán Bernácer...’

At that time (the winter of 1977), I was starting out in the world of teaching, no research, and I instinctively asked if Germán Bernácer was a German economist. He told me no; he was Spanish. Then Prados started to tell me about how he was known by the greatest economists in the world, like Robertson, Haberler, Perraux, Rueff, and about how he published in prestigious international magazines.

Admiration, which is a matter of knowledge and particularly of instinct, shone through in Prado’s comments when he talked about Bernácer. And in a single phrase, he paid him the highest compliment possible by saying, ‘Damn! That guy really knew about money’. Then, Prado started to tell the story that he would repeat innumerable times about introducing Bernácer and Robertson. Don’t forget, he would say, that we are talking about *the* Robertson from Cambridge, nobody less, who was a friend and confidant of the great Keynes. The story, which is told in greater detail later in the book, was the following.

It was 1954 at a banking conference in Granada, Spain. Prados was talking to Dennis H. Robertson, who told him that he had heard about a man named Bernácer. ‘Well, he is actually here in the hotel, and I will introduce you to him now,’ said Prados. Excited, they went downstairs. And they approached a timid man, practically hiding in a corner of the room. It was an unbalanced and absurd meeting. Robertson virtually towered over Bernácer and hugged him happily and genuinely, like someone who had finally found a long-lost friend. Totally the opposite, Bernácer acted cold and distant. Prados said, ‘Bernácer’s face looked like he was ill’.

We soon started to look for background information on Bernácer, armed with enthusiasm and the rudiments of Keynesian economics. Ten years later, we would find the key to Robertson’s passion and Bernácer’s coldness. I also found the core of an orthodox and real definition of macroeconomics, which turns the orthodox and official into an impossible game of vulgar arithmetic. By that time, Prados had died without ever realising the amazing individual who had been right in front of him.

What is tragic about the case is that Prados carried out several daring forays into dynamic economics with very interesting results without ever having studied or known about Bernácer's works. He even ended up experimentally proving some of Bernácer's theories. It is tragic and even anecdotal. Now it was four years after that landmark year of 1977 when I heard the name Bernácer from his mouth for the very first time. I had already become engrossed in his theories and I commented on Keynes' possible repetition of Bernácer's work. And he said, 'Villacís, that's ridiculous'. I believed him. I also told him that the saving-investment equality was foolishness, to which he readily and confidently responded: 'That is not foolishness. That is an identity, and saying that an identity is not equal is not foolishness, it is madness'. I fell quiet, but then added how savings are sometimes not invested and not hoarded either. Then he argued, 'So what do you do with them?' I told him that income is not always spent on consumer and capital goods. He aggressively interrupted and said: 'You are not telling me that they are spent on illusions'. I told him yes, on illusions of wealth. He laughed, but behind his glasses, his eyes, somewhere between surprised and amused or perhaps irritated, gazed upon a new researcher.

I hounded him so relentlessly in the last years of his life that, perhaps due to weariness or maybe even curiosity, he finally read some chapters of Bernácer's work, *A Free Market Economy without Crisis or Unemployment*. He read it partially, as well as chapter one of *The Functional Doctrine of Money* and he understood some of it. This is that secondary financial assets were a type of anti-wealth and that their acquisition and sale with disposable funds (non-invested savings) will spawn oscillations in the rubber bands of the economy.

In Prados' extensive book entitled *Treatise on Political Economy* in the chapter on Economic Cycles, he quoted a list of doctrines that all expressed part of his peculiar viewpoint about cycles. They are like scattered country inns that each let researchers quench their immediate thirst and hunger, but are also complete scientific bodies of work in themselves. Thus Prados quoted Bernácer in this list and only in distant recognition. It is also true that Prados was one of the very few, or the only one in Spain to ever quote Bernácer. This was Prados' reference in his last book, a comment in small print, in the vast desert of Spanish economics.

My acknowledgement of Prados appears here before my future studies, as I owe him my start in teaching and part of my knowledge, especially about inflation and money. But I am also critical of him, given that if he would have understood this part about secondary financial assets and about disposable funds, it would have changed the course of his understanding of macroeconomics. But I really have no reason to criticise Prados, when economic scientists simply followed the most accepted theories of the day, like the accepted theory on blood circulation before the arrival of Servet and Harvey. With respect to economics, this includes thought about monetary circulation, the creation of national product and the distribution of income, one of the axioms of economics. Actually, it is quite normal that a man who witnessed the appearance of the Keynesian revolution, of the post-Keynesian revolution and of the constantly improving creation of macroeconomic doctrine was not about to change his vision of macroeconomics in the final years of his life.

Prados studied the Chilean economy for a long period of time. It was research that started from the analyses of balance sheets of limited companies in Chile in which sinking funds were analysed. These funds are part of income, specifically part of a company's income, which is not distributed and is thus used to create savings. These are Bernácer's disposable funds, as you will see. The objective of sinking funds

is to transform them into investments. This is the macroeconomic tenet that translates into the identity  $S = I$ . This study was done in the fifties, twenty-five years before I read about Bernácer's cycles and financial assets. Prados showed how this savings or sinking fund was channelled towards what he called non-amortisable fixed assets. And what are they? Well, building sites, lands and other assets that increased greatly in value and let companies protect themselves against inflation. Stated differently, sinking funds were placed (not to say invested here) in past wealth or actual secondary assets and not in production fixed assets.

The issue is that production fixed assets are not only productive but also have been produced, letting them be rescued with period saving, making  $S = I$  true. This did not happen in Chile. Simultaneously, companies were undercapitalised as a consequence of inflation. But Prados stopped there, in the reduction of the production pyramid according to Hayek, that is, the undercapitalisation of companies.

Bernácer did not comprehend Prados as he had not read him, and vice-versa. Prados did not benefit from his conclusion, although I did draw extremely valuable conclusions<sup>1</sup>. Prados should have realised and this is why I emphasised it to him in the last years of his life; that with wealth, anti-wealth is created or illusions of wealth. Financial assets, after fulfilling their mission of transferring savings to investments, continued to survive. Furthermore, after actual assets are created, they continued to be bought and sold above their creation value. These are all anti-wealth in the sense that they monopolise part of the income from the period, specifically the remaining savings that were not capitalised. This means that in the arena of the economic system, the wealth from the period -consumption and capital- is joined to our financial assets or illusions of wealth or anti-wealth. Then production income whose destination according to Say is to collect generated production via purchases, changes course to demand these artificial assets of wealth. And if they hold this perverse function, they fail when authentic wealth is sold.

This is what I made Prados see, much to his great irritation, when he had already published his citation about Bernácer's economic cycles. The conclusion did not come to light in his work on Chilean limited companies, but rather spilled acid onto the solid structure of macroeconomics. It was clear that if he admitted Bernácer's conclusion, non-capitalised savings were thus used to speculate financial assets (secondary or second-hand ones); and if this part of savings was not capitalised (disposable funds are these non-capitalised savings), then savings could not be equal to investment. And the part of unsold production could not be referred to as investment in any way, which macroeconomics wrongly calls inventory investments and that, furthermore, it is not sold because income demands dead wealth or illusions of wealth. Prados, on a winter afternoon, would shout once again (there are no witnesses to this) 'It is true!' But it was too late. Prados would die without knowing, or even guessing, that the works of the man he introduced to Robertson had unknowingly and statistically proven one part of his work.

How could Prados have known that the introduction he initiated was the culmination of a scientific duel infected by suspicion? A duel between the representative of the British giant of English economic science, Robertson, friend and expert of another, the great Keynes, on the one hand, and on the other hand, a Spanish giant, the only one in his land.

Bernácer was consumed with doubt about being copied by Keynes. And his suspicion was well-founded. His work, prior to Keynes', was established through a series of supporting parts such as monetary theory, his theory on interest, consumption, criticism of Say's Law, which all come together in a functionalism or logical structure that is the model for the determination of income. He did tell Robertson and then his

theories started appearing from Keynes' skilful and fecund pen, one by one and then all of them together.

There are undoubtedly scientific coincidences. It is normal that one or two creations are discovered in science by two or more people. But the reassurance of the scientist becomes flustered when an entire system and the parts that comprise it are repeated ad nauseum, detail by detail, to the point of exasperation. Calm is destroyed and one's intelligence is irritated. And this was how the shy and prudent Bernácer despaired when faced with the suspicion that Keynes had copied him.

However, the most underhanded thing about the situation and possibly the clearest is how the Englishman distorted Bernácer's ideas one by one to make them his own (his suspicions were grounded). Intentional distortion is quite dangerous because truth is truth and not what we hope and want it to be. Thus, disposable funds appear as liquidity, financial interest as monetary interest, investment as investment and unsold merchandise as inventory investment. Bernácer stood up after 1936 and unmasked the connection that Keynes had so astutely hidden. His criticism of Keynes was simple and implacable and Robertson fell along with the master, very little to be honest, and his followers. For Prados and all economists who boast of having common sense, the renowned and famous Englishman's plagiarism of a poor accountant from the Spanish provinces would seem like madness. It seems like madness and it is, especially when there is not a single irrefutable piece of evidence to prove it. Stated differently, in a courtroom claiming plagiarism, Bernácer wouldn't be able to do anything and neither can I.

Like most or all Spanish economists, including Professor Emilio Figueroa who knew Bernácer best, Bernácer passed right in front of him without anyone knowing about his theory. Robertson knew it and Robertson paid it homage and admiration and made it known to the international scientific community.

Robertson and Bernácer maintained a long correspondence and the sinuous and creeping snake of suspicion floated in and out of each letter. Until the day arrived that a mutual economist friend put them face to face. This was Prados, who could not understand Robertson's enthusiastic embrace and Bernácer's coldness.

Prados is justified for several reasons. From his comment 'I met Germán Bernácer in 1977!' until 1990 when the first edition of this book was written, a long and difficult road has been travelled in the indomitable gymnastics of my work. Without this single comment, I and the majority of Spanish economists would not have known anything about him. And Prados was so scientifically close that, like a book thrust right in front of your eyes, he could not read it.

Nonetheless, the most important character in this work is Emilio Figueroa. He died on 9 December 1989, only shortly before I finished this book. His unflagging enthusiasm and spirit were a constant inspiration.

Bernácer was not an economist and did not study this field at university. His teaching subjects were physics and chemistry. He was a professor of Testing and Evaluation of Commercial Products, a class that he used to teach physics. Apart from that, his qualifications, like a stamp placed on a letter so that it reaches its destination, were as a business teacher, which he used in his work as an accountant.

Career-wise, he ended up working at the Bank of Spain, where he managed Research Services.

Emilio Figueroa was the only economist that not only knew him, but was also with him during a large part of his scientific life. He was his student at the Business Training School and his workmate at the Bank of Spain. Subsequently, he also succeeded him in the post of assistant director of research that Bernácer had held. The two of them were in direct contact. Figueroa's admiration of Bernácer, many long years after his

death, was always great and the teachings of the master remained with him like a tune that you unconsciously hum that is ingrained in your mind.

First of all, I want to make a comment. The education imparted at the Business Training School was a low-level trade school, practical in nature. It could be called scientifically unattractive, almost ordinary. Economic reality is analysed almost manually, without romanticism and without the blinding turmoil of useless abstractions. Accounting mechanics and business economics are studied. It is reality as we see it and as it is. It is economic reality and accounting is an elementary and enormously practical part of statistics. There is no deceit and if there is, the accountant is either dismissed by the boss or taken to jail by the state.

Economic science is not accounting or statistics and does not simply spring from these other disciplines. But however common these techniques are, scientific methodology is born or should be born there.

Figuroa was not far behind economists who had soaked up the purest economic theories of their time, the legacy of neoclassic microeconomics, of Keynes' General Theory when it appeared and the history of economic science. The education at the Business Training School was exact and aesthetic and did not permit dangerous flirtations with scientific dreams. Bernácer and Figuroa belonged to this caste, as well as Prados and other renowned economists like Fernández Pirla.

This is the reason why, nourished with Bernacerian education, it has been easy for me to start up a dialogue with Figuroa and Fernández Pirla. Words that relate working capital, fixed capital or sentences that say (these are from Bernácer) 'working capital is comprised partly of capital goods, which continue to be working capital no matter how established they are as long as they are not withdrawn by the entrepreneur...', is a type of language that is quickly grasped by experts of business economics.

José María Fernández Pirla in particular, professor of business economics and stockbroker (what a great experience!), with great intuition and a quick intelligence, has admitted the enormous complexity existing in the movement between savings and investment. Pure macroeconomists naturally admit this as well, but they might not know why, although business economists do.

Neither Figuroa nor Pirla owe their in-depth knowledge of macroeconomics and business economics to Bernácer, although both knew him personally, but rather their well-rounded scientific education. It is complete because they were matched in their studies about the starting point, the end point and the road in between them.

Bernácer did not have any orthodox students during his lifetime, since he did not teach economics or worry about starting a school at the Bank of Spain. He was the prototype of the solitary economist, interested in disseminating his scientific theories in publications. Understanding his theories entailed many years of almost exclusive study for me, to then synthesise them after full understanding was reached. Proof of this is how Keynesian theory had an army of disciplined and eager economists who knew how to record and harmonise a series of tautologies and contradictions. Since Bernácer had none of this; he founded no school and no one knew of his works. Bernácer himself is partly to blame for this. Figuroa confused us when he openly admitted that he did not know the works of his teacher. Over many years and frequent and long conversations, I realised he had not given himself credit, because Figuroa's different statements let me see that the lyrics and melodies of Bernácer's music had not been lost. Proof of this is Figuroa's theory of money *surrogates*, which I have expanded upon. This is a strong branch in the Bernacerian tree. Further proof is Figuroa's statement that working capital must be financed with new money and fixed

capital with savings, although he explains it slightly differently than Bernácer.

I was very excited to find out that Bernácer had been a teacher at the Business Training School. This was in the initial stages of my detective-like investigation that continued with numerous institutions, lives and deaths. It was a tragic and painful quest due to the large number of treacherous and wicked acts that were revealed. Someone told me that Figueroa knew Bernácer well.

Figueroa graciously invited me into his home. My ego lets me mention that I was happy to find him retired at that time, so that he could devote all his free time and energy to my quest. It wasn't a trivial matter for him to speak of Bernácer or for me to ask. He was fully aware of the scientific equivalence between Bernácer and Keynes. He had heard direct praise about Bernácer directly from France, Italy, England and the United States by way of people like Rueff, Perraux, Robertson and Haberler. No comment from Spain though, except from Prados. This is added to the fact that many years had passed between 1955, when Figueroa took over Bernácer's previous post when he retired, and 1984 when our scientific and personal scrutiny began.

And it wasn't the memory of Bernacerian science that drove Figueroa's stories, but the descriptive details of his personality. He said that he was a good man and that adjective says it all. He described Bernácer as a totally non-aggressive man, although this trait could have served him well, as he was ingenuous and painfully shy. Absent-minded was another prominent adjective used, like many geniuses.

Figueroa told a story that someone once walked up to his desk and asked, 'Why is that shoe sitting on your desk?' First response: 'What shoe?' and second response: 'I have no idea whose it is or why it is on my desk!' The shoe was his and no one was quite sure why or when he had taken it off and put it on the desk. Another story was that young technicians at the Bank of Spain played a trick on the official translator, telling him that he had to translate several articles at the orders of Mr Bernácer. It wasn't true. Annoyed about the looming workload, he went to his boss to ask for an explanation. Bernácer, who should have known that he himself hadn't assigned the work, told him: 'Don't worry about it now, do it later'.

Figueroa said that Bernácer was never interested in holding an administrative or political post. It wasn't his thing and he wasn't psychologically prepared for it. After having met the Bernácer family and talking to all family members separately, as well as to his friends, especially Figueroa, I believe that this lack of economic and political ambition was an essential trait of his personality. It is impossible to imagine our absent-minded and timorous professor subjected to political pressures or intricate schemes in this greedy and conniving world. At the Bank of Spain, he wanted to work in his own way and that is what he did. As to the rest, the only thing he worried about was providing for his family and nothing more. But this wasn't enough to live in peace without ambitions, because everyone else needed to know it and Bernácer didn't worry about that either.

I told Figueroa about my unbearable hunch that Keynes had plagiarised Bernácer. As mentioned repeatedly, this suspicion was madness that, like a mineral, neither I nor Bernácer could absorb. Only for me, this mineral became organic and came to life, since after pursuing it, the sense of persecution reversed and I as the pursuer became the pursued. Indeed, this book is really a catharsis or mental cure to place my suspicions methodically on paper once and for all. Figueroa seriously replied that he just would not believe it. Keynes was too important a man to heed poor Germán. He then added that it didn't make any sense. My response was immediate: 'It would make sense, but what is missing is proof'.

My visits to Figueroa's home turned into invasions and my questions into hounding. He was unbelievably patient and tolerant and it even helped him clarify his memories and ideas.

On the desk that separated us, along with the papers and notes, the ghost of Keynes appeared. He told me how one summer afternoon leaving the university; he bought *The General Theory*... and soaked it up. He thought he understood Keynes well. Behind Figueroa, or above him, the figure of Bernácer appeared. As strange as it may seem, an extraordinary and strange and paradoxical teaching experience developed between me and Figueroa. He taught me macroeconomic topics and I taught him about Bernacerian macroeconomics. It was macroeconomics prior to *The General Theory*... and an unrepeatable experience. Flashes of memories came to him, like that about the zero interest rate Bernácer spoke of, disposable funds, financing working capital with new money, etc.

I modestly started furnishing Figueroa's home with Bernácer's science, abandoned and dusty after so much time and lack of study. One piece here and another there. I started off with disposable funds that were a fraction of income that was not capitalised or consumed. Then this hoarding, which wasn't hoarding! Then, how these financed the financial market and how interest was born... But Keynes already said that! No, I responded... Bernácer said it first! Liquidity and disposable funds are the same. Very similar but not equal; they are different.

Don't tell me that Bernácer didn't believe in the arithmetic that tells us that savings is equal to investment... He never believed this, since savings cannot remain liquid or in financial assets and simultaneously be capitalised. What is clear is that if savings is invested in working capital, it is good for the system and even for fulfilling the equality  $S = I$ ... Neither of those, given that this investment is always depressive. Over and over again, invading his home and pursuing this man who had lived more than 70 fruitful years with macroeconomic knowledge deeply ingrained in his head that was not Bernacerian, I undertook the difficult task, but with infinitely more intensity, of teaching him Bernacerian economics or, the same thing, the errors of Keynesian macroeconomics. I am not sure if it worked.

He encouraged my investigations but also warned me of the dangers. I took note. Dangers obviously referred to not taking a doctrine too literally that would be obsolete in the eighties and that would probably not have been decanted or purified by any scientist. In reality, the dangers came from elsewhere and were never sufficiently explained. The name and the works of Bernácer *were not known in Spain*. And it was not that the clamour of the Keynesian waterfall had drowned out the small trickle of the Bernacerian stream. No, that wasn't the reason. Bernácer felt that it was a complicit silence and the existence of complicity requires more people. In science, complicity demands an enormous collaboration from the institutions of learning and power. How different it would have been, Bernácer said, to have been born in the United States.

The idea of a conspiracy theory seemed to be said in a fit of anger to criticise those who had ignored a genius in the history of Spanish economic thought. But my biggest doubt was the genetic capacity of this conspiracy, which would endure after Bernácer's death and would continue on to those who expressed interest in his work. It was excessive.

My incredulity about this conspiracy lessened when I read the magnificent and comprehensive book by Professor Henry Savall, who more prudently than me, but with greater courage and exactness, clearly spoke of the *wall of silence*. He shared the idea that Bernácer, who rubbed shoulders with the great economists of the time, didn't like Spanish economists. The Spanish community in particular did not like

the publication of Robertson's article in *Economía* magazine in February 1940, which gathered praise for Bernácer from scientists worldwide.

Spanish economic literature, that pays such homage to Keynes or to criticism of Keynes and even post-Keynesians who make perpetual noise in scientific circles, is silent about Spanish economists. The only comments are from the prolific Fabián Estapé, in his translation of Ferdinando di Finizio's book, and an article by Figueroa ('Germán Bernácer in Memoriam' in the magazine *Moneda y Crédito* in 1965). As will be understood, this silence is not the result of chance.

Even Figueroa would be stunned when his suspicions about the conspiracy of silence were confirmed when I showed him the 1988 Petit Larousse Illustré dictionary, whose French edition cites Bernácer's name, whereas the Spanish version says absolutely nothing!

However, and despite everything, the Spanish Tax Studies Institute published a monographic issue about Germán Bernácer in its *Hacienda Pública* magazine in 1983. The pretext could not have been timelier, since it was the celebration of 100 years since his birth. The firm and honest hand of Professor César Albiñana was in charge of the issue.

A series of events commemorating his birth were held this year in Bernácer's beloved city of Alicante. And in England, at refined and learned Cambridge, they were probably also celebrating the 100<sup>th</sup> anniversary of John Maynard Keynes, since the two economists with so much in common were also born in the same year. Conferences, followed by the uncovering of a plaque on the street bearing his name, were the noteworthy events at this celebration. For the rest, Spain, a country that ignored him and has continued ignoring him, these dates went unnoticed.

Prados participated in the monographic issue with the publication of an article about economic cycles, as well as Emilio Figueroa naturally, whose article dealt with strictly monetary issues. I also published an article on what I believed to be the gestalt of Bernacerian macroeconomics. Among its various defects, there is also a discovery in the article, which is the basic structure of his thought. Since that time (the article was written in 1982 and published in 1983) until the present year of 1989, I have read the entirety of his works several times and have worked extensively on them. Despite their simplicity, new veins to be exploited and valleys to be cultivated have continued to appear. And above all, Bernácer has given us a vision of classic and neoclassic economics, on its successes and its errors and the defects in Keynesian economics.

Emilio Figueroa gave me a short speech to be read at the celebration in Alicante, since he could not attend due to health problems. They were tough words with sharp edges. He recommended that the economic community should think more and not worry so much about reading modern books, when these are more informed by snobbery than pure knowledge. Bernácer was the clearest example of the intrepid explorer for knowledge. Years later, when Bernácer's thought had crushed part of Keynesian definitions and had entered more into the domestic arena; I started to publish articles with a double angle. One was the dissemination of an economist's thought who due to his importance was of interest to the world's scientific community and, clearly, to the Spanish one. Some articles were published both in Spain and in Portugal. However, I can say that I had serious difficulties in publicising his work here in Spain. Was it the conspiracy of silence or paranoia? I will never know. My aim with these articles and the present work is and will be an impossible task. It consists of placing pressure on books about the history of economic thought, based on reason, so that Bernácer holds the place of honour he deserves alongside Keynes. This is



a heroic, romantic and living task, but nearly impossible, as I am without an entire system and lacking collaboration from institutions.

The other angle is more difficult than the first and consists of adapting modern macroeconomics to Bernácer's thought, not the opposite. Let me explain myself. If modern macroeconomics sprang from the fertile womb of Keynes' scientific work, and they believe Bernácer was wrong (or poorly copied if we continue along these mad lines) and although it has been retouched and wisely connected, the foundation errors still survive and have not been pursued. Bernácer lived to demonstrate these errors, as you can see in his last book *A Free Market Economy without Crisis or Unemployment* (1955). It is not about refining the definition of consumption or improving studies about the demand for money or investments, but rather about the general circulatory process of money, the origin of interest, etc.

And if Keynes had followers and critical followers with great intelligence and extensive, in-depth scientific training, it is clear that I alone cannot perform the overwhelming task of adapting modern macroeconomics to Bernácer's thought, despite having the crushing tool of his criticisms. One worker alone cannot destroy a city and build a new one.

But since stubbornness and enthusiasm are both free, I have overcome my fear and done work that has opened small cracks in the world of macroeconomic thought. Of course it is possible to claim that these cracks are due to my education and/or intelligence.

Figuerola acknowledged two of my works, although I don't know if it was due to affection, tolerance or weariness. One referred to the parallelism between the macroeconomic ideas of Prados Arrarte and Bernácer. This work, that Prados couldn't read because it was published after his death, spoke of how sinking funds or potentially-capitalised savings were not really invested in consumption or capital, but in illusions of wealth, which Prados called 'non-amortisable fixed assets'.

My other work made reference to a point that Bernácer forgot, which is: Bernácer's theory, as he himself coined it, is *income-based*, as the circulatory mechanism is explained by the origin of production and of production income. He criticised Keynes who, also being intelligently income-based like Bernácer, speaks of generic and imprecise concepts when speaking of money, such as monetary supply and the demand for money when analysing the money market. Bernácer says that there is a savings flow that comes from the great flow of income and that he calls disposable funds. Part of this flow is invested (and stops being disposable) and part is kept as a disposable-fund flow that reaches the financial market through speculation, with its investment thus stopped. In this market, he correctly says that there is a supply and demand of disposable funds that reflect the respective buying and selling of financial assets, which leads to the amortisation price of these assets and in turn leads to interest. This is similar to Keynesian speculative demand.

But Bernácer did not explain (if it is called income-based) what the flow is for the savings supply and demand towards investment, due to which he determined *another different interest*, which is ordinary market interest. This means that if a disposable fund supply and demand existed, there would have to be a savings supply and demand invested (savings that are capitalised) that respectively respects the operations of buying and selling capital.

Figuerola was Bernácer's student at the Business Training School in Madrid, not in Economics, but in the discipline of Testing and Evaluation of Commercial Products, which was physics and chemistry basically. Over time at the Bank of Spain, where they both worked, Bernácer moved from the post of Director of

Research Services to Assistant Director. Remember that in those times –the thirties- Research Services was a small administrative unit without any specific function and probably without technical or political influence. This is totally the opposite from now, when this department is comprised of powerful means and highly-qualified and coordinated personnel that let it maintain broad technical advisory and decision-taking capacities.

When Bernácer retired, his post was filled by Figueroa. This was in 1955 and he had just published *A Free Market Economy without Crisis or Unemployment*. He was 72 and my enthusiasm for Figueroa is therefore not exaggerated as he has always been the bridge between me and Bernácer, over the dusty road of time.

Figueroa surprised me a lot when, among different comments about his friend and teacher, he inserted thoughts about macroeconomics. Once he told me: ‘Don’t forget that new money is needed to finance working capital and that savings must finance fixed capital’. This assertion was basically a Bernacerian proposition on dynamic balance. I fired back a question like a shot: ‘And how do you know that?’ Then he gave me a simple response that had nothing to do with Bernácer’s thesis, which he was not fully aware of. His response was that new money is recovered quickly and can be created. Savings is generated slowly and lets fixed capital be financed, whose erosion is also slow, letting its recovery through a sinking fund by done with some concurrence.

Fate has been capricious in my work and it has been an excellent and happy turn of luck. Prados randomly placed Bernácer on my path through a casual comment. Emilio Figueroa told me stories about a man I wanted to know about after his death and who was his teacher. And with respect to my other dear friends, distant in time, they helped sate my thirst for knowledge about him.

And this fate wanted there to be an exceptional witness to Prados’ memorable introduction of Robertson and Bernácer. This witness was Emilio Figueroa, who was staying at another hotel. Figueroa found Bernácer’s curt acknowledgement of Robertson’s embrace strange. The stranglehold of timidity was the explanation. I believed it and also believe in the unbearable moral upheaval for Bernácer when faced with an economist who witnessed a colossal scientific creation prior to that of Keynes. And furthermore, the great annoyance about the hypothetical plagiarism. Figueroa was unsure. This was my victory: I made him doubt.

Doubt, which has its own life, pursues its pursuers.

The most difficult thing has been to provide a secure method for my research. I am not sure if it has worked. What is sure is that the inception, over ten years ago now, lacked methodology, with respect to hunting down and capturing biographical information. On the other hand, knowledge about his school of thought was a pleasure, although likewise difficult to obtain.

Soon, sentences started to appear from Prados and especially from Figueroa, like: ‘So and so might know’... and then this figure might not have known, but he did know someone else who had contact with him. But on most occasions, this person would have seen him at some point. And among imperceptible data, which were like microscopic spider webs, or others from Figueroa that were thick and well-woven threads, they all came together to weave a colourful fabric laced with the inevitable subjectivism of the investigator.

In the United States, Wallich, an executive at the Federal Reserve, encouraged me and answered my

letters. He had met ‘my’ economist and still had vivid memories of him after many years. In France, Françoise Perraux accepted Bernácer as a great economist and an expert in monetary matters. This is what he told me. Marcial Jesús López Moreno, Business Economics professor and former dean of the Economics Faculty in Madrid, was his student with an inexhaustible enthusiasm for my project. Fernández Pirla, another student, responded to my requests for information. In 1987-1988, when he was president of the National Audit Office, he always found time to answer my questions. I was amazed by his memory of Robertson’s work on Bernácer. He was not his Economics student, but a student of Testing and Evaluation of Commercial Products, whose specialisation was not macroeconomics. Pirla was also a valid and receptive speaker who understands the language of macroeconomics clearly, and clarity is the language of business economics. This statement is also true of Professor López Moreno.

Professor Mariano Sebastián Herrador was Bernácer’s boss at the Bank of Spain and held the post that Bernácer would later have in Research Services. This man has a key role in Bernácer’s public life, as he took over his job. Finally, when he was elderly and with the serenity of years, he gave me an explanation that is real due to observation removed from the emotion of first-hand observation. Mariano Sebastián was a professor of Political Economics at San Pablo University Centre, and I was as well. So we were colleagues. My zeal for information was rejected, maybe not due to indifference but to buried aggressiveness. Things were changing so fast that the supposed aggressor became an involuntary benefactor. Mariano Sebastián was never antagonistic about Bernácer at all. He was simply a man that was deeply involved and devoted to scientific research. I might dare to say that he was mentally outside the game, as they say in football, and men like Einstein or Adam Smith are not useful for administrative routine or power struggles. He simply let Bernácer *do what he felt like doing*, and what Bernácer felt like doing was researching, plain and simple.

Bernácer’s wife, from whom I received a large amount of information, said: ‘That was just how Germán was’. Doña María built a glass dome around his environment and let him be. This dome or capsule let Bernácer see but not hear. He heard nothing about domestic problems or economic ones. And I asked myself, not without a certain violence or brutality, what difference was there between how Mariano Sebastián and Dona María Guardiola acted? None. Both of them let him work.

A workmate –a boss who inundated him with work and took advantage of the hierarchical advantages of bureaucracy- may have managed to rescue a bad bureaucrat for the administration, but the world would have lost a great scientist. Paradoxically, Mariano Sebastián let Bernácer work freely on his research. From the information given and confirmed by the Bernácer family, I found out that he took more holiday time than he was due with the approval of Mariano Sebastián. As you can imagine, his holidays, like all 365 days of the year and many nights as well, were devoted to work.

Germánico Salgado, Ecuadorian economist and senior executive at CEPAL and Ecuadorian ambassador in Spain, remembered Bernácer from his times as a student in Spain. He knew how important he was and encouraged me to keep working. He also dedicated a prologue to me in the first book he wrote in 1982, which was going to be published by Editora Nacional. Unfortunately it closed down and the publication didn’t end up happening.

Professor José Raga Gil, from Valencia like Bernácer, listened to our concerns and encouraged my research. He called me about publishing an article on Bernácer in *S’Pill* magazine, which I did, with the double honour of it also being published in the Valencian language.

Professor José Luis Pérez de Ayala glimpsed the spark of my enthusiasm and threw more wood onto the fire. He listened to me and also published an article about fiscal policy as related to the theory of disposable funds. This article was published in the collection he edited and was entitled 'Financial Law and Public Finances'.

Miss María del Carmen Sánchez García, who worked at the school that was the Business Training School, where Bernácer taught, let me consult school archives and expand upon my enquiries.

As mentioned, destiny seemed to be on my side. The following story will confirm that. Bernácer's son, who worked at UNESCO and is a physicist like his father, lived in Santiago de Chile and came to Spain every three years or so, to Alicante. He had a layover in Madrid for a few hours. I happened to call him and he answered. We had a brief chat and then I contacted the relevant figures to tie the story together. We made an appointment to meet at Emilio Figueroa's house. I introduced them and then listened.

It was the first time I had heard from a member of Bernácer's family. The son spoke of his father with great precision and emotion. Figueroa spoke and listened. Everything I had heard about Bernácer was confirmed. And more. His father suffered from unbearable shyness. His education was extremely wide-ranging and included humanist subjects like history, philosophy and Latin. He learned Latin so that he could teach his children, as well as teaching his son about physics. 'For my father', he said, 'physics and economics were two different disciplines and his methodology therefore also had to be different'. However, economic events develop over time and space, which are physical parameters, and must fulfil the laws of this environment. Time is continuous and irreversible, as two things cannot be in the same space at the same time. I had read these comments somewhere made by Germán Bernácer Jr. They are offshoots of ideas that say that if savings is not capitalised, disposable funds are in the financial market and, thus, *at that time* are not in the production market.

Figueroa understood this idea clearly and squirmed excitedly in his seat. This conversation took place before 1983, the year in which the dollar had become scarce and there was a lack of disposable funds. Germán Bernácer Jr, in his travels around America as a functionary, came into contact with economists and attended more than one economic conference. He understood economics, although he did not formally study it. He made a statement that Figueroa and I had already formulated... 'The dollar has become another financial asset that is not strictly monetary'. His son had obviously understood his father well. Ramón Bernácer, the third child, had always been a source of friendly, intelligent, generous and attentive conversation, providing much invaluable information. He has a degree in Exact Sciences in Economic Sciences and works as a business broker, public notary and intermediary in fast-paced financial market operations. He used to joke that his father wouldn't have forgiven him for earning a living in his scorned financial market.

I was always asking Ramón, the mathematician, what his father thought about applying mathematics to economics and about his father's mathematical education. His response was always the same: 'Mathematics, my father said, does not create concepts. However, their careful formulation is recommended, always knowing what you are doing and not getting tangled up in scientific science fiction. Many errors are committed in the application of mathematics.' Other times, he said that the basic use of simple maths was enough to express any economic relationship. However, Bernácer, and his enormous intellectual curiosity, devoured everything that fell into his reach and mathematics was in the scope of his curiosity. Along with José Antonio Estrugo, a colleague at the Business Training School, he created the

Spanish Society of Applied Mathematics.

The fruits of these studies would appear by way of mathematical economics and econometrics (not Bernácer's) in the magazine *Arquímedes*. Bernácer published an article in one of the first issues, which was almost a warning, about scientific methodology. Prestigious mathematician Rey Pastor and José Gallego Díaz were friends of his.

The present work is the offspring of another that I finished in 1983. On the centenary of Bernácer's birth, I had the chance to meet Henry Savall in the hotel I was staying at. You can only imagine my surprise when, thinking I was the only explorer into Bernácer's life and works and in the midst of this enormous task, I suddenly met someone with a spectacular book on the same subject. It was disappointing. Henry Savall's work was a translation from French and was an extensive and well-researched book. I had the sensation that the golden metal of Bernácerian thought had been melted down and transformed into a finely-crafted watch. But I wanted to take advantage of this potentially demoralising situation. I devoured Savall's book, which repeated many details I had discovered, only that Savall did it with great fluidity and, I think, better literary style.

I profited from it, I said. I used each point about his life and works as a starting point to expand upon different details and concepts. This was how my original work grew and was improved to finish with the present book. Savall signed his book for me and told me about his tireless enthusiasm. But he didn't want to answer my questions: Who was better, Keynes or Bernácer? Was there copying or not? Savall was more prudent than I. My enthusiasm is joined with imprudence and this is why I am willing to persist in my laborious task of incorporating Bernácer's work with modern macroeconomics.

My friend, teacher and colleague at the CEU, Beltrán Flores, proffered his valuable help to properly place Bernácer's thought within the setting of the history of economic thought.

I would like to thank the rewarding group of CEU professors, authors of the book *Monetary Theory and Policy*: Luis Rodríguez Sáenz, Alberto Parejo Gámir, Fernández Díaz, Calvo Bernardino and Miguel Angel Galindo, as well as Luis Santiago Moreno and Jesús Paul. Besides my work, Professor Jucos' book on the history of economic thought and the aforementioned *Monetary Theory and Policy* quote Bernácer's theory for the first time in textbooks.

Special recollection goes to my dear student at the CEU, Ana Parpal Tuzo, originally from Menorca, who helped me investigate the origin of the surname Bernácer. By coincidence, the surname of Miss Ana Parpal's grandmother was 'Bennassar', of Balearic origin like Bernácer, and they belong to the same genealogical group. The extremely valuable work of my intelligent student reached me in a letter dated 30 July 1991 when my book had already been delivered to Editorial Paraninfo.

When delivering the proofs to the printer, I wrote a warm dedication to my colleagues at CEES (European Centre on University Studies), to my friend Esteban Varela and to José Mariano López Cepero, who was Bernácer's student and helped me apply the finishing touches to the impressionist painting of his teacher.

Lastly, my deep thanks go to the entire Bernácer family, especially his widow, who helped me define and complete the fresco I had already created in the imprecise watercolours of my mind. The final portrait - man, life and works- appears in this book.

*José Villacís*  
1993

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<sup>1</sup>José Villacís: ‘The Parallelism between Prados and Bernácer in Macroeconomics’; *Pensamiento Iberoamericano: Revista de Economía Política*, no. 6

# Prologue by Paul Samuelson

Dear Professor Villacís:

Here is a brief foreword.

The history of science is replete with cases where a Newton had been preceded by a little-known earlier scholar. Thanks to the intelligent discoveries of Spain's José Villacís, the learned world can know that elements of the Keynesian Revolution were already present in the early years of the twentieth century.

*Best,*

*Paul A. Samuelson*

*30 October 2008*

# Prologue by Juan Velarde

This book is an in-depth scientific explanation of an important body of work created by a Spanish economist who received great notoriety starting in 1922, perhaps with some precedent in 1916. This commentary is not one from a devoted follower who, due to this, does not try to do more than clarify and highlight the virtues of the great master, but rather an extensive analysis that shows admiration at times, but is also critical at times. But it is also a work that has great interest at this time. We are in the midst of an extremely serious series of financial complications at this very moment that are spawning a very serious crisis. And I have here a tool, with Bernácer's theory of disposable funds, to clarify many of these realities from his contributions that started in 1922.

I should start by pointing out that this groundbreaking work, the article 'The Theory of Disposable Funds as an Explanation of Crisis and Social Problems', published in 1922 in the *Revista Nacional de Economía*, which ended up having international scientific dissemination thanks to Robertson's essay 'A Spanish Contribution to the Theory of Fluctuations', published in *Economica*, had an extraordinarily small impact on Spanish economists. The 'Why?' has been approached many times. As Unamuno said, I turn to the person closest to me. In 1947, I was a young graduate in Economics. I had just entered the University of Madrid as an assistant to professors Olariaga and Ruiz Morales and was working in the Statistics Division of the Banking Council. My office at this institution had the full collection of *Economica* magazine, which I eagerly launched into. And I soon came across Robertson's article. What he said caught my attention – indeed, it is related with extraordinary precision in this book by professor Villacís- and then I asked Olariaga if it was worth working with the contributions by this Spanish economist. At that time, I had read Bernácer's *Functional Doctrine of Money* (Council of Scientific Research, 1945) and his article 'The Budget Deficit, Inflation and Mr Kalecki' in *Anales de Economía*, 1947, which seemed quite interesting to me. The answer was quick. I remember Professor Olariaga's response almost textually - 'Don't waste your time on Bernácer; you already get away from me enough on your Keynesian path and you don't need to complicate your life more.' Olariaga completely followed Hayak and wanted his young assistant to get back to the Austrian school, to that orthodoxy that was having great difficulties at that time in handling the offensive of the 'Cambridge circus'. But I think there was another reason he rejected Bernácer.

Starting with Flores de Lemus, the generation of economists appearing at the end of the 19<sup>th</sup> and beginning of the 20<sup>th</sup> centuries with their studies and opinions, they could be called members of the Spanish intellectual generation of 98. These Spanish economists were extremely devout in believing that they must receive pure and untainted preparation abroad. Flores de Lemus worked with Bortkiewicz in Tubinga and then with Schmoller and Lexis in Berlin; Bernis was with Edgeworth in Oxford and the nascent institutionalists in New York; Zumalacárregui with the Lausanne school; and then they almost single-handedly dedicated themselves to leading Spanish economic policy. They directed their energies towards applied economics, not theory. And Bernácer was self taught and, on his own, starting with Turgot and Ricardo, he dedicated his time to creating economic analysis models outside of their concrete application to our economy. I have had the feeling for some time now that he knew, or would soon know, more about Wicksell than what he claimed, even in this book. 'But Robertson holds him in high esteem', I insisted once to Torres. His reply silenced me: 'And what do you have to say about Keynes' quote, and in none



less than the *General Theory*, of that extravagant Argentine economist, Gessel? Sometimes great economists carry out these flowery tasks, but that isn't what's important.'

I have to confess that I wasn't a rebel and I accepted these points of view. I absent-mindedly half read Bernácer's numerous articles in *The Economist*, which deserve to be recompiled with additional commentaries, and skipped those that appeared in *Anales de Economía*. Now I am sorry -and this excessively justifies this regret- that I didn't even talk to him when I saw him attentively listening, always silent and reserved, at the tests held to select university professors at the University of Madrid; or when I saw him at a distance at the Bank of Spain Research Services, when I went to him looking for information about Spanish commercial policies during the era of the 2nd Republic (1931-1935), which coincided with the Great Depression. And on one fine day in an old bookshop, I even came across his book *Freedom and Happiness: Essays on Social Medicine*, published in 1916. I read it excessively quickly, but now have necessarily rectified this situation after reading Professor Villacís' book. I drew the conclusion then that its author was a type of crusader to eliminate the interest rate, and even more, someone walking along a similar path to that of Henry George when he decided to eliminate rent on lands with taxation. I typecast Bernácer as some type of utopian socialist. Of course, the question always stayed with me of - Why Robertson? Of course, Savall's book about Bernácer disappointed me. His biographical references left much to be desired and some of his analytical interpretations also seemed to be incomplete.

To Villacís, as you will see in this book, the person who led the way towards a fair assessment of Bernácer was Figueroa. Not for me. I came into contact with this teacher a lot, but whenever he referred to Bernácer in my presence, it wasn't to cite him as an example of a researcher or to say that he was interested in his contributions. He instead normally told me about his eccentricities, which didn't incite me to study him. Conversely and much later, Professor Prados Arrarte did stress that it was worth taking his contributions into account. When he came to my house to give me the six volumes of his *Treatise on Political Economics*, he told me: 'You will see I don't only quote you or Segura or Rojo, but many Spanish economists, but only those who are worthwhile. For example, read references to Bernácer, so absurdly overshadowed.' This effectively occurs on page 23 of volume III of this *Treatise*, when pointing out that money can be considered as a flow or as a fund. I believe his exact words merit transcription: 'An unfairly-ignored Spanish economist, Germán Bernácer, who received international accolade from no one less than Sir Dennis Robertson, has mentioned the differences between what he calls "potential flows" and "actual flows", considering the latter as short-term data and the former as long term.' And to clarify the matter, he transcribed these paragraphs from Bernácer's article 'What is the Monetary Current that is most Suitable for General Interests?', published in *Anales de Economía*, 1952: 'Thus, one must distinguish the potential flows of merchandise and money and objective flows, the latter shaped by potential flows decreased by stagnation outside of the market or increased by the decrease of these inflows. Short-term equilibrium depends on the equality of actual flows. Long-term equilibrium also depends on the normality of stocks of merchandise and of money.' Prados Arrarte inferred the following from this: 'Germán Bernácer's words may show that the flow-fund dichotomy undergone by money is not theoretically insurmountable. It will be, however, if one tries to resolve the matter by connecting only the extreme opinions of the argument.' And in volume VI, chapter LX, of his *Treatise*, when setting forth the monetary theories of the economic cycle, after successively mentioning the doctrines derived from Veblen; to the theories of over-indebtedness, with Irving Fisher in first place; to Hawtrey; to Hayek; to Keynes; to post-Keynesianism and to the theory on spending, he devoted his attention, very extensively, to Germán

Bernácer (pages 204-208). When referring to this, he also relates the anecdote of the meeting with Robertson in Granada, since he witnessed it, which expands on the reference to this event made in this book in appendix 6.

The taboo towards Bernácer had disappeared, but his person and his studies still needed to be researched. The collaboration in Alicante for the centennial of his birth did a lot. For this occasion, I wrote an article entitled ‘Chronicle of the Spanish Homage to Germán Bernácer’ in *El Trimestre Económico*, July-September 1984, where Bernácer had debated so often. But all of this would have meant nothing without the irruption of Villacís, who made the importance of this economist very clear starting with his article ‘Theory on the Interest of Money in Germán Bernácer’, published in 1983 in *Hacienda Pública Española*. This task achieves its culmination in the present work. As readers will see, it would be impossible to improve on the presentation of the Bernácer’s life and works. Whoever works with it will also be benefited because, clear audience to the crisis we are living through now, you will understand it much better thanks to the contribution that we could already call the Bernácer-Villacís contribution. Thanks to both of them, macroeconomics has taken a giant leap forward. In the case of Professor Villacís, it is clear that he is generating the start of what is read in the great novel by Eça de Queiroz, *The Mystery of the Cintra Road*: ‘More than ever, one recognises that the human being can only achieve happiness in the fulfilled duty’. This also governs groups. And the group of Spanish economists has a duty that is effectively fulfilled through this work.

*Madrid, 8 October 2008*

*Juan Velarde Fuertes*

# Prologue by José Villacís 2008

Since 1993, when the first edition was published in Spanish, to 2008 when the English translation is being published of *The Origin of Macroeconomics*, new events have taken place that must be set forth. There are two characteristics of these events. The first concerns the realm of emotion and, consequently, my capacity for perspective on the horizon of research. The second regards research on new work done about Germán Bernácer's body of thought.

With regard to the first characteristic, I have reasserted my belief that in 1916, with the publication of the book *Society and Happiness*, he constructed the fundamental structure of macroeconomics. With the article from 1922-23, *The Theory of Disposable Funds*, an essential step was taken in the construction of the money market. I state again that this article also reached Professor Robertson in England.

In the first edition in 1993, despite the fact that I was obliged to be prudent and that I clearly expressed that there was no influence, I did leave the scarcely-buried belief in the air that Keynes had been influenced by Bernácer. I didn't write it, but it was like shadowy background music. It could not have been otherwise, taking the sheer number of discoveries into account in which they coincided and the assembly of the income circulation model. The epistolary bridge between Keynes and Bernácer was Robertson and I thought that the latter had been the direct transmitter of Bernácer's ideas. Now my thoughts have changed because there is no proof that all of Bernácer's work had been read by Robertson and, consequently, Keynes did not have knowledge of them. Furthermore, given the analytical and somehow romantic nature of Keynes, if he had had knowledge of the Spanish researcher, even if it had been little, he would have cited him in some work or article. But this didn't happen.

Even now and despite everything, the belief still assails me that the money market theory: liquidity preference, transactional and speculative money demands, could have reached Keynes because Robertson had received them from Bernácer. It may be true, but it is also true that Keynes lived in the comings and goings of the appearance of the quantitative theory on money, which was born in Cambridge as a voluntary and not mechanical theory, as it was explained and worked. The fact that the money market was a Keynesian theory is proved by the intellectual and dynamic crossbreeding resulting from a quick mind that related the Cambridge-version quantitative theory with his private activity as a stock-exchange speculator.

In short, this is my panoramic vision, hopefully calm, that I have been able to maintain after fifteen years.

The second feature of the events in recent years is my research into Bernácer's theories. One is the knowledge of working capital and its classification into first and second-class working capital. It is a different version of the added value of all goods at all companies. One example will explain it: If I analyse the sowing of wheat, its harvest, its milling, its baking... I can calculate the total added values that give rise to the final product of bread. Now, what is true is that in a horizontal sense, while it is true that companies are harvesting the wheat, it is also true that other different companies in this same period are milling the wheat and others are baking the bread and yet others are distributing the loafs. The same idea is applied for the construction of automobiles, perfumes, sweets and, in general, all national production. Their sum of added values is vertical and also horizontal.

Another consequence comes from this, which was explained by Bernácer, who questioned the essence of the fundamental equation. Savings finances investment, that is true, but while this happens and in this period, the system constructs the production of consumer and capital goods. The entirety of this production is called working capital. This is where the following question must be posed: Where do the financing means come from for this new working capital? They come from the new money generated in the system. Then the fundamental equation  $S = I$  is incomplete because it is missing this new money.

One of Bernácer's extremely important discoveries was that disposable funds, where I stress the authentic and third-degree ones that I call net disposable funds. These disposable funds are made up of savings that are not capitalised and that, therefore, fully enter into the formulation of a new and dynamic fundamental equation.

The new discoveries that have taken place in the last fifteen years do not detract from this book in any way, since they were already outlined and set forth.

The second part of the book, in order of importance and quantity, contains the life and works of Germán Bernácer. Due to reasons typical of historical biography, as time has passed, loose threads have arisen, that after pulling them, have led to domestic discoveries and even artistic and intellectual ones, with which I have prepared a good biographical tapestry. I am basically referring to the *Circle of Alicante*.

In 2006, I published a book entitled *Germán Bernácer and the Circle of Alicante*, in which I explained the intellectual setting in which Bernácer lived. He had no university degree, but was surrounded by a group of brotherly friends. These friends were prestigious and intellectual artists such as writer Gabriel Miró, musician Oscar Esplá, painter Emilio Varela, etc., who met up in the city of Alicante. I have tried to include it in this second translated edition of this book. The fear of not getting this biographical dimension right herein led me to not include these investigations. Nevertheless, I did include some details on this intellectual setting.

The time that has passed has given me both serenity and prudence, and these two virtues have had an effect on me not falling into the sin of comparison. The power of wisdom was not able to stave off the comparison of Spanish culture and English culture. Cambridge was one of the intellectual capitals of the world. The city flowered under the economic-political empire of the world that was the United Kingdom and the United Kingdom was the crossroads of the world's financial capitals. And London in particular was the economic seat of this empire. Keynes was born and lived in this ambience and he was also a skilled stock-market speculator.

Spain was a large boat adrift. The Spanish empire had already fallen. Alicante was a provincial city, but with the advantage of being a sea port, a vantage point to the Mediterranean. There were no universities in Alicante and there wasn't even an economics university in Spain. Germán Bernácer was born in Alicante and did not have modern economics teachers. He never gave classes in this discipline and didn't even know what they earned. I believe these words illustrate his intellectual prowess.

In London, the famous Bloomsbury Group came together, in which intellectuals and artists met including Virginia Woolf, Ducant Grant, Clive Bell, Vanesa Bell, Robert Fry, Keynes... This group was known throughout the world and is mandatory reading in art books and particularly in literature.

At the beginning of the last century in the sensual and mixed-race Spanish Mediterranean, the *Circle of Alicante* was formed. The members of the group have been studied individually because they are Spain's

artistic and intellectual heritage, especially from the community of Valencia. My book from 2006, *Germán Bernácer and the Circle of Alicante*, built an orchard with its own fruits and rivers, which I hope becomes known in Spain and in the world. Here I leave a record of its existence.

Significant events have taken place in recent years: One has been correspondence with Professor Paul A. Samuelson (14 July 1999), who has incomparable skill in scientific creation and a fabulous world-view on the history of economic thought, fruit of the scientific crossroads he has experienced. I also had brief correspondence with Professor Robert Solow (8 July 1999 and 26 July 1999). Both letters made mention of Germán Bernácer. The letters from these two economists took the edge off my ambitious points of view.

Another significant fact is represented by my exploration of the artists in Alicante who surrounded Bernácer. Connected to this fact is the highly illustrative prologue that Juan Velarde Fuertes wrote for the book *Germán Bernácer and the Circle of Alicante* on 31 July 2006, one of the most brilliant leaders in the Spanish scientific arena. Professor Velarde also wrote me a letter on 15 February 2006 about the relationship between Bernácer and Robertson, in which Mexican Josué Sanz participated.

I will include these letters, whose content will undoubtedly illustrate the valley of history from a mountain in which the events of economic thought played out.

Following is a letter written by Professor Solow from the Massachusetts Institute of Technology.

8 July 1999

Dear Mr Villacís:

*Thank you very much for your interesting letter. I cannot give you a complete response at this time, since I will not return to my office until the end of summer and I do not have access here to my books or a library.*

*What I can tell you is that the name of Germán Bernácer sounds familiar from my time as a student. Someone, somewhere, has written something in English about the fact that Bernácer first published some of Keynes' ideas. But I do not remember the author's name or where it was published. It may have been Dennis Robertson who wrote something about Bernácer. It would also be interesting to know if he was mentioned in *Prosperity and Depression* by Gottfried Haberler.*

*As you surely know, hundreds of pages were written about the identity or the difference between savings and investment in the thirties. According to some definitions they are also the same and, according to others, different. In reality, the issue is not whether they are equal, since this limits the question to a mere definition of concepts. What is important is if one of the two sets of definitions is more useful than the other. Present-day texts tend to establish the difference between saving that is actually executed and saving that is planned or considered, where the first is equal to investment and the second is not.*

*I do not have any idea if Keynes knew of Bernácer when he wrote his *General Theory*... But I really doubt that it was anything as strong as plagiarism. As far as I know, Keynes did not tend to take notice of anything not written by himself or his intimate friends. If we read his letters from that period, there is nothing that suggests that he used others' ideas. However, about his subconscious thoughts, it is impossible to draw any conclusion. But whatever the case, the story that you have recounted seems very interesting to me.*

*I think that the first thing you should do is find out if anyone has written about Bernácer in English. If so, you could write an article in English for a magazine like *History of Political Economy* about his work and its relevance with respect to Keynes. In this case, it is very likely that one of the university presses would be interested in translating your book to English and publishing it (although 600 pages seem excessive to me). I wish you the best of luck with this project.*

Sincerely yours,

[Signature]

Robert M. Solow

These lines are very important because they come from a great mind and, above all, due to the biological and academic age of Professor Solow, who was sixteen when Robertson published his article on Bernácer. Due to questions of age, years later, Bernácer's name *sounded familiar to him* at university.

He also spoke of the prestigious Haberler to enquire if he cited Bernácer in *Prosperity and Depression*.

Professor Solow was not sure, but he was on the right track, because Haberler did indeed quote Bernácer. The fact is that the Spanish economist *was aloft* at large universities.

The other part of the letter is very important because it clarifies Keynes' scientific and psychological profile as a man who was very attached to his own ideas and only took notice of his own work and that of his close friends. He said about Keynes: *If we read his letters from that period, there is nothing that suggests that he used others' ideas.* This is strictly true. When Solow wrote the letter, he only pointed out the extraordinary similarity between the two theories.

Following is a later letter written by Samuelson from the Massachusetts Institute of Technology.

14 July 1999

*When I received your letter praising Germán Bernácer for being ahead, in 1923, of much of the good that was in The General Theory by Keynes from 1936, it awoke a memory that Dennis Robertson had written about a Spanish macroeconomist some sixty years ago (in English).*

*Now I have consulted A Spanish Contribution to the Theory of Fluctuations, Economica (1940, Vol. 7, pp. 50-65) by Robertson. I include a photocopy in case you haven't seen it so that you can have access to this work from so long ago.*

*From Robertson's verbose quotes and comments, it follows that Bernácer had indeed already developed an analysis on the 'accumulation' of money in 1923, an analysis of how the interest rate could be affected by the marginal propensity to accumulate. Clearly, this coincides with and precedes Keynes' notions of equilibrium less than full employment, multiplying processes of spending and re-spending that alter the nominal and real flows of production. These quasi independent discoveries are common in science: Newton and Leibnitz; Darwin and Wallace; etc. Robert K. Merton, the historian and sociologist of scientific evolution, thought that these multiple innovators are more the norm than the exception.*

*It is not my intention to detract importance from Bernácer's contributions. We have detailed documentation of how Keynes evolved from 1930 until his synthesis in 1936. Numerous colleagues and students recorded the steps of this evolution at the time. It is unconceivable to me that, if there had been a substantial direct or indirect influence by Bernácer on Keynes, it would not have appeared at some point in these oral and written records.*

*But more than this. I did not manage to discern the appearance of a complete system in Bernácer's elaborate records, such as Walras' micro-system or the macro-system of Keynes-Hicks-Hansen. I did not find it in 1999 from Bernácer's quotes. In 1934-50, Robertson found many faults with Keynes' pretensions of having created a new and revolutionary theory; he was not wrong in thinking that real technology must have a role when determining the interest rate. This is an objection he set forth both for Keynes and for Bernácer. Nonetheless, in Keynes' case, his system of equations was better than his occasional lack of understanding of his own system: an increase in the technical productivity of capital, when it increases real production and increases the need for money for transactions, does lead to a rise in the interest rate. And this happens without denying that the liquidity preference relation is operative. I would be surprised that a Bernacerian scholar did not try to satisfy Robertson's suspicion in a similar way.*

*I am finishing preparations to send Robert Solow a photocopy of Robertson and Bernácer to his summer paradise. He may make further comments about the content of the letter that you sent him.*

*Thank you for telling me about these interesting finds.*

Paul A. Samuelson.

This letter from Professor Samuelson has two virtues: on the one hand, he mentions Robertson's article and places importance on the fact that a Spaniard made contributions to monetary theory. Secondly, he played down my admiration because he doesn't believe that Bernácer's contributions comprise a complete, or nearly complete, macroeconomics system like the Hicks-Hansen model or Walras' model in microeconomics. This statement is partly true and understandable since Samuelson does not know this book and my articles entirely because they were written in Spanish and not in English. It is understandable since the central structure of Bernácer's work is essentially monetary and, although it deals with the labour market, it does not incorporate a specific model for that market.

Lastly, he stated that he is finishing preparations to send Professor Solow a photocopy on Robertson and Bernácer. Professor Solow received this from Professor Samuelson and responded to me.

Here is Professor Solow's letter.

26 July 1999

*My friend Paul Samuelson found Dennis Robertson's article on Bernácer that he reminded me of. I think he sent you a copy and he also sent me a copy. I read it.*

*My opinion is very similar to that of Samuelson. Bernácer's comments in 1923 about the relationships of the flow of monetary capitals represent a considerable achievement. The equation that Robertson numbered (iv) was probably ahead of his time. Finally however, I do not believe that one can think that this leaflet from 1923 'came before' Keynes' General Theory model. Two things are missing. The first is a complete specific model of the generation of real income. The second is a clear image of the proportions in which a change in nominal aggregate is divided between changes in actual production and changes in price levels. I have to say that Keynes was not absolutely clear either with regard to this second aspect; the implicit response given by Keynes was probably not very good.*

*In light of this, I return to the recommendation that I believe I made in my first letter. Maybe you should write an article in English that sketches Bernácer's contributions (and that makes mention of course to Robertson's article and any other mention of Bernácer in the history of monetary theory). You could send the article to a magazine like the History of Political Economy, which would surely be interested.*

*Good luck with your work,*

Robert Solow

Professor Samuelson said he would look for the article on Robertson-Bernácer; he found it and sent it to Solow and he, after reading it, told me of its content. He starts by praising Bernácer, saying that his comments about the flow of monetary capitals are a considerable achievement. He equally stated that the leaflet from 1923 that Bernácer sent Robertson did not make him think that he came before Keynes' general model. And he said that two things were missing. Firstly: a specific model of real income does not exist. Secondly: there is not a clear image of the proportions in which a change in nominal aggregate is divided between changes in actual production and changes in price levels.

If we take into account that Robertson knew about the 1923 article, *The Theory of Disposable Funds*, it is a masterly contribution to money market theory, but this article is a well-organised scientific room that is not explicitly connected to Bernácer's macroeconomic building. This must be understood as follows: Bernácer's macroeconomics is organised and connected in his book from 1916, *Society and Happiness: An Essay on Social Mechanics*, containing 582 dense pages in which he explained the birth and circulation of income, the failure of Say's Law, the role of the financial system in the formation and channelling of savings, the scope of Malthus, the statics of wealth, the dynamic of wealth, the crisis that almost always comes from the financial system, an outline of the function of consumption, etc.

In his book *The Functional Doctrine of Money* from 1945, Bernácer may have bewildered readers because he showed the parallelism between his theory and Keynes' in *The General Theory* page by page. Bernácer's book was written nine years earlier (1936) and this analogy pertains not only to concepts, the names of these concepts, but also the formulas, one by one. And he complained because he thought his theories may have been copied. I say that Bernácer disturbed us because I frankly do not believe that Robertson had received the totality of his scientific thought before 1936. And if he did not receive the entire macroeconomic structure of Bernácer, then it definitely was not seen by Keynes.

So, I want to make it clear that Bernácer's body of work is one of the great scientific creations in the history of economic thought. The aim of this book is to set forth this creation, which will require great

concentration to fully comprehend, due to which I have included a dictionary of Bernacerian terms, his differences with respect to contemporary macroeconomics and 179 conclusions.

*José Villacís*  
*November 2008*



# Introduction

Since Bernácer's first work *Society and Happiness*, written in his early years in 1916, it has been clear that he is highly ethical in his approach to economic sciences. The book's title evokes utopian ideas, which economists may instinctively reject. This comment is for readers who have never read its pages. Unlike other economists, like utopian socialists and even socialistic economists like Marx, economic issues are not approached as a predatory fight for one class to gain ground over another, the cause of all evils. This book reveals an economist who breaks with utopian and sentimental notions, aiming to equip economic science with its own set of rules. He implicitly criticises classical and neoclassical economics, believing that they confuse logic and hyper-logic with reality<sup>2</sup>.

Notorious and sombre science generates economic imbalances, unemployment and misery. This is not good for the system. Given that it is not good, it is not fair and will have to be corrected. The analytical style of Bernácer is very similar to what will come later and that future economic science will deal with: macroeconomics, tax policy, monetary policy, etc. As you will see, the social and economic critical style of economists like Keynes and Robertson will also be different than the style of Marx and other socialists.

Ethical and economic criticism demands prior knowledge of economic reality, especially its concepts. In those years (1916), the world of economic science was not imprisoned in the marble tower of classical and neoclassical economics. It is doubtful that many economists of that time implicitly believed the theories of Smith, Ricardo and Mili first and then those of Jevons, Menger and Walras later. It may have been Malthus, the theorist of the logic of misery who sowed interest through dynamic effective demand, as well as Marshall in his monetary renewal of quantitative theory.

Bernácer is one of the economists who are midway between the certainty that the world is not the magical world of classical economists, where everything is in balance due to production and full employment objectives, and the reality that common sense explains as the economics of unemployment. The truth is that there was no other theory to take its place. Economists would urgently and desperately look for one thirteen years later (1929) when the world sunk into a depression after the collapse of the New York Stock Exchange.

The search was on. Indeed, *Society and Happiness* is an intrepid book that head on, suddenly and lucidly deals with the basic subjects of macroeconomics. It is worth mentioning that knowing what would be ahead is already an important scientific finding, because it entails having selected the key variables with masterly intuition. These variables are: money, interest, the financial market, criticism of the gold standard, the search for what is called capital, etc.

His selection of ideas is so important that every one of these issues or scientific areas would become the subject of separate and joint works, which would occupy a good part of his long life. These would all terminate in his crowning work *A Free Market Economy without Crisis or Unemployment*, published 39 years later (1955). Readers will understand his first book in light of modern developments (1916), but at that time macroeconomic science was still very young to explain the entire analytical range it dealt with using comprehensive scientific rigour, despite Wicksell's contributions. Thus, *Society and Happiness* represented a first building block in the enormous Bernacerian construction, as well as for

macroeconomics.

Precisely, the *Theory of Disposable Funds*, written six years later in 1922, would be the first scientifically pure work about money by Bernácer. He intuitively knew it in 1916, although it would take him six years to explain it concisely. This work would be the original master that would generate all subsequent work<sup>3</sup>. I believe that Bernácer's work is almost complete in the book *Society and Happiness*. It was developed in great precision in close to eighty articles and three books for the final coherent culmination in 1955. This is so true that it could be said that Bernácer had an original treatise on macroeconomics, parallel to the Keynesian treatise that would become much better known.

A summary will be given here of Bernacerian macroeconomics to provide a series of keys that will help understand what I will present hereafter. This will make overall understanding easier of the issues that will be explained analytically and step-by-step in the main body of the present work. First then, this introduction will give a general overview that will then be filled in with greater detail.

## SUMMARY OF THE WORK

1. Bernácer's primary concern is money and other related issues will arise from it such as: its functionality, its scarcity and interest, its location, etc.

Money comes from production and, originally and theoretically, money is a faithful reflection of production, representing production as a whole but none in particular. Money is used to acquire factors of production and consumer goods. It is the suitable instrument for distributing wealth. He optimistically stated that money is the merchandise that is universally wanted by everyone and for everyone. Money enormously facilitates the fulfilment of Say's Law, but also makes its non-fulfilment possible. Money makes it possible for demand to calibrate exactly what is wanted through monetary magnitudes and money can also be understood through supply. A precise understanding between supply and demand is possible owing to the existence of money. An important statement opened his work and the same statement ended it. This statement removed a series of obtuse economic concepts that he believed needlessly complicated understanding the market. The statement is: *The demand for goods is nothing but a supply of money and the supply of goods is a demand for money*. The two halves explain and complement each other. Money is offered to acquire goods and money is requested for selling goods. Thus, the goods market hides the money market and vice-versa. This is what Walras would explain later when speaking of his *encaisse désirée*, or desired cash balance, and Keynes would explain in his theory of liquidity preference.

2. The value of the good spawns the money required to make the purchase possible. This means two things: That the economic system continually requires the means necessary to establish existing values, in accordance with the motivations and needs of supply and demand. When these needs and motivations change, the value also changes. The second is that the cost is not fixed, not due to what was stated about variations of supply and demand, but due to monetary circumstances owing to the quantity of money that make monetary votes change. In short, the value or price floats in a sea of relativity.

The relativity is double because the price of a consumer good will depend on the amount of money in the system, which is generally explained by the broadest version of quantitative theory. It will also depend on the saving-investment alternative that consumers always can and do decide on. This means

that part of the money flows towards the demand for consumer goods, its natural preference, and the other part flows towards savings, demanding capital goods. The price of capital goods will be determined in the same way by the amount of money and by the alternative, which is always possible by acquiring consumer goods. Thus, the conclusion is that the quantity of money and preference for it by consumers and producers in turn determine two things, which are actually the same: the price of consumer goods and the price of capital goods and, even a third thing, the relative price between consumer and capital goods (that an economist like Hayeck would profit from).

3. Bringing merchandise to the market increases supply, but bringing money to the market increases demand. Both concepts are required and shall be expanded upon here<sup>4</sup>.

Merchandise will be the flow produced by the system in a time unit, which is called national product. To make it possible, payments are made to production agents, the whole of which is called national income, or  $Y$ , where:

$$Y = PNN_{cf}$$

This income includes profits and therefore the value of what is supplied, or  $PNN_{cf}$  (net national production at the cost of factors) is equal to the value of the income generated or potential demand. The fact that everything produced is supplied is very natural and this is certainly what normally takes place. What is not always true is that all income returns in the form of total demand. The reason is that this demand is made up of money and makes market progress possible. The nature of money makes it suitable for hoarding and, therefore, makes it possible for Say's Law to fail.

But hoarding is not Bernácer's emphasis, but rather *disposable funds* (a term coined by Bernácer that will be denoted by  $D$ ). These, along with hoarding, will be the part of income that does not demand the national product from which they came. Taking a greater quantity of merchandise to the market means that a greater quantity has been produced and consequently, the merchandise has generated more income. This does not necessarily equate to taking more money to the market for the simple reason that savings have detoured along other routes or economic circuits. This circuit does not exist for part of savings, since it will be found under the mattress or behind a brick. Disposable funds will be found on the financial market.

4. Many things can be done with liquid income that goes to an economic agent. The most prudent and necessary thing is to heed the most urgent requests demanded by the nature of the economic agent itself, which is consumption for consumers and production for producers. The main business is survival itself and, due to this, this income is normally spent on survival goods. This is what producers think. As a whole, economic agents, even speculators and pensioners, allocate part of their income to consumption  $C$  and part to savings  $S$ .

$$Y = C + S$$

Or in other words:

$$S = Y - C^5$$

If economic agents find that part of their income adequately covers their consumption needs, the rest is saved if there is something left over. Savings do not abandon the economic circuit, but rather return via the demand for capital goods. In other words, savings finance capital goods and this operation is called investment.

Bernácer claims that not all savings returns to the economic circuit, but rather circulates along other paths. This part is disposable funds and the circuit is the financial market. Disposable funds are the part of income that does not demand capital goods due to not being consumed and thus being saved.

That is:

$$S - I = D$$

These disposable funds are not hoarded, since what is hoarded does not demand anything, but is rather created for speculation. Disposable funds are created to acquire financial assets and actual secondary assets with the aim of holding onto the total value of liquid savings (not liquid capital) and earning profits.

It is yet to be explained why the acquisition of actual secondary financial assets means that savings leave the production circuit. It will be explained later.

Primary financial assets and the construction of actual assets such as housing mean that savings return to the production circuit, but this is not true of secondary assets.

Income is a flow and savings born from income will also be a flow and, therefore, disposable funds will also be a flow. I could add here that the idea of flow intensifies more in buying and selling activities, which are basically dynamic. Thus, savings finance the acquisition of capital goods and disposable funds finance actual and financial assets. They come from a flow and go towards another flow. In principle, total disposable funds are formed by the income received (not accrued) and then they end up successively going towards consumption, investment (ordinary market) and the funds that *remain will be the maximum or third-degree disposable funds*, the object of this study.

5. Financial assets, shares, bonds... are used to transfer savings to investments. Instead of this statement making it impossible for Say's Law to be invalid, they make it easier. These are primary financial assets. A house that is built creates an actual asset that is part of national product. To create this asset, the exact amount of income needed to be generated to match its supply value (plus profits).

The same thing will not happen when this same financial asset fulfils its honest function of moving savings to investment but then does not die but stays alive and what is more important, continues being the object of buying and selling transactions. The same will occur when a home is repeatedly sold and bought. The financial asset and the home are acquired for two reasons: one, because having it earns rental income and, two, because its monetary value increases through speculation.

The essential question rests in that they no longer form part of national product and that a monetary mass is needed for buying and selling, specifically the disposable fund,  $D$ , arising from income, like everything. This means that the income must return to acquire current production, either in consumer or capital goods, but if they are allocated to another activity, specifically for acquiring assets that are not wealth, it is obvious that demand is depressed to the same degree as speculative demand is strengthened. This can be represented in a formula as:

$$Y = C + S_k + D$$

Where  $S_k$  is the savings invested and  $(S_k + D)$  is total savings. Logically:

$$S_k < S$$

and if the disposable funds are equal to zero ( $D = 0$ ) then:

$$S_k = S$$

6.  $V$  will be the value of financial assets and  $N$  is the number of them. The value of *our* financial assets will thus be  $NV$ . Since they are financed with the period disposable funds,  $D$ :

$$D = NV$$

while primary financial assets, supposing that all savings are transmitted to investment through them and only by them, will be acquired with  $S_k$ . This case will be abandoned immediately due to being unrealistic and quite forced. The case above was mentioned to highlight the difference between actual primary assets and secondary assets, as well as capitalised saving  $S_k$  and disposable funds  $D$  that are not capitalised.

7. There is no doubt that sales transactions on actual secondary financial assets continually take place, which can go either to consumption or to investment through economic agents, returning to the consumption and production circuit. The opposite transactions also take place. Part of the income leaves or escapes in the form of disposable funds to buy these assets.

Thus, for disposable funds to be generated, *more disposable funds must come in than go out*. These will be called *net disposable funds*, which in the end are what are of interest here.

Accounting doesn't lie and it has clearly proven that savings is equal to investment,  $S = I$ . However, it would actually be more precise to say:

$$S_k = I$$

This clarification does little to explain what was already agreed by deciding that  $S_k$  is the part of savings that is capitalised, but it is a small methodological trick.

But how can *all* savings and *all* destinations of savings be put into a mathematical equality? Perhaps as follows:

$$S_k + D = I + NV$$

And even more broadly:

$$C + S_k + D = C + I + NV$$

This means that part of the income flow is allocated to acquiring consumer goods, capital goods and *our* financial assets.

But if speaking of net disposable funds and these are fed, like parasites, by income, this potential demand or income does not return to the market and, since it does not return, there will be unsold products.

Are there unsold products on the market? Yes. Macroeconomics calls them inventory investments, further breaking them down into planned and unplanned. For Bernácer, whether planned or unplanned, they exist and they exist because they have not been demanded. For planned ones, it is believed that they will return, while the opposite is said of unplanned inventory investments. It remains to be explained where the savings, or income if you like, is located that has been demanded. For Bernácer, the answer is clear. Inventory investments,  $I_u$ , are found in the part of income called disposable funds  $D$  that finance the speculative financial market ( $NV$ ). In other words, since these disposable funds

finance these securities, they do not finance inventory investments or create them or demand them. Thus, inventory investments are formed due to *market frustration*.

*The macroeconomic equation places inventory investments next to investment in capital goods, adding them together. This is something that Bernácer could not understand because if investment is a financial transaction that involves spending savings on capital goods, why is it added to something different that exists precisely due to the absence of spending? He does not concern himself with whether the inventories are planned or unplanned, or what the mental or psychic process is that happens in the brain of the producer. What he is interested in is what really happens on the market. What happens is that, planned or not, this production still has not been rescued by demand from shop display cases.*

8. Politicians and governors are interested in actual profitability, which is measured by greater production. However, ordinary savers are interested in monetary profitability and this may be found through speculative investment. Since savers are operating on the market, now investors, some will demand fictitious monetary wealth and others real wealth, but as a whole, the market is imbalanced by the demand route, which ends up being depressed. The result of this depression is measured by permanent  $I_u$  and more, if this  $I_u$  does not remain the same, but grows. Thus, effectively if this  $I_u$  is produced because *our* financial assets are offered next to it on the market (on the same side), demand has no means to acquire both of them. I will restate the above more precisely. If the market offers financial assets and real secondary assets along with current production measured by  $PNN_{ct}$  (comprised of consumer and capital goods) and if income is comprised of the value of this national product, then the market will be depressed. If these assets exist because they have been generated and sold, then unsold current production is called  $I_u$  and its value will be that of the  $NV$  acquired (*our* assets). And since the latter have been acquired with disposable funds, the result is that:

$D = NV$  and therefore:

$$NV = I_u$$

And therefore also:

$$D = I_u$$

and mathematically (not economically):

$$S_k + D = I + I_u$$

This means that all savings from the period  $S = S_k + D$  is equal to investment properly speaking plus investment inventory, or:

$$S = I + I_u$$

which is a simple, traditional macroeconomic equation. Bernácer believed this mistaken interpretation from traditional macroeconomics, a formal inheritance from Keynes, was due to his not understanding that there are three markets: one is the current consumer goods market; the second is the capital goods market and the third is the actual secondary financial market.

I placed the phrase ‘not economically’ in parentheses above for the equality  $D = I_u$ . Answering this is the same as answering the question: Why is investment  $I$  not added to inventory investment  $I_u$  if they are equal and in the end have the value  $NV$ ?

The reason is very simple. An equality doesn't explain anything economically, although this equality is for savings and investment. He was really interested in its intermediate use, or *its operation*, which is financial. This financial operation is the purchase of capital goods in the case of investment and the acquisition of  $NV$ , which are wrongly called financial investments. In both cases, savings acquires something. In economic logic, it is absurd and twisted to add a purchase like  $I$  to that which exists due to something not being bought, which is inventory investment  $I_u$ .

It is obviously numerically equal, but nothing more. For this reason, Bernácer stated that this basic macroeconomic identity or equation does not exist. The most one could call it is a mathematical equality.

It would be logical to think that for a numeric equality to be an economic equality, in addition to the number, they would need to be homogeneously equivalent with respect to concepts. In this case, the operation they share would have to be equal, that is, in spending.

9. With the identities  $Y = C + S$  and  $PNN_{cf} = O$ , then  $O = C + I$ ; and subtracting  $C$  from both equalities:  $S = I$ . Bernácer roundly criticised this equality. One thing is income that necessarily comes from production and another thing is production, which are real things or measurable quantities.

Thus, consumer spending and consumption must be separated, as well as investment savings. Sellers are interested in monetary values and thus sell, while buyers are interested in real magnitudes and thus buy. The fact that products are born through production by means of consumer and capital goods is obvious. However, it is not obvious that they are totally demanded through consumer spending and spending on capital goods or savings.

Production has actual numbers that are homogenised by multiplying them by prices and, since income is in itself a monetary flow that comes from production, Keynes and Samuelson confused the terms, believing that a simple mathematical equality is an economic identity, but they are not an identity and much less an economic identity. Five cars can be produced, which is a real statement and the equivalent value of two cars can be spent with part of the income, but if prices have increased, this value may equal the five cars from before. Everyone knows this. A quantity of money can be saved and this savings can help finance capital and/or acquire six times less capital than the year before. This means that the investment has not increased in real terms, although it has increased in monetary terms. The Keynesian identity would indicate that the savings, since it equals investment, has financed the formation of the same amount of capital, when the only thing it really says is that what was monetarily (mathematically) spent equals what was sold in money, and nothing more. It is self-evident that the real formation of capital is not equal.

One could argue by saying that if income comes from production and they have the same value, part of the income will demand consumer goods and part will demand capital goods through savings. This is true, I insist, only in monetary terms, not in real terms, where it does not hold up.

If the real term is converted into monetary terms, it may seem that this problem could be eliminated, but it is not so simple. Let's see why.

Some economists confirm, using good logic, that  $Y = O$ , meaning that this income has arisen due to selling production, which is indeed true.  $R$  = the amount of total sales.

In this way, market valuation is accepted and one is working with homogeneous monetary magnitudes.

What is sold? Consumer and capital goods, the latter that I call investment. And, what is done with the income? Part is consumed and part is saved. Thus:

$$\text{Consumer spending} + \text{savings} = \text{Consumer spending} + \text{investment}$$

$$\text{Then Savings} = \text{investment}.$$

This equalisation operation starts with a simple error, which consists of income from current production sales ( $PNN_{cf}$ ) being assimilated with the income originating from the creation of current production (payment of factors of production through income). Another way of expressing this mistake is to see that there is confusion existing between the sales leading to this income with the incomes that have been projected resulting from the previously spent income.

In order for Keynes and Samuelson to be right, how would the identity  $S = I$  be fulfilled? Provided that  $I$  in real terms is added to the inventory investment.

Savings in the world of Bernácer will entail the simultaneous explanation of several similar concepts: the financial market, the capitalisation process, the motivation for this saving and, above all, it will explain interest.

10 People save for many reasons: because consumption has fulfilled appetites and needs and there is still income remaining. Added to this argument, some small marginal utilities derived from high consumption will let consumers transfer consumption to a later period, in which the starting time of their consumption will let them generate higher marginal utilities. People also save due to the presumed need of acquiring an asset at some time in the future whose monetary value exceeds their present income. Let's say, for example, a leather coat. A producer also saves in order to acquire a production good that he currently doesn't have. Fundamentally, people save because saving provides psychological peace of mind, which is the same as saying that they save to protect themselves against suffering the uncertainties derived from unknown future contingencies.

Savings logic implies the existence of a feeling about an unknown future that is grasped more intensely than the present. And present income is where savings is taken from. This savings can be born from a sufficient consumption already done detoured from a consumption that wasn't made, due to not being as necessary.

One cannot conclude from any of the arguments above that people save because this savings *must* mean greater future consumption in real terms, as suggested by Austrian economist Böhm-Bawerk.

11 Bernácer destroyed classical and neoclassical theory about interest in two different ways: one, the same field of psychology that was the experimental laboratory of the Austrian school and the other in the field of macroeconomics.

The first has already been commented on. One saves although no greater future interests are derived from this savings, interests that will translate into greater future consumption. He would say that savings is one of the multiple manifestations of human preferences or choices.

If the economy is in full employment, the only way of forming savings to acquire capital would be via a prize that let it be rescued. If the economy is not in full employment, Bernácer's assumption, what remains are inactive resources and then paradoxically savings does not become more urgent, given that there is excess savings. In times of depression, it is precisely real means that are unoccupied, lacking



money to put them into operation. If this economy is unemployed, then one must wonder whether this is not due more to underconsumption or excess savings (classical economic thought).

Bernácer distinguishes two concepts: one made up of the monetary resources with which capital is acquired and the other that are the capital goods. Classical economics confuses the terms or at least expresses the same thing using the concept of money once and the concept of capital goods for the other.

12 If income is born of production and this income has not demanded, then there are free unoccupied resources since production is not of interest. There are also unsold products. But the most problematic situation may be the following: If income has not returned to the production circuit, then potential money supplied must be abundant, which is not true in times of crisis and is not so in those economies in which prices are or were moving downwards. And if money is not abundant but scarce, then interest is high, so high that investment is prevented. This is Keynes' affirmation also, but does not explain what Bernácer said, which is to know *where* this fraction of income is that was not returned to consumption or investment. Interest for Keynes is the fruit of liquidity preference, driven or motivated by speculative demand. To Bernácer, who explained it much better and years before Keynes, interest would be the fruit of scarcity, like all prices. Money is in short supply because part of income is not being consumed or invested and is found speculating on the financial market. This fraction of incomes are disposable funds  $D$  or more concisely *net disposable funds* (net flow of disposable funds that remain from those that are input and output from the financial market).

13 The financial market  $NV$  is lubricated by disposable funds  $D$ . Without them, this market could not function. Disposable funds receive income  $R$  derived from the possession of dead assets or actual secondary financial assets.

$$D \rightarrow R$$

This profitability  $R$  will be overall, derived from the possession of all these assets. In percentages, each unit of disposable funds will have its percentage of profitability. Calculating it is basic and is done by comparing what is invested and speculatively placed, which is  $D$  with respect to accrued profits.

$$i = R/D \text{ percentage profits from disposable funds}$$

This is interest for both Bernácer and Keynes. In the book *Capital Interest: the Problem of its Origins*, he explained a conceptual theory about the origin of interest and then later gave a mathematical explanation. This theory, which is current and very original, was set forth years earlier than Keynes' *General Theory*.

There is another calculation method: If a house or security with perpetual income perpetually produces *ad infinitum*  $R$  returns, the value of the security equals its updating through an interest  $i$  of the chain of returns over time. The security is worth what the total updated returns  $R$  are worth.

$$\frac{R}{i}$$

$$NV = D = R + (1+i)R + (1+i)^2R + \dots \rightarrow \infty = D = a_{ni}R$$

where  $a_{ni}$  is the updating factor.

At the limit:

$$\lim_{n \rightarrow \infty} a_{ni} = 1 / i$$

$$n \rightarrow \infty$$

$$D = 1/i * R \text{ and after isolating } i$$

$$i = R / D$$

14 Interest is thus born from speculative demands for money. For Böhm-Bawerk, interest is information that is needed to calculate the value of securities. For Bernácer, it is unnecessary whenever the market continually announces its market price. Thus, when the value, or the disposable funds that make it possible, is known, as well as the returns  $R$ , the percentage return is fixed, which is nothing but the interest rate.

The functional mechanism of money is original to Bernácer, as well as his theory of the financial market and the origin of interest. Each one has ‘its complete theory’ and are intimately related. As a whole, they shape a complete theory written clearly and simply between 1916 and 1925. The understanding of economic cycles derives from understanding this theory.

15 Money makes Say’s Law possible and maximises it, but the same nature of money makes it possible to break his law. One example is seen in hoarding.

Since ancient times, it has been possible to earn money without working via speculation and hoarding money is seen as an exotic whim. As is known, speculative profitability lets a percentage profit be returned that is called market interest  $i$ . This money *that has a yield* is money that has fled from the production circuit and is made up of disposable funds. Let’s stop here for a moment to look at the following comment: speculators create their disposable funds, assuming that this is after meeting their urgent consumption and production needs. They seek both high interest and an increase in the prices of securities. An increase in security prices translates into lower interest and lower security prices translate into higher interest rates. They will not care if the interest drops if the speculative earning due to increased prices compensates for the former. Indeed, in speculative processes, money quickly flees the ordinary market to feed the bonfire of increased financial market prices. This is what happens in times of euphoria, which are the precursors of economic crises. During this period, interest margins do not go up that much, or even drop, but speculators are concerned about rising prices and not about interest.

Social revenue is earnings in goods and services or things that are useful in life. To earn, there must be production and factors of production, or capital, must be simultaneously added through work, where money is the elastic road that brings these factors towards the common production task.

16 Savings make it possible to acquire capital goods and these generate profitability. This profitability derived from the physical productiveness of capital goods, aided by all the other production agents, is what determines its monetary valuation when multiplied by their price. The system must seek this profitability and nothing more. Inspired by it, resources are diverted from consumption to produce more.

But economic agents also seek monetary profitability, which like the speculative case is not accompanied by greater production of goods and services, which is true wealth, thus generating more fluff than substance in the system.

Thus, there is constant rivalry between marginal profitability of capital (which Keynes would call 'marginal efficiency of capital') or general production and speculative profitability. Thus the system is always in tension. More profits or speculative earnings will attract more resources from the ordinary market and then the ordinary market will be depressed, leading to depression. On the contrary, when an invention increases productivity, the inverse phenomenon occurs, producing recovery. This ongoing difference between one market and another -the financial and ordinary- give rise to economic cycles.

17 If fiat money is used to trade gold, the creation of money would only make sense in parallel with the extraction of gold. But this is not true. What helps money change hands is wealth or national production, in other words, things that are useful in our lives. Money is a means and gold was also a means. In this way, if there was not enough gold production, authentic wealth in the system could not be generated. So gold was like an obstacle to production.

Bills were created because they knew that behind them there was gold. However, the desirable situation would be to think –as people generally think now- that behind the bill is real wealth, or national product.

It is necessary to freely create money and reject the gold standard. However, even economists with some sympathy towards some freedom in creating money, pontificate on the advantages of the gold standard as an automatic stabiliser of the system.

Bernácer stated that the gold standard is *intrinsically destabilising*. There are several reasons for this: the first and most important is that gold is simply another commodity, but it is almost useless as an instrument for consumption and production and very useful in speculation. It is an asset that lends itself to speculation like no other or, even better, to being hoarded. One hoards to wait for price increases and, due to hoarding, it becomes scarce in circulation. The process has double grounds since hoarding depresses the ordinary market of consumption and production, making it unprofitable, while simultaneously increasing market prices in the gold market.

Moreover, gold is added as another commodity in the supply of goods from current production. Gold is sold along with lamps and shoes, competing with them, something that has a depressive effect on the market. Gold, like any speculative good or asset that is hoarded, can be 'unhoarded' and indeed, its mission is to be unhoarded (and brusquely) to seek quick speculative profit. And since gold using the gold standard is simply money in the end, when it is no longer hoarded there is a violent eruption of money when it is least expected by the system, thus causing an inverse process to depression, without any increase in production. Inflation is basically what is generated.

In this regard, Keynes came before Bernácer. He also excellently explained the operation of the gold standard, criticising its most important aspects. Bernácer's criticism of the gold standard melds perfectly with his monetary and financial theory. Thus, gold transforms itself, first as money and then as a financial asset, sometimes making increased wealth possible and other times freezing it. In the best of cases, King Midas does not create wealth, but is a mere symbol that could be used via institutional reforms that would change it (these are words from 1916) into a super pure symbol or super-sign: the bill not backed by metal.

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<sup>2</sup> *Society...*, published by Francisco Beltrán -Madrid- and dedicated to Oscar Esplá.

<sup>3</sup> The Theory of Disposable Funds, basic article published in the *Revista Nacional de Economía* (Madrid, Barcelona) in 1922. This article was reprinted with modifications in: 'The Fundamental Expression of the Value of Money', published in the magazine *Anales de Economía*

(Madrid) in 1942. It was also reprinted in chapter 1, section 11 of the book *The Functional Doctrine of Money*, page 25 (2<sup>nd</sup> edition from 1956, which will always be the edition referred to herein). The book was published in 1945. The French version of said article was sent to Robertson, who acknowledged receiving it. It initially appeared in *Society...*, chapter VI, page 142-154.

<sup>‡</sup> Oddly, Bernácer, despite providing a masterly description of the money market and interest, did not provide an *initial* description of the concepts that explain the movement of money to money-income, or simply income. This explanation, along with other simpler ones like investment, fixed capital, working capital... are found in *A Free Market Economy without Crisis or Unemployment*, from 1955, publisher Aguilar, Madrid. In my opinion, the money-income relationship is explained when he stated that new money must finance working capital (Chapter IV 'The Price of the Unit of Value', paragraph 1, section two).

<sup>§</sup> I will employ the convention of representing production income as  $Y$ . Further on, respecting Bernácer's terminology, I will call it  $R$ . There will be two  $R$ s: one is production income or  $Y$ , and the other will be financial, or the earnings from financial assets. The income in question will always be clarified.

# Part one

## The Market

# Companies and domestic economies

## 1.1. INTRODUCTION

Companies are production units, whatever their legal nomenclature or size. They produce and supply finished goods that the market removes or buys, which doesn't always happen. Producers face a risk: the possibility of obtaining losses. Companies pay certain monetary units to production agents to obtain the product, where this step entails a payment that is called income. This determines the product cost price, which added to adventitious, future or probable income from profits, lets the end product be obtained.

$$Cost + Profit = Total\ income^6$$

The business owner organises production and capitalists cede the capital for production, with businesses receiving the profits and financiers receiving interest. But the entrepreneur as a worker earns a salary that is included in total wages.

Companies acquire different supplies or factors with this money. They acquire raw materials, semi-finished products, labour, production services, etc. This is called *working capital*. Among the supplies that circulate from company to company in obtaining the end product, there are capital, or fixed, assets, *which are also included as working capital*. This was one of Bernácer's statements that established a difference from others. Capital goods that are not the object of later transformation and that are immobilised at the end company in order to produce either consumer or capital goods, will be called fixed capital, otherwise they fall under working capital. Companies will also produce services that are used directly by consumers. These services are another production that is added to the production of goods and services to arrive at total national product<sup>7</sup>.

If these services are produced by a production agent inside the business, they will be calculated as one of the costs in the production of these physical goods.

Companies produce consumer goods and capital goods. Some consumers provide services or work for these companies, receiving wages for doing so. Consumers demand final consumer products and business owners demand capital goods.

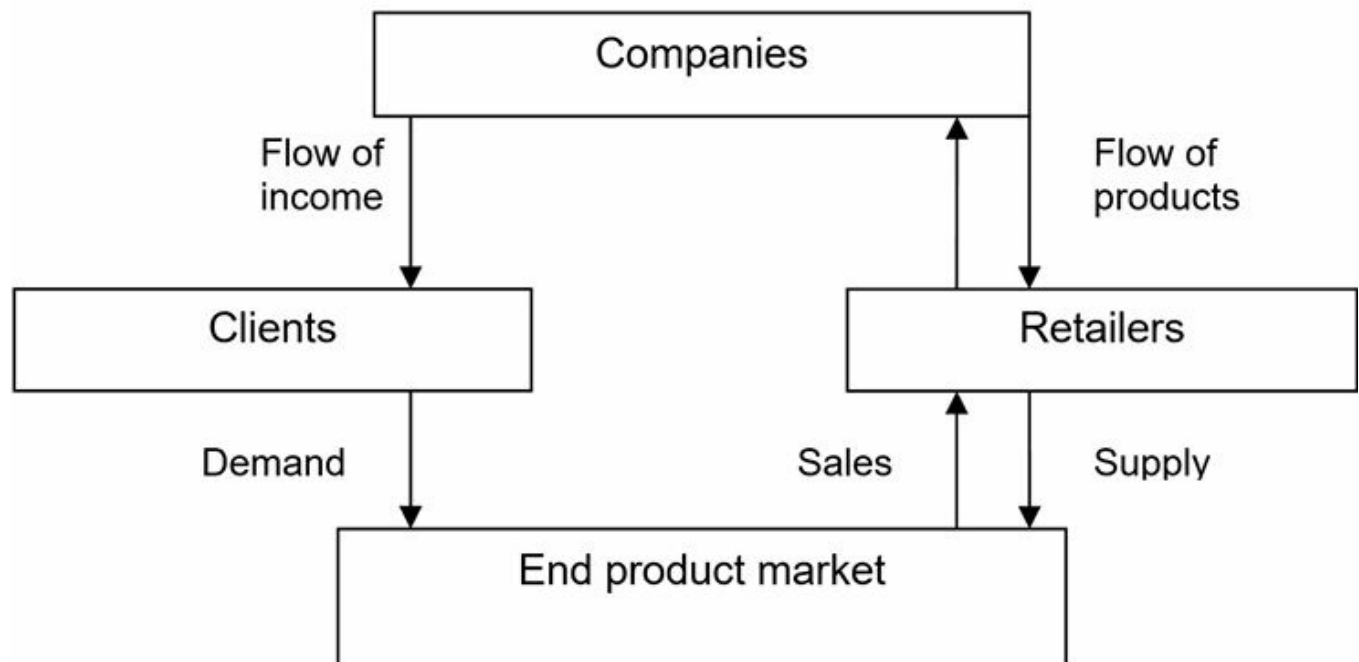
## 1.2. HOW MONEY WORKS

The monetary mechanism represents the continual movement of monetary flow from the producer to the consumer via income and from the consumer to the producer via buying the goods and services. The *ordinary* market is the place where national product is generated and where it is demanded. Both of these operations involve monetary circulation in the opposite direction of production factors and goods and services, as shown in the graph below.

Companies pay their production agents in income (wages, salaries, interest, land rentals) that returns as income that demands their produced and supplied goods and services. After paying their agents, a sum

remains that is profit, which is also income, even when it is aleatory. Reserves are created from the profits that are not distributed, above all sinking funds that finance the acquisition of capital goods and cover depreciation; an operation that is called replacement investment. With the other part of undistributed profits, new capital goods will be acquired when accrued assets allow for it. This acquisition of capital goods will be called net investment.

GENERAL CIRCULATION DIAGRAM



Replacement investment plus net investment will be called gross investment. But companies put undistributed profits that are materialised in reserves into a temporary destination (even a sinking fund) through the acquisition of real securities, some of which have a speculative aim. Nothing has been mentioned yet about their functionality (although explained in the introduction and explained in detail later). Readers, please stop for a moment and consider this, because it can be a road with no return, which leads to the occasional decapitalisation of companies.

### 1.3. SAY'S LAW

Say claims that 'Supply generates its own demand'. For Bernácer, this statement was the overall explanation for the ordinary market described above. National product is produced in this market, as well as incomes. To create the product  $Q$ , factors of production are acquired, including the entrepreneur's work for which he is paid income. Company accounting methods let them calculate the cost, which is nothing more than what is paid through income, to which profits are added to determine the end product that is given a monetary value and supplied.

What is paid plus profits lets the product sale price be calculated. In other words, the product calculated in this way has the value determined by the market. Consequently, income is equal to supply, or what is produced and offered to generate income and demands that are exactly equal. However, Say forgot to give specific profiles to this demand and say that it is the *potential* demand and not the *real* or *actual* demand.

### Diagram' of Disposable Funds

C producers and entrepreneurs.disposable fund

CDisposable fund / Descapitalisation  
(amortisations&liquidations) / Capitalisation  
(capitalists'purchases)

A Savers'and capitalists'disposable funds

Saving/dissaving/Acquisition fund A

b Consumers'disposable funds

B Production fund/Payment of wages/Consumers'purchases

Product \* Price = National Income or<sup>8</sup>

$$q * p = Y$$

$$PNN_{cf} = Y = Potential\ income * actual\ Y$$

The existence of money lets value be measured exactly and enormously facilitates economic transactions. Money also enormously speeds up the functioning of Say's Law. Thus, demand becomes flexible and is maximised just like production.

Money is like the oil that lubricates the engine of the economy. However, money and its inherent nature will be what make the irregular fulfilment of economic matters possible. This is due to two basic reasons:

1. Money can be hoarded. Monetary oil can be lost along economic circuits.
2. Money demands that which has monetary value, although this does *not necessarily mean real wealth* in the sense of national product. You will understand these words later.

Bernácer fiercely insists on the identity: production = national income. For him, it is only a mathematical equality, among other things we will look at later, because national product is a physical or invisible magnitude, like the case of services. Conversely, income is basically money or monetary flow.

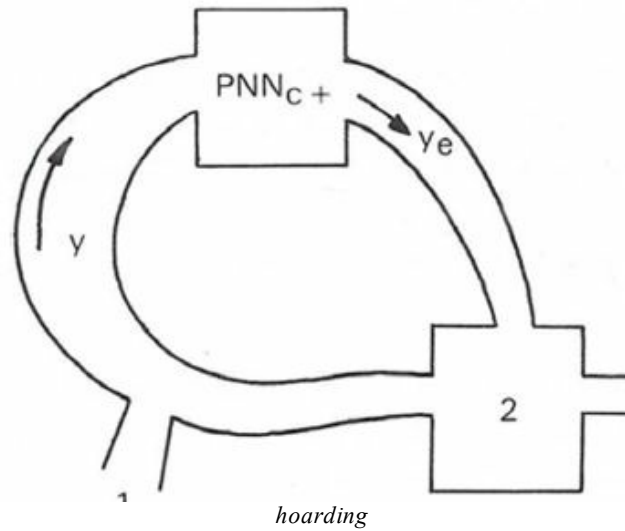
If money can be hoarded and can demand other things that are not created wealth, then income cannot totally demand what its owners, production agents, have helped to generate. Then Say's Law is not fulfilled. Income, which is a monetary flow, has led to the creation of national product or wealth. However, if this income is lost due to a hole in circulation channels (hoarding) or moves through a different channel to demand, for example, illusions of wealth or securities (without this security meaning the creation of wealth), then it is clear that this income cannot acquire the product. Potential demand will be greater than actual demand, which has dropped due to similar circumstances, with which period production that gave rise to the potential remains partially unsold. In Neo-Keynesian economics, this unsold part is called or has been called *inventory investment* ( $I_u$ ).

This point is fundamental to understanding Bernacerian economics. The explanation of the monetary mechanism is normal, or already explained in economic sciences from that time, although hoarding has not been explained (on which Bernácer placed little importance, except for the gold in the gold standard) and above all the effect produced by demand for fictitious wealth or non-wealth. This will be explained in the section on the financial market. This break in Say's Law due to hoarding is graphically explained in the following way: Point 1 of the following graph explains hoarding and point 2 the financial market box of



fictitious wealth or anti-wealth. As can be seen,  $Y$  is greater than  $Y_e$ , actual income.

$$Y_e < Y = PNN_{ef}$$



*The income that returns is less than what was initially output by the production of generated wealth.  $Y_e$ , or actual income, is lost in 1 through hoarding and in 2 through the financial market.*

<sup>6</sup> Here the term income refers to production income or payments to the production process, unlike income from financial assets that for Bernácer are financial yields opposing production. In the terminology used herein, the term  $R$  is used indistinctly for these two types of income, although the meaning will be explained in each case.

<sup>7</sup> The instruments of fixed production, a machine for example, when they are demanded or bought or, the same thing, removed from the market by the businessman who needs it, change from being working capital to fixed capital.

<sup>8</sup> Traditional macroeconomic nomenclature is used here. For Bernácer  $R = Y$  in this example.

## 2.1. INTRODUCTION

Capital is defined by two criteria: the first is its duration and the second is its economic nature. Capital, unlike consumer goods that have a short lifespan, is not used up immediately through consumption but is a very slow process. Moreover, capital helps in the production of other assets. Although you will see that this is not always fulfilled.

## 2.2. A TERMINOLOGICAL AND CONCEPTUAL ISSUE ABOUT CAPITAL

Bernácer complained that classical economists used the word capital ambiguously. Given the closed framework of the real and dominant economy with clearly production-based riches, capital for many economists was everything that produced ‘profitability’, defining profitability and productivity as synonymous terms<sup>9</sup>. For example, for Adam Smith everything earmarked for producing income was capital. In classical economics, this meant productivity. They did not take into account that public debt securities had monetary returns, although this in itself did not necessarily imply an increase in productivity. The terms monetary profitability and real profitability were not the same, at least not obligatorily, and represent the main viewpoint of Keynesian analysis. One thing is capital, which is a factor of production, and another thing is money. Or stated differently, one thing is capital and another thing is the monetary flows that make its acquisition possible. This was the great confusion between classical and neoclassical economists (not all of them); calling two different things by the same name.

In Keynesian economics (words from 1955), monetary income refers to money or, if you like, monetary capital. Capital income is the price of renouncing liquidity. For Bernácer, as you will have the chance to see, monetary income comes from acquisitions made via disposable funds<sup>10</sup> of invested savings, of actual secondary financial assets, an activity that is nothing like productivity.

Bernácer’s capital is basically a factor of production. As productivity increases, production is generated that when multiplied by its price generates genuine income for the owner. However, the basic fact is not that income is produced but that assets are produced. These two things are apparently similar and they indeed are the same in the majority of cases. A toll road and a machine produce goods and services that are sold and generate genuine or authentic income. Why do I say genuine or authentic? Because it is income that reflects production. A byroad and a seaport built by the state, even a stereo, produce goods and services for a collectivity, although they are not sold and thus do not generate monetary income, although it is real (without bias to the fact that monetary profitability could take place).

## 2.3. CLASSES OF CAPITAL

Capital, as that part of the flow produced that is used to increase production, is divided into fixed capital and working capital.

### 2.3.1. Fixed capital

Fixed capitals are production instruments whose production life lasts for a longer period –much longer– than the average period of maturation of the company or production period.

It is understood that out of all the production of the industry, a series of end goods have been produced that will not be moved to another company for their later transformation and incorporation of added value. Out of these end goods, those that are not end consumer goods but factors of production are called fixed capital.

This is very important, given that if they are not end goods, but intermediate ones, these production instruments that were initially called fixed capital turn into working capital. The nature of fixed assumed in capital or a tangible fixed asset in accounting terms (not all tangible fixed assets are machines or capital), is not established due to being productive and temporary, *at least not totally*, as it must also be an end good.

If a company acquires a machine that will be improved or its production capacity increased or if this company produces a machine for an end or intermediate vendor, this machine, even though suitable for production, stops being fixed capital and is then called working capital.

Fixed capital equipment wears down with usage over a series of years and this wear is called depreciation. Out of undistributed company profits, or savings, *S*, a quantity is created to proportionally compensate for this depreciation. This is the technical amortisation that entails costs to the company. This temporary and daily cost prevents companies from decapitalising all at once. In fact, decapitalisation cannot happen instantaneously but over time. The situation is not the same with working capital.

A production flow of products is generated in the system, where these products are fixed factors of end production. This process will be called capitalisation (and not investment). This flow is divided into two portions: one is destined for the compensation of deterioration of capital goods and the other at genuinely increasing capital goods. Bernácer expresses this in the following way: liquid capitalisation is the difference between total capitalisation and amortisation done at the same time. In the economic system, someone may also sell capital equipment and this is when it is fully decapitalised. The equipment is, *but not the system*, which continues to have the same amount of capital goods, since the capitalisation of the buying party is balanced against the selling party that has decapitalised.

However, if the creation of capital goods was possible due to savings, successive buying and selling of the same capital equipment innumerable times will occupy high quantities of savings to execute the same capitalisation as before. This operation of repeated sales and purchases, although possible, lacks quantitative importance in Bernácer's thought with respect to capital goods. It doesn't usually happen frequently. It will though be important for actual secondary financial assets and will give rise to the financial market.

### 2.3.2. Working Capital<sup>11</sup>

Factors of production that are wholly consumed during production tend to be called working capital. The

company monetarily and truly is decapitalised all at once through production and recovers monetarily and truly at the end of the production cycle via the finished and sold product. Merchandise, in the hands of producers and merchants, comprises part of their working capital, since they have to pay for them with their own resources. It is working capital because it is recycled both periodically and permanently and because when the merchandise is sold to some consumers and to some other producers, they employ these resources from sales in reproducing these same articles or others.

All of these ingredients that are involved in working capital, are they semi-finished, finished products for consumption, raw materials, work, energy, etc. *only*? The response is no. Producers of capital goods – capital articles in the terminology of our economist- also call it working capital while it remains in their possession. An example is that a flour mill owner calls the flour he produces working capital and the tanner calls his hides working capital.

### *Types of working capital*<sup>12</sup>

Here, we are entering a field that is replete with polemic and debate. And it would be the same for a student that had just started to study the rudiments of economics. I do not understand how Bernácer, who explains everything precisely, methodically and clearly, introduced such a dangerous classification, although he does do so clearly.

In the consecutive production rhythm, or the inter-industry or inter-business production chain, products continue to receive successive added values until the end product is obtained. The value of the end product is *only* the sum of these *net added values* ('net' is added for clarity, although it is redundant). Everyone knows this and Bernácer knew this and explained it as follows. Here is the problem in understanding Bernácer. What happens if the value of wheat is added to the value of milling this wheat? Well, then we have the total value of the milled wheat and so on until obtaining the value of the bread. And what happens if the value of the bread is added to the *total* value of the wheat, plus the *total* value of the milled wheat, plus the *total* value of the manufactured flour, plus the *total* value of the baked flour, etc.?

Then, the basic rules of cost accounting and the most elementary macroeconomics would be neglected, which prohibit *factoring the same thing twice*. So Bernácer is undertaking a unique activity, but don't believe that this will be the result of estimating the national product. His definition is the same as the one used herein, or the value of the sum of the added values. What he did is add or enter into the books twice or even more times –a mistake- all production to then *subtract* the value of the net national product. The difference obtained is what he called *second-class* working capital.

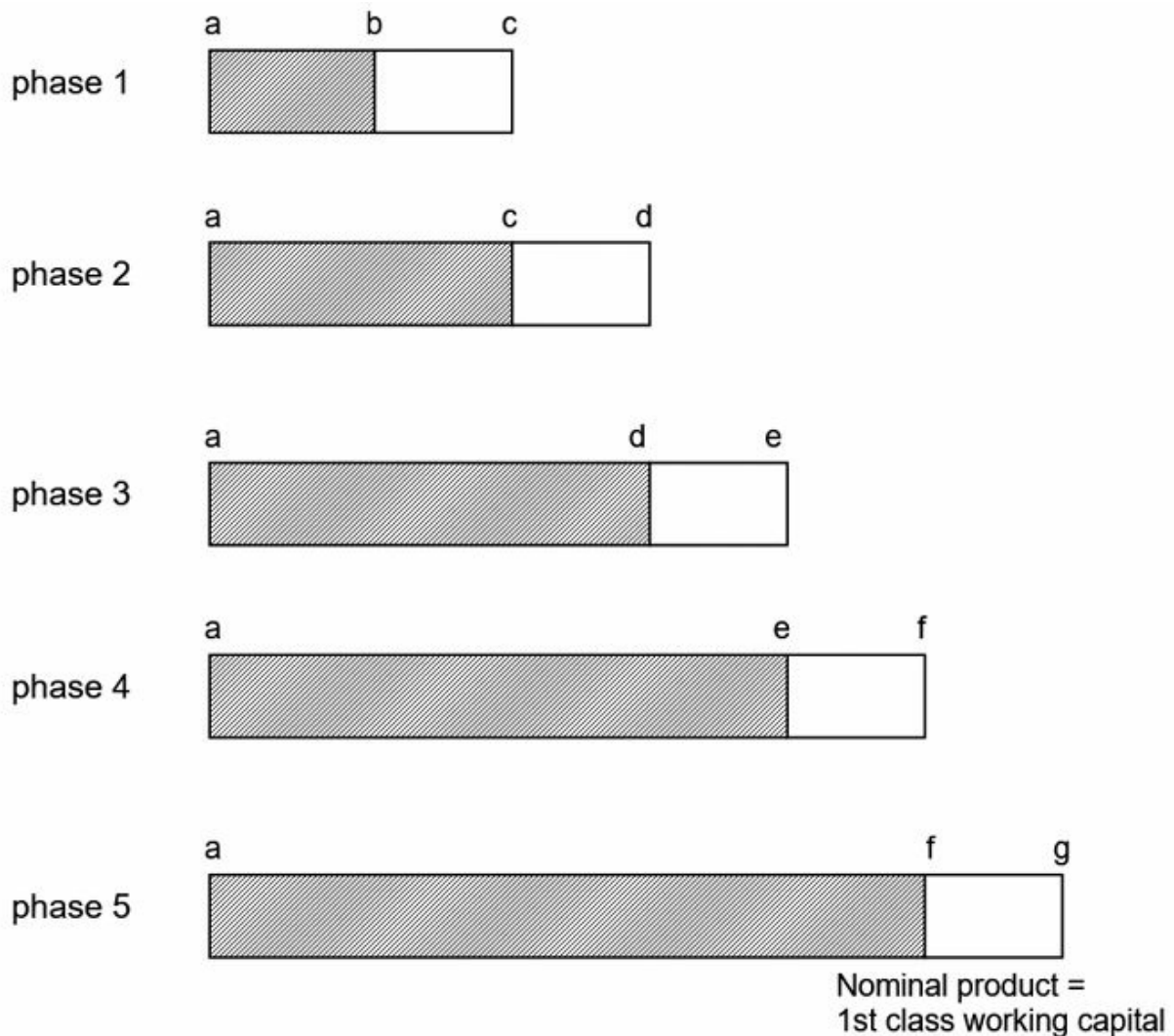
This will be explained by two examples, one graphical and the other numerical.

Capitalised sums, or if you like invested sums, generate two classes of working capital: first-class working capital and second-class working capital. The first stops directly at consumers, although part of this group will be manufacturers; the part that is fixed capital. This is the national product. Second-class stops at producers and manufacturers. The graph will let you visualise this with greater clarity.

Each production phase adds value to the previous production and the sum of all the net added values is equal to the total added value, which for Bernácer is first-class working capital. This working capital is the national product.

The value of the national product is measured by the length *ag*, which is the sum of all the previously-added bars *ab*, *bc*, *cd*... A longer length means a greater national product and vice-versa. The value or

manufacturing of this first-class capital has led to a series of monetary payments that represent an increase in total income. This working capital is not liquidated until it is sold and is then owned by the total group of consumers and financiers.



In addition to first-class capital, second-class working capital is needed, which will be the sum of the shaded area of the bars. Once again, *this sum is not the national product, but second-class working capital*. It can be measured as follows:

If total working capital is:

In phase one:  $ac$

In phase two:  $ad$

In phase three:  $ae$

In phase four:  $af$

In phase five:  $ag$

Total working capital is the sum:  $ac + ad + ae + af + ag = X$

This is a fact or should be clear, given that each production phase counts the materials that arrive from the previous stage, like raw materials, semi-finished products, etc., as working capital. The total supplies in each phase are thus the products from the previous production stage.

If first-class working capital is subtracted from the total working capital, the result is the second-class working capital:

$$X - \text{ag: 2}^{\text{nd}}\text{-class working Capital}$$

or in other words:

$$X = \text{total working capital} = \\ = \text{First-class working capital plus second-class working capital}$$

Several comments can be made here. The first is that working capital is not comprised only of money or only of raw materials and semi-finished products, but by both of them. From the total production of consumer goods. It is expenditure on consumer goods. With savings, capital goods are acquired. What would happen if you acquired working capital instead of fixed capital with savings? If fixed capital is acquired, the capital in our possession is immobilised and savings go to the producer. But if working capital is acquired, new payments and new productions are created. This new production will be combined with the previous one, which are the final capital goods awaiting demand, compared to the single purchasing capacity generated. This wait will be useful. Let me state this more clearly. *The financing of working capital with savings entails two productions compared to only one demand that will be monetarily less.* The new product created and the old capital goods will be production, and demand will be a reflection of financial working capital. This will be seen towards the end of the book when economic crises are analysed.

Another in-depth example will be given of the ongoing process of generating added values and first and second-class working capital.

Before continuing, remember that while an instrumental element or production factor has not been totally immobilised in the hands of the end producer, it is not fixed but working capital, along with the raw materials, semi-finished products, energy, money, etc. Working capital requires financing and if this working capital is greater due to successive additions of more working capital, the more need there will be for working capital. Obtaining the product requires ongoing incorporations of working capital in successive production stages until reaching the end product. This product will be comprised of *end* consumer goods and capital goods (if they are not final, they are still working capital).

Stratification increases the need for working capital, since not only does it require the indispensable sum to keep the product obtained in circulation, making it possible to pay the income of this asset manifested in money, but it *also requires payments between companies that take place in the added transformation.*

Let us continue with his example. The first was detailed in *The Functional Doctrine of Money* in 1945 and the second in 1955 in *A Free Market Economy without Crisis or Unemployment*.

An aside is relevant here. Bernácer knew accounting techniques since he was a business teacher; he had normal common sense and in 1962 he was 62 years old, an age at which he was obviously completely familiar with the national books and articles published on accounting.

Let's continue with the example: A clothing production company adds successive values until obtaining the final product employed. The value of the raw fibres, the thread, the fabric, the clothing, etc.

	Incorporated costs	Accrued values
Value of the fibres applied.....	20,000	

Value of the thread.....	25,000	45,000
Value of the fabric.....	15,000	60,000
Value of the clothing.....	30,000	90,000
Profit margin.....	10,000	100,000
Final production value.....	100,000	

Each phase adds its value to the production, so that as the production processes occur, the greater the amount of working capital that will have to be paid. The individual acquiring the fibres pays 20,000 for them and adds a value, that of the thread, of 25,000, which at this time is an added value or production of 45,000. The next individual will add a value, exclusively 15,000, but he will have acquired a production of 45,000 from the previous stage (20,000 + 25,000). In this period, production is already worth 60,000 and will be what the next producer will pay (for his supplies) and individually, he adds a production value of 30,000, which is for making the clothes. The cost of the supplies he acquired was 60,000, to which his cost of 30,000 is added, for a total production value of 90,000. The merchant then acquires the final product (working capital for him) and adds a margin of 10,000. What did the product cost the merchant? He bought it for 90,000 and sold it at 100,000. Let's simplify it even more. The payments made were:

100,000 consumers

90,000 retailers

60,000 clothing producers

45,000 weavers

20,000 spinners

315,000 total payments

*Actual total payments are exactly 315,000, but this is contrary to Bernácer's opinion, who does not believe that these monetary units are required for the operation. How would Bernácer formulate this operation? He would calculate the second-class working capital.*

Total working capital (315,000) minus first-class working capital (100,000) equals second-class working capital (215,000).

$$315,000 - 100,000 = 215,000$$

The figure of 215,000 is the *new* money that Bernácer asserts is required. For me no, since the same monetary mass can execute several transactions in the chain of successive transactions. This is easier to explain by continuing with the example. While true that retailers have to pay 90,000, the dressmakers 60,000 and so on, it is also true that those who pay, for example 45,000, receive 60,000 and those who pay these 60,000 sell for 90,000 to others who pay it and in turn sell them at 100,000. *In short, I do not believe more money is needed than that deriving from production and national income.*

## 2.4. FINANCING CAPITAL<sup>13</sup>

Capital must be created, which requires money and, after creation, be bought, which also requires money. Fixed capital and working capital must be financed with producers' money. Financing funds come either from bank loans, which are others' savings, or from their own savings, which are undistributed profits.

Undistributed profits are periodically used to create a *sinking fund*. This is one operation. The other consists of acquiring capital goods to cover this depreciation or loss in value of capital goods, an operation that is called *replacement investment*. This is another operation. Amortisation is an accounting operation that is not always related to a loss in value of the fixed capital. The aim of the amounts now undercapitalised by depreciation is to recapitalise them via a technical amortisation. The company wants to acquire *new* capital goods, which is the net investment. *Investment is always a financial operation entailing an expense.*

One thing is new fixed and replacement capital and another thing is the investment. Investment entails the act of buying this capital good or receiving *financial* assistance (expense via a loan) to create it.

The final capital good becomes an almost-permanent good for the company. There is a reason why accountants call them 'immobilised'. Company accountants and economists know that this cost is also a financial asset. The yields generated by fixed assets are supplied over the course of their long useful life and matched against the *financial* amortisation or repayment of the loans that permitted their acquisition. Long-term loans and/or profits let these production fixed assets be acquired.

Working capital has a more fleeting existence. And the shorter the better. Its nature makes it disappear quickly. Companies go through a continuous process of continually capitalising and decapitalising working capital. The decapitalised working capital feeds the new working capital. If decapitalised working capital does not return as new working capital, it remains in the hands of the producer as *disposable funds*, money that in principle is neither consumed nor capitalised.

Frequently, when the economic system *truly* grows, it requires more liquid resources to finance new working capital. This means that the former working capital is not enough to generate enough liquidity to make an increase possible. Then a short-term bank loan is turned to. As successively added working capitals generate the national product or first-class working capital, loans are similarly necessary so that the economy can grow and not stagnate.

The nature of capital requires a specific loan type. Fixed capital is wholly recovered over a long period of time. It would thus require a long-term loan. However, for Bernácer, fixed capital required savings or undistributed profits for self-financing. A coordinated and extended sequence between the two makes equilibrium between the operations possible. Conversely, working capital decapitalises quickly and lets resources for financing be obtained quickly. It should and is basically dependent on bank loans<sup>14</sup>.

The inability of the system to self-finance the period's production with monetary resources created in the period must be stressed. The system generates production comprised of fixed capital and consumer goods, deriving income through this process, part of which will then be allocated to consumer spending and part to capital goods expenditures. If this operation is done, it is clear that *more* resources are needed to finance the working capital. *This means that system savings does not provide, or is not enough, to finance both the fixed capital and the working capital.*

Proof of this statement is the following: Imagine that period savings were used to finance working capital instead of fixed capital. Then a new product is added to production, which is a *new* supply. Simultaneously, and as a consequence of this investment, new income has been supplied at the exact value of the working capital. Two productions are generated from this new income or potential demand capacity, one that is the *new* production source (equal to the new income) plus the fixed capital that is no longer



demanded because the working capital demanded it. This is Bernácer's explanation of economic crises. Savings in the system resist being invested in fixed capital, perhaps due to the uncertainty of their prospects. Then monetary resources or savings is placed into working capital, whose recovery is faster. What they believe is suitable, the system believes is harmful. Fixed capitals have stopped being demanded and thus represent a permanent supply that is added to the new production arising due to investment in working capital. Two supplies are thus on the market, the one from the previous period, which is the capital good, and from the current period, which is the new, although there is *only one buying capacity*, which, no matter how you look at it, is less than this supply. This is when a deadlock is produced in production.

## 2.5. CAPITALISATION

Do not confuse the production of real capital, either fixed or working, with its financing. They are different acts done by different people that the market tends to always lump together. Since it seems like companies produce real capital and they do indeed, many also believe that companies capitalise companies. This is not true, what companies really do is produce fixed or working capital goods, and the function is to produce. So who capitalises or carries out financing? Fund holders (holders who may or may not be the owners) finance the creation of fixed and working capital with these funds. These funds are the liquid savings supplied by savers through the financial system and new liquid money created by banks.

With these transferred funds, producers acquire raw materials, pay wages, electricity, produce fixed capital, etc. These functions receive the name of production.

There is another difference here, which is the difference between capitalisation and investment. If capitalisation is financing with funds –let's call them savings- from fixed and working capital, an operation necessary to the system, and investment is the act of buying or demanding fixed and working capital goods, made possible with savings, then one could think that there is no difference between the two operations<sup>15</sup>. For a start, the difference between savings and the operation performed with these savings must be clear. To Bernácer, *capitalisation has a real meaning and investment has a monetary meaning*. Capitalisation means the financing of a specific number of capital goods, for example 5 power saws. Investment has a monetary meaning, as it implies a transfer of funds that can be greater without the actual capitalisation necessarily increasing as well, owing to price increases. One can invest a much larger amount in a future period than an earlier one and obtain the exact same merchandise, for example the five power saws or even less. The opposite cannot be true, that our power saws are capitalised more now than before and invested as well.

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<sup>15</sup> It is interesting that in Bernácer's work from 1916 (33 years old) and from 1955 (72 years old), there is perfect parallelism in his explanation of these ideas, which resisted the evolution of neo-classicist thought and the Keynesian revolution. Explanations such as the fact that fixed capital created by the manufacturer is working capital and that its production comes from new money –technical regulatory proposition- appeared in *Society...* (chapter VII, 'Dynamic of Wealth', page 167). This was the quote: 'Total prices assigned to two successive productions, added to the amount of working assets in each period plus the minted money or minus that which was de-monetised in the intermediate period, give equal totals...'. This is repeated with greater precision and arithmetic formulas in *The Functional Doctrine...*, book 1, chapters V, VI, VII, VIII, pages 75-127 (2<sup>nd</sup> edition).

<sup>10</sup>  $D = S$  (total saving) -  $S_k$  (invested saving)

<sup>11</sup> Bernácer made a meticulous and long distinction between abstract capital (that doesn't exist), fixed capital and working capital in chapter II of book I of *Society...* (page 34-5-6). Later he insisted on the distinction between first-class and second-class working capital, as well as the money that finances it. See *The Functional Doctrine...* chapter V, book one, pages 75-89 especially page 83-84. He repeated these ideas with numerical examples in *A Free Market Economy...*, chapter IV, page 63-66. The precedent for the financing of working capital can be

found (besides in *Society...*”) in *The Interest of Capital* (book II, chapter IV, page 129); a book dedicated to his mother and published by Lucentum in 1925. Alicante.

- <sup>12</sup> The terminology used by Bernácer is not confusing, although in *Society...* he used archaic terms in economic literature, accompanied by other modern ones, where the last ones had resisted the passage of time. Thus, he used *Disposable Asset* as a predecessor to disposable fund. etc.
- <sup>13</sup> The financing of capital and the need for financing with savings for fixed capital and new money for working capital is not only a need for the fulfilment of Bernácerian economic policy, but a requirement for macroeconomic equilibrium.
- <sup>14</sup> If the system works –even when it frequently works poorly- it is because financial institutions not only transfer savings to investment, but simultaneously create money while performing this transfer (monetary multiplication from *The Functional Doctrine...*, book 1, chapter VII, page 106); and also in *The Interest...*, page 135, which textually reads ‘...state intervention in banking issuances prevented banking commerce and progress from continuing with the reduction of interest for working capital of commerce and industry until annulling it. But commerce and banks are tireless in this eagerness for liberation...’ Moreover, the Central Bank helps, although not always, by creating money, which the system then multiplies and also destroys.
- <sup>15</sup> Bernácer emphasised the difference between capitalisation and investment. Although one involves the other; the first entails only a real concept and the second monetary, something that may confuse readers, as I was confused. Furthermore, the agents that represent it and exercise it are different. The first is a function of producers and the second of savers-financiers (*A Free Market Economy...*, chapter II, section II, page 38).

# The market

## 3.1. INTRODUCTION

The market is the meeting point between supply and demand. And where the goods from the system's production are traded. In order for this trade to take place, the goods must be produced and then demanded in a price-quantity ratio determined by demand. Theoretically and when balanced, this is possible due to the fulfilment of Say's Law.

Since production has originated the demand through the payment of income equal to contributions to the production process, the operation of the market remains secure. This is when money appears, which in principle fulfils the mission of facilitating interchange and distributing wealth among producers.

On the market, not only is current production merchandise offered from the same period, but also others, such as consumer and capital goods that were produced earlier. The money generated for and by the ordinary market, which is where national product is produced, is exchanged for anything with a value, although this is not real wealth or even real production. There are goods with only a monetary value but lacking real value. These are secondary financial assets and secondary real wealth. Both help in the formation of national product, although they continue to stick around after fulfilling this purpose and possibly with a greater monetary value. In any case and whatever their value, they do occupy a monetary mass for transactional purposes that, coming from current production, do not return to it due to the aforementioned reasons. These financial assets, such as stock market shares, speculation in city property, gold itself, etc. are demanded because free income is obtained (not production income) simply by having them in your possession through dividends, rents, etc<sup>16</sup>. They are also demanded because they accrue speculative capital gains. They are not consumer or capital goods since they do *not* represent *new production* of consumer or capital goods either during the current period or in successive ones. Neither do they represent new consumption as nothing is consumed nor is capital applied to produce something, as nothing is produced. As said, they do lead to monetary earnings, although not real ones.

Thus, what is good for one person is bad for the system, because monetary profitability steals income from real profitability that is the child of current production. This is a mainstay of Bernácer's thought that is highly original. Thus, there will be two markets, the first trading in production merchandise and the second trading in financial products. Wealth is produced, income is generated and goods and services are traded in the first and in the second, speculative goods, shares or past wealth are traded.

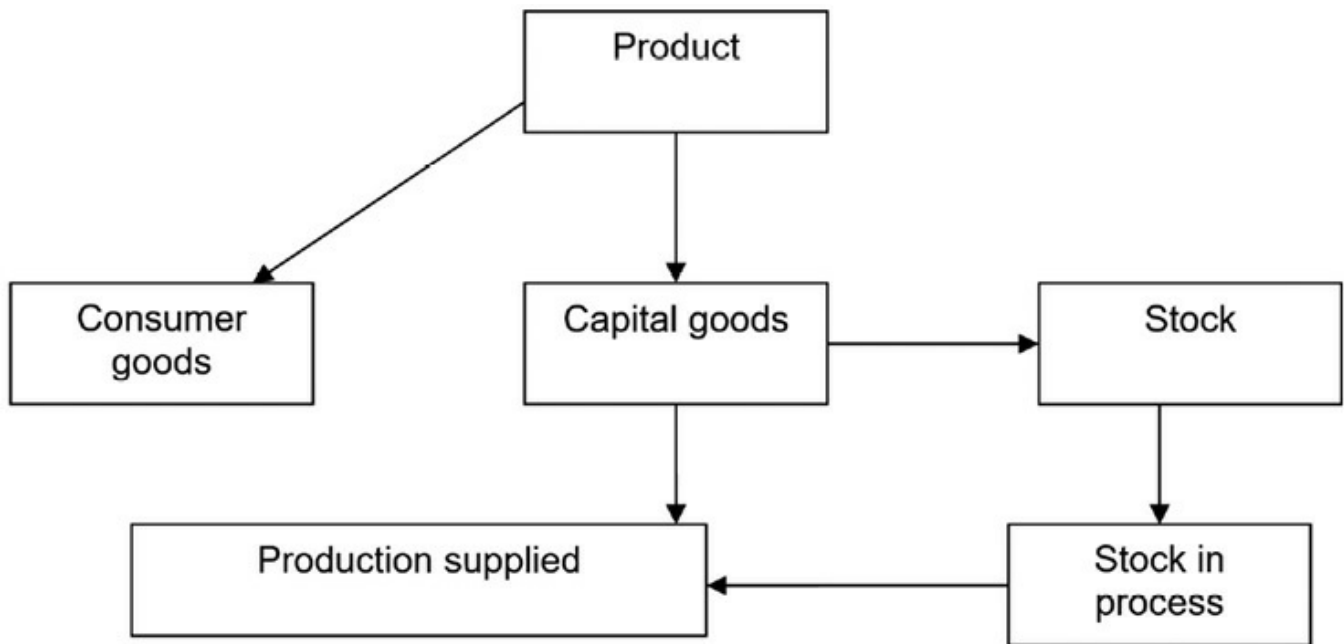
## 3.2. PRODUCTION AND SUPPLY ON THE MARKET

On the ordinary market, supply is established by the production articles sold, which are divided between consumer goods and capital goods. The misnamed inventory investment is also added here that is made up of unsold consumer and capital goods. In my opinion, there is something more that Bernácer did not emphasise clearly enough, which are the goods in the production process, or working capital. Let's stop

here for a moment.

Semi-finished products, or in other words still in *process*; and raw materials, or stock in the industry, are working capital. Concretely, the non-liquid part of working capital. One cannot call them stock since they have been demanded and applied to the system and will be new production and supply in another period. The ordinary market can be depicted in the following graph.

This supply of goods will accrue and also include the supply of financial assets (*our* real secondary financial assets that I will simply call *our* financial assets). These assets do not enter the ordinary market as supplies, although they do comprise part of the *total* market.



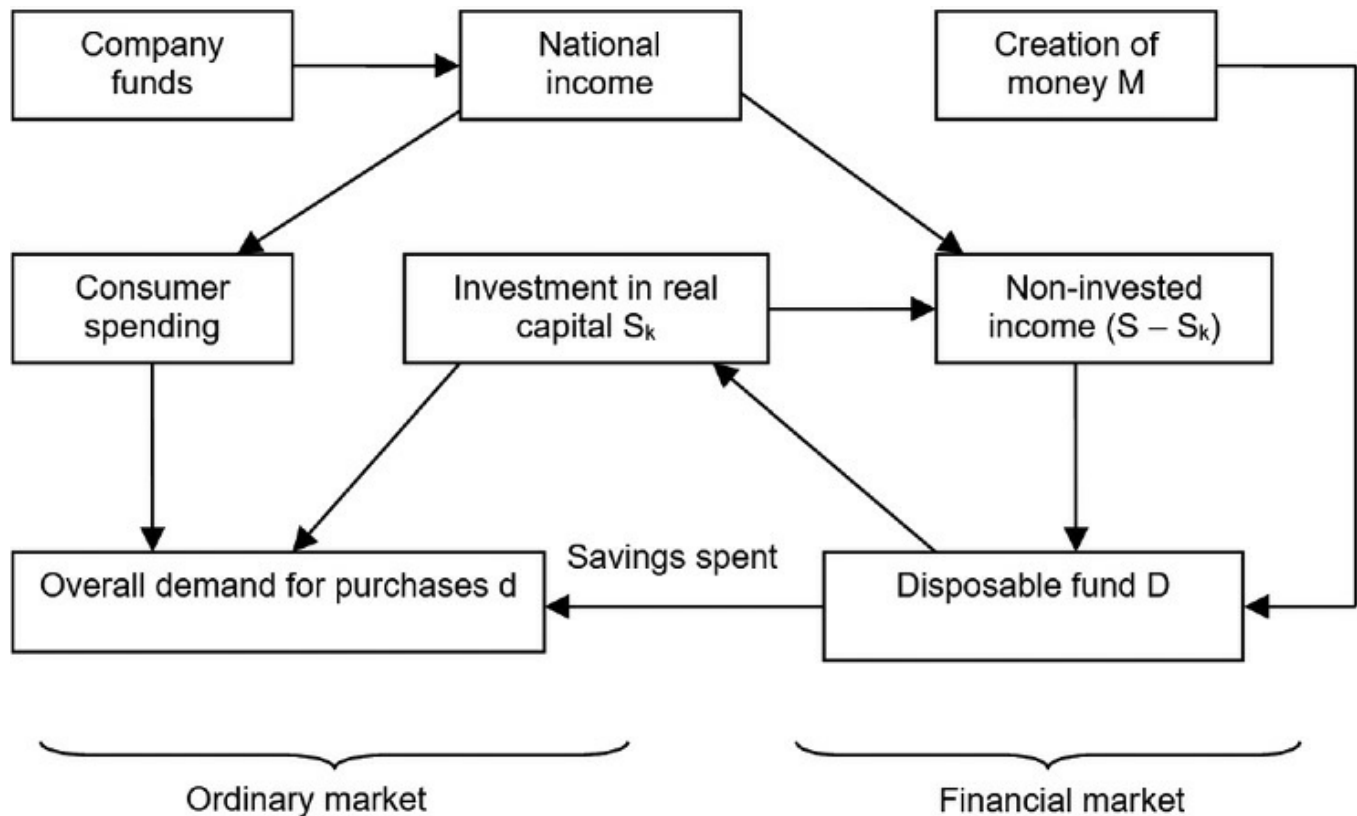
### 3.3. THE FORMATION OF DEMAND

National income flows from production. Basically, it is a monetary flow that is supported by, besides said income, the creation of money by the system. As you know, this income is allocated partly to demanding capital goods, stages that require the prior creation of savings, and partly to direct spending on consumer goods. There is another part that is not for expenditures on consumer goods or capital goods and that remains liquid temporarily. They are disposable funds: *D*.

These disposable funds, which exceed basic needs for consumption and production, normally form to acquire new financial assets. As the formation of demand explained here pertains to the ordinary market, they are *outside the graph*, which in some way shows that they do not exist. These disposable funds may decrease since they may be allocated for buying consumer and/or capital goods in certain cases. But they can also increase due to abandonment of current production goods or because the financial market is no longer of interest, permitting the monetary resources there to return to the ordinary market.

The following graph was created in 1955. It shows the allocation of income flows by demand, which are exponents of what was published in his famous article about the theory of disposable funds from 1922. As Bernácer was sensitive to any accusation of plagiarism or anything that questioned his originality, he commented on his 1922 article in his book *A Free Market Economy without Crisis or Unemployment* (1955). He says that he and Keynes basically differ on the following issue: for Keynes, savings *S* only has

one destination, which is capitalisation. However, the Spaniard claims that while part of savings  $S$  is capitalised, or in other words,  $S_k$  is invested, there is another part that is not:  $D = S - S_k$ , where this remaining part is the disposable income fund, which will nourish the financial market. Keynes would believe that the right-hand bottom square of the following graph was missing from the previous graph (disposable fund  $D$ ).



*Diagram of the formation of total demand*

A convincing and blunt criticism will be made now. Investing savings must be focused not on the fact of producing or creating these capital goods, but on the sale of the capital goods or, if you like, on the purchase of the capital goods by financial investors. Producers produce and investors invest; two operations that are different, albeit complementary. One of Bernácer's most important criticisms of traditional thought may consist of the belief that a capital good is an instrument that assists production and puts it into operation. This contradicts common sense and especially economic common sense to add up two heterogeneous and opposite things: one, capital goods, and the other, inventory or stock investments. The first assists production and the other hinders it, given that it does not motivate entrepreneurs to produce more. Moreover, investment exists precisely because it entails the manufacturing and sale of something, capital goods, while inventory investment is generated due to lack of demand. 'Why on earth would they be added together?' Bernácer asked himself. Due to a simple methodological trick, consisting of giving them a monetary version by multiplying each item by its price to make them homogeneous.

There is more. It is said that there is physical capitalisation when a permanent good is created. All right, but until someone buys it, this lacks functional economic meaning given that it means that this good has not been demanded. But this is still not enough. They say that there is capitalisation, a basic operation, when this same capital good is put into operation by users after being produced and then bought (demanded). Depreciation, amortisation, manufacturing, investment, replacement investment, putting capital into operation, etc. How many nearly analogous concepts and how many different concepts! The crisis can be

explained precisely because they are different.

Keynes' great critic comes to his defence and against his mistaken students (quoting Samuelson among them). It is not that Keynes was wrong in considering that the destination of savings (savings born from income) is equal to the investment in fixed capital and inventories. *With acuity and wit, he explained Keynes' thought by explaining that what he really meant to say, given that income springs from prior real and equivalent production, is that what is not consumed has its balancing entry in existing merchandise*<sup>17</sup>.

### 3.4. THE ROLE OF MONEY

The total market demands the concurrence of supply and demand. In macroeconomic terms, this entails coordinating total production with total income, the child of previous production. Both aspects have been dealt with separately and, moreover, insufficiently. I say insufficiently because anti-wealth or dead wealth would have to have been added to the market setting or, in other words, *our* financial assets. I will leave these operations for later. These operations will be those of integrating the national product and income into a single market, which are first the *ordinary* market and then the introduction of the financial market into the ordinary market.

The financial market, the ordinary market and both markets together trade using money. Why? Because one of the advantages of money is that it monetarily represents any good in general, unlike for example a bus ticket.

Then any buying and selling operation requires the intermediate participation of money. I include the conclusion of one of Bernácer's oldest and most important writings. He stated that 'whoever offers merchandise is in reality demanding money and whoever is demanding merchandise is offering money'. For Bernácer, this concept is also long-standing in economic science and economists have uselessly complicated it. Specifically, classical economists were aware of disposable funds. Walras also knew of them and called the operation *encaisse désirée*, or desired cash balance, and Keynes called it liquidity preference. Understanding it is also simple and the explanation of the economic crisis will also be simple.

There is something else. As our financial assets are also the object of buying and selling, we can conclude that whoever supplies these financial assets (don't forget that a specific type of real assets are also involved) is really demanding money and the party demanding these financial assets is really supplying money. I will jump ahead briefly to a topic I will analyse later, which is interest. The price originates from the supply and demand for produced goods and services and the market price value originates from the supply and demand for financial assets. This market price value, related to the income it produces, generates an average price for this income, and this price is interest (non-production income).

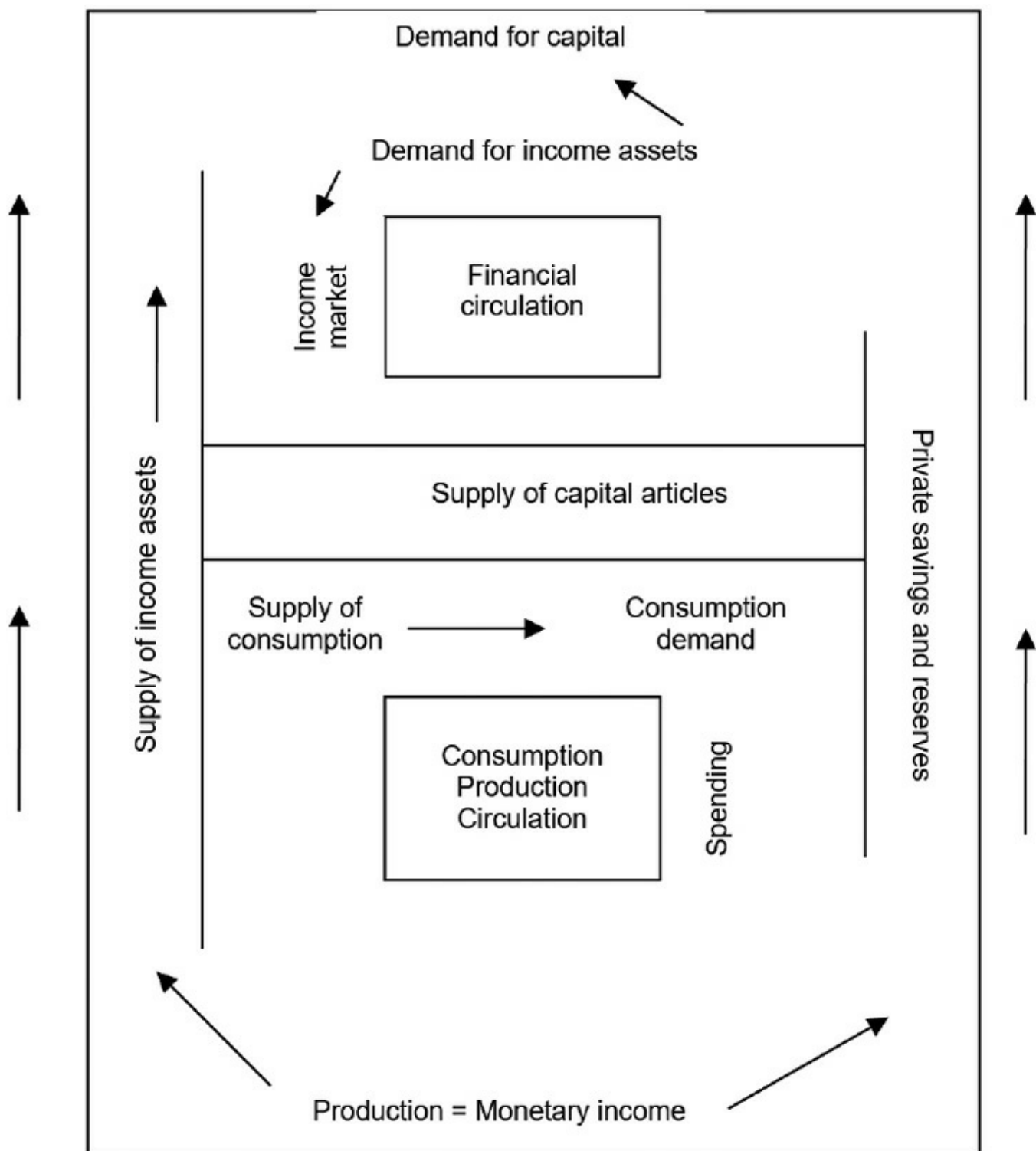
If you believe, like the classical economists and, probably, even earlier economists did, that money is only useful for trading generated production, you will be making a serious mistake. This is something that Turgot's genius intuited. But he did not analyse the money market and by not analysing it, he avoided the main problem, which is like bullfighting without a bull and without an arena. Keynes' success was to mainly study the problem of money, although in Bernácer's judgement, he did not focus correctly on the right problem.

What is the problem or the issue? It is to analyse the double cycle of the fluid income of money in two

markets: the ordinary one, from which production and income arise, and the other, which is the financial market. Both real and artificial wealth is traded with money, which originally comes out of the mechanisms of the ordinary market. As mentioned, this income is a monetary flow, part for consumer spending and part that is saved and later spent on capital goods or invested, but a third part is comprised of disposable funds,  $D$ . The latter are used to trade on the financial market.

Note that disposable funds are formed because income has already been drawn away as a consequence of having financed consumption and capitalisation, both operations vital to consumers and business owners, respectively. But since the institutions taking these savings are usually others, or maybe the same, along with investors, this group as a whole does not provide for the satisfaction of basic needs, but rather to monetary or speculative profitability. In short, consumers and entrepreneurs save and these savings are given to credit or financial entities. Then, the parties asking for this money may be investors or speculators or other parties. In the end, credit entities are interested in these loans being repaid with interest. As mentioned, producers do not finance, they produce, leaving the investment function to capitalists or other parties.

And it will be this continuous movement of monetary flow between the ordinary and financial markets that will give rise to alterations between the prices and interest rates in both markets, causing situations of boom and of crisis. This mechanism can be explained as follows:



*Complete diagram of the circulation of the total market (including the ordinary market and the financial market)*

### 3.5. A FUNCTIONAL CLASSIFICATION OF MONEY

The aptitude of money is exchange. This has been and will be basically its function and task. If it is saved, it is to save it for better exchange opportunities. Whoever has the money and wherever it comes from, this will be its function.

The price of merchandise is determined by the amount of money exchanged for it. This *merchandise-money* ratio is called price. The market price of securities or financial assets is determined by the amount of money given in exchange for them. It does not matter if one means the generation of new income and



national product, because everything that has a value can be represented monetarily (although the opposite argument is not always true).

Where  $M$  is the monetary mass and  $Q$  the merchandise volume, the price  $P$  will be determined by the formula:

$$M / Q = P$$

Two comments are relevant here: The first is that the speed of the circulation of money is not taken into account. The second is more interesting here and it is that there are more *things* that are the object of exchange and they are *our* financial assets  $V$ .

Thus, the monetary mass will be divided to make two transactions in the two markets possible. Bernácer did not explain the new equation that will connect two different price levels, but one can draw a conclusion from his explanations on the functional theory of money.

Bernácer wondered ‘how can the supply of and demand for money be computed?’ This is the same as asking, ‘How is the price of money determined?’ The answer is: Money is supplied to demand goods or to buy and money is demanded in exchange for supplying merchandise. It is the symmetric and simultaneous inverse operation to the supply and demand of goods. This is how Bernácer explains it.

However, in the brief explanation he gave on page 48 of a *Free Market Economy*..., he forgot that the same supply and demand operation for money is done to exercise the supply and demand for our financial assets. As Bernácer repeatedly revealed this operation throughout his work, it is not an error but a methodological scaling that helped support his explanation.

An aside here is to recall that the system continuously requires new money to finance working capital. This will be transformed into first-class working capital, or national product. Savings in the system is a flow of income that has come from this national product and that will demand –at least potentially- fixed capital. This is in theory. What is true is that the money created by the financial and banking system finances consumers, producers and savers. Everyone does something different with their money and when an operation is done, it places this money in another economic stage in which, in turn, another agent will use it for another function. There is an internal mechanism that is precise and orderly in the economic body, which does not mean healthy or efficient, and makes money circulate methodically (not rationally). The different functions of money or the many different functions that make money possible depending on what phase it is in are what breathe life into this economic body. This theory is better than the quantitative one that encodes everything in numbers and also better than the income-based theory although it closely resembles it, contrary to Bernácer’s opinion.

The diagram below explains the functional mechanism of money with the following new feature with respect to Bernácer’s original design. Money from the financial market comes exclusively from savers’ money, the reason why the line for this money is left open in the diagram. In any case, Bernácer himself explained this, although it did not appear in his diagram.

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Creation of money / Consumers’ credits / Savers’ credits

1 Producers’ & entrepreneurs’ money 2 Payment of wages 3 Consumers’ money 4 Savings / Dissaving 5 Savers’ money / Financial market 6 Capitalisation purchases / Transfer of funds to production // Group of sellers / Group of buyers

Although it may appear trivial and obvious to economists, it does explain the basic monetary functions from a different -not opposing- viewpoint than traditional macroeconomics. Bernácer was 72 years old

when he published this work, which magnificently and completely structured the basic functions of money. In the chart, everything will depend on who has the money and what they do with it.

In short, the diagram is divided into two parts: the top, which shows the total group of sellers or supply; the bottom the total group of buyers or demand. And above both of them, the creation of money.

The arrows that go from right to left, or counter-clockwise, show destinations or monetary operations and answer the question: What is done with the money? The arrows that go from left to right, or clockwise, show the economic operations that are complementary to the previous ones.

In (1) entrepreneurs create the national product and to do so they make payments that are income in (2). The consumers in (3) receive this money, saving part of it and moving onto (4). These saved resources change hands to the savers in (5), with part given to producers to repay capital and make capitalizations, new operations that take place in (5). Bernácer explains here (although not appearing in his original diagram) how part of the non-capitalized savings escapes towards the financial market. It is extremely important to emphasize a fact. The financial market as a mere bridge between savings and investment, in accordance with Keynes and any macroeconomics textbook, will be found *only* in (5). This innocuous –as well as efficient- market is part of the money market and part of the ordinary market. On the contrary, *our* financial market, which is *also* another market, is outside, since its functions are opposed to the circuit in which the ordinary market is developed.

Now let's go in the opposite direction around this circle. With the wages and payments received in (1) and (2), purchases are made from producers. They, in (1), receive them in the form of income. They perform functions with it, as stated, of amortization and capitalization in (6), giving resources to savers to do so. They also receive money from these savers to execute these functions. Savers can also *dissave*, an operation executed in (4) and spent, after it forms part of consumers' money (3) in (2).

It can be added that the creation of money flows either to the group of savers or to the group of consumers. Bernácer clearly did not express a common operation, which consists of the fact that the creation of money can *also* go *directly* to the financial market<sup>18</sup>.

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<sup>16</sup> These are financial market incomes, or yields, that I call *R*. They are different from production income. I use *R* to refer to both of them, even though they are different, always explaining which one is being referred to.

<sup>17</sup> Bernácer always called his theory *income-based*, not only to differentiate it from quantitative theory, but in order to understand economics from the viewpoint of income that comes from production (preliminary of Say's Law), which in turn will be used to explain how savings is born from previous production.

<sup>18</sup> Bernácer's first economic formulation can be found in the end notes of his book *The Interest of Capital*, note IX on mathematical equivalency between savings and disposable products, page 243. It contains the product and static income ratio, which will give rise to dynamic equilibrium. This formula is later expanded upon to incorporate it with the creation of money, national money, international money, commodity money, fiat money, working capital... This extended formula is developed in part 1 of *The Functional Doctrine*...

Lastly, this theory is summarised using the same method, but more synthesized, in 1955 in *A Free Market Economy*..., Appendix 1 A) The Value of Currency, and is an analytical exposition of the doctrine from chapters IV and V of the same book. In this regard, the following sentence is worth repeating here: 'In a situation of equilibrium, the increase in working capital of companies is equal to loans for working capital and also equal to the amount of money created'.

# Potential and actual demand

## 4.1. INTRODUCTION

Say's Law states that the cost of producing a good or service is equal to the cost of the product itself. This is undeniable. Thus, Bernácer observes that two things come from the production process, wages and salaries on the one hand and the product on the other. The manufacturing cost of the product is the monetary price of all payment. National product is equal to the period income.

In Bernácer's opinion, what Say forgot was that one thing is for demand to be numerically or potentially equal to supply, and another thing entirely is for all of this potential to really be demanded, or that demand takes all period production. Thus, he distinguishes two types of demands: one is potential and the other is actual.

## 4.2. POTENTIAL DEMAND

Potential demand is the total demand existing on a market in a specific period. In pure and balanced terms, it would be equal to national income. I say balanced because unspent income from previous periods and the creation of money have been left out here. This theoretical and potential demand won't be taken into account, just that *which exists* on the market during any period of time.

Suppose that there are 10 million euros distributed among companies that hold 4 and individuals who have 6 million, with the latter group made up of consumers and holders of liquid savings. In the subsequent period, the income received by individuals for their participation in production will be added, as well as the creation of new money that will end up in the hands of buyers.

The only payment method that would not be at the expense of production will be at the cost of public funds, which are collected via public debt and new money created for this purpose.

If total period income is 300 million and there is 30 million in new money created, potential demand will be the sum of these two items plus that from the period.

Buyers' resources 600

Total period income +300

Increase in the amount of money 30

Potential demand 930

The fact that there is a potential demand of 930 is one thing, but whether it is all spent is another issue entirely. The pace and frequency of collections and payments are never constant. Companies and consumers keep reserves for many different reasons. Often savings are made to accumulate a certain amount for a future purchase, etc. Savings also has a direct relationship with the length of time between collections and payments. Suppose that the accrued remainder at the end of the period is 610 million.

### 4.3. ACTUAL DEMAND

When income is spent, either on consumer goods or capital goods, this means that money has moved from some economic agents and been given to others in exchange for a series of goods. This operation is called *actual demand* and is calculated by subtracting what is left in the hands of economic agents from total potential demand, or the sum of total income and new money created. Thus, continuing with the previous example:

Potential demand 930

Remaining at the end of the period - 610

*Actual demand* 320

Not all money that moves from individuals to companies will be actual demand, since part of this money will be transfers of funds made by savers or bankers. So this transfer of funds must also be subtracted from the total actual demand, using the figure of 55 to continue with the example. Now actual demand will be:

Potential demand 930

Surplus after purchases - 610

Advance payments to companies - 55

*Actual demand* 265

Fund transfers can also take place in the opposite direction, such as for example the repayment of loans made by companies. The real and normal monetary growth of the economy means that companies receive more than they return. This is only with respect to monetary funds. The figures subtracted above are net figures.

Companies can use the money received in several ways:

- 1) Save it in cash as reserves
- 2) Use it to increase working capital
- 3) Allocate it to increase fixed capital

The effects on the economy will be as follows:

In the first case, there will be no real effect. This is because the money goes from savers to companies and then the companies become the savers.

In the case of spending it on working capital, this translates into production and the creation of income, surplus money, products being produced and not yet sold, etc., all of which has already been accounted for when estimating total income. No rectification needs to be done.

In the last case, if the money received is allocated to increasing fixed capital, then actual demand *increases*, since there is an increase in actual demand still not calculated. This is explained in the note below. Now, let's increase the total actual demand by the fixed asset purchases made by companies during this period. What does this mean? That from the transfers of funds, only those allocated to increasing working or liquid capital must be added. If immobilised assets were 40, then actual demand will be:

Potential demand 930

Surplus after purchases - 610

Company immobilised assets + 40

*Total actual demand* 305

Note: I said that what is acquired as working capital has already been entered into the books because these amounts have been produced and bought with period production.

The capitalist capitalises or invests and the producer produces capital goods (as well as consuming, naturally). When somebody builds a house, he employs factors of production and, upon finishing it, he has increased both production and income. What he acquired with savings has been capitalised. This payment made with savings may have been during construction, thus financing it, or after the house was finished. In either case, it is capitalisation or investment and therefore a purchase.

For the construction company, while the house is not sold, it is working capital, which is transformed into fixed capital when acquired by a buyer, who 'immobilises' it. What does it mean that it is an immobilised asset? That the buyer removes it for himself, thus taking it off the market.

#### 4.4. POTENTIAL SUPPLY AND ACTUAL SUPPLY

Supply is the total goods and services generated during the period that is in balance. I say in balance here because in this state, there are no products accumulated from past periods. Potential supply is equivalent to potential demand. Actual supply is what is really supplied.

Supply is made up of a diverse group of things, which can be monetarily represented by multiplying each item by its respective price. And since prices are established by the market, the price can *not yet* be determined while the object is unsold on the market. How will potential supply be established in monetary terms? By calculating it by its cost, where this cost is *always* somebody's income. The cost price does not include the business' profit (sales price), due to which it can be said that the supply cost is the potential supply, which is equal to potential demand.

Bernácer repeats this over and over again from different angles each time. In this way, he reveals previously unnoticed aspects.

Potentially supplied products will be the sum of current production plus currently unsold products (nothing should make you think that there is balance).

From the *potential* and theoretical fulfilment of Say's Law (not actual), the following conclusions can be reached:

1. The value of what is produced is equal to what it cost to produce it and this figure is income that has been paid; then the period income is equal to the period production value.
2. Potential supply also includes the value of stock, which are also represented monetarily in period income. Stocks naturally include raw materials and semi-finished products and finished products, meaning factors or supplies from the subsequent production sequence. In other words: working capital.

Value of stock 500

Period production + 300

Potential supply 800

3. Actual supply will be equal to the potential supply minus what remains to sell. Thus:

Potential supply 800

Final value of stock - 505

Actual supply 295

## 4.5. MARKET EQUILIBRIUM AND DISEQUILIBRIUM

Potential demand and potential supply, in the absence of new money and fund transfers to industry (net), will be equal, which does not mean this is true actually. With everything, macroeconomic figures using conventional accounting rules tally up. And the fact that they tally or are equal in assets and liabilities, does not mean that balance takes place.

In effect, all increases of money in the hands of consumers and capitalists –increases and non-increases in spending- means that for the moment, it has not been spent and must inevitably be represented by an amount of merchandise that is unsold. This means that there will have to be a *constant equivalence between actual supply and actual demand, and frustrated and unsold supplies and demands not made*. Bernácer called this unsold stock ‘*E*’ and available funds ‘*A*’. This is an aspect that Bernácer would deal with in depth from a strictly-monetary viewpoint, representing the arsenal from which he would criticise the essential macroeconomic equation.

This line of reasoning clearly demands price stability, at least in the period. Let’s continue with the example: Where 300 million is the value of production, 500 the stock in company merchandise at the beginning and 530 at the end. It is logical to understand that the increase in merchandise by 30 entails that buyers have not spent and have accumulated (disposable funds) for a value of 30 as well. I must repeat that there is no creation of money, transmission of funds or price variations.

So what does the 30 represent? A temporary market failure that demands an explanation about why consumers’ disposable funds have increased. It may be due to trivial or circumstantial reasons and that sooner or later, these resources will be spent. At this time, and given the advanced knowledge employed up to now, a theory cannot be hazarded. The theory of interest and the financial market must be studied first to understand the perpetual and growing formation of disposable funds. Thus, the term that macroeconomics employs to designate unsold merchandise will be criticised roundly here. It is called nothing less than: investment in stocks or inventory investment!

The supply from the example will be:

	Disposable funds of buyers	Articles of sellers
At the start of the period	600	500
Period production	+ 300	+ 300
Potential demand and supply	= 900	= 800
At the end of the period	- 630	- 530

Actual demand and supply	= 270	270
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If loans are given to industry for working capital –for example 40- and money is created, equilibrium will continue *provided that there is compensation between these sections or all of them with the whole that is comprised of actual supplies and demands*. Suppose the creation of money was 80, the example would be:

	Demand		Supply
	Purchasing power		Merchandise
			Disposable funds
Production	300		300
Increases in stocks of sellers			-30
Increase of disposable funds of buyers	70	+30	
Loans for working capital	40		
	110	-110	
	190		270
Creation of money	+ 80		
Actual amounts	270		270

In principle, loans for working capital cannot be added but, conversely, subtracted. As mentioned, it does not represent a demand but an internal permutation of funds. The result is 190 demand compared to an actual supply of 270. There will be disequilibrium, if money is not created –which has occurred- at a value of the difference of 80. Bernácer will never stop repeating that the creation of money is required to finance working capital so that the market is balanced. This is a key argument in his thought.

For the same reason, when these last amounts -creation of money and financing of working capital- are not compensated for, disequilibrium will survive.

305 in demand is greater than the 295 of supplies, and demand is greater than supply by 10, which is the number in the penultimate box on the right below, allowing Assets and Liabilities to be made equal.

The conclusion that Bernácer draws from this is as follows: Excess working capital from the loans for working capital will cause disequilibrium in favour of demand. These types of elementary explanations are detailed in Bernácer's monetary theory with a series of exact and strict formulas that are quite complex, truth be told. However, I believe that the explanations given here may be clearer and easier to understand, preparing readers for the subsequent ideas expressed about monetary theory.

	Demand		Supply
Production	300		300
Period increases	10	-5	-5
Loans for working capital	15	-25	
	275		295
Increases in money	30		10
Disequilibrium in favour of demand	305		305

Let's continue with another example. We will start by looking at the total monetary resources received by

companies:

Monetary fund of companies at the start of the period 400

Amount of period sales + 305

Loans received for working capital + 15

= 720

Income and wages paid (cost headings) - 300

*Resources available at the end of the period* 420

Now let's look from a viewpoint of production and sales or supplies and demand:

Stock of merchandise at the beginning 500

Production + 300

Total 800

Value of sales (not sales price) - 295

505

What do we know at this point? That companies have more money, 420, and while it is not otherwise stated, this is working capital. There is merchandise worth 505 at the closure of the period.

Relating the money and merchandise that companies had at the beginning with the money and merchandise they have at the end, the increase in working capital is obtained. In turn, this increase will be compared with the financing of this capital, financing that is calculated by related loans and by profits.

#### WORKING CAPITAL

	Beginning	End
Money.....	400	420
Merchandise.....	500	505
	900	925

Thus, the increase in working capital is 25 = (925 - 900).

Loans for working capital .....		-15
Increase in working capital .....	10	
Working capital .....	900	925
	910	915

This could be summarised as: the increase in working capital is 25, while the financing for this working capital is 15 and thus the difference is 10 in favour of demand.

This difference is an operating surplus, which originates due to buyers giving purchasing power to companies, 10 more than sellers have delivered through income contained in the articles sold.

## 4.6. RESALES AND REALISATIONS

Frequently, products are bought and sold on the market that have not only been produced and sold, but



have also been the object of subsequent buying and selling operations. Two types of goods are the object of these transactions: one is semi-durable consumer goods like books, jewels, noble metals, antiques, etc. The others are goods that generate income due to owning them (non-production) like a rental property, bond or security. Both the first and second group of goods is the object of buying and selling on the market. Transactions in the first group are called *resales* and in the second group, they are called *realisations*.

Let's analyse *resales*. Some products were already sold and demanded and are then supplied again and, consequently, demanded again. This merchandise –that is not *new* production- enters once again into potential market supply and has a quantity of purchasing power, passing into the hands of buyers, modifying potential demand.

These operations do not change price levels of current production, but their consequences can change the market, since they require resources to carry out these transactions that could come out of potential demand and affect new production. *New* production means *new* wealth and *new* production income, while old production does not. If old production prevails over new, the potential production capacity of the system will be decreased. Normally, these operations are not harmful to the system. However, realisation operations are indeed harmful in the financial market, on which income assets are traded, or *our* financial assets. Shares, securities and other secondary financial assets, such as properties, lands, constructed buildings, property rights and credit instruments, are the object of innumerable buying and selling transactions, which Bernácer called realisations. These operations are dangerous because they are fed by disposable funds and are non-invested savings, whenever of course new money is not created for these purposes. If new money is not manufactured, goods and services will not be manufactured either and income will not be generated, given that part of the income that emerges in parallel with current production will have been usurped by realisation operations.

Resale and realisation operations in themselves do not alter the magnitudes of the purchasing fund or the existence of articles on the market, but the same quantity of money changes hands for the same quantity of goods. There will be different consequences that occur in future periods.

#### 4.6.1. The mathematical expression of market equilibrium

The mathematical operations used in Bernacerian macroeconomics don't go beyond addition and subtraction and are therefore simple. There may be an integral or two used in working with prices, but there is generally nothing of greater complexity.

The value of the product obtained will be equal to the whole of payments generated. Thus, all production generates income, which is the same as saying that all income comes from production. *Therefore, savings, the issue dealt with here, has its equivalent in a part of previous production*<sup>19</sup>. This is true in non-monetary economics and monetary economics.

It is true in monetary economics because savings, which is money, is represented in sold merchandise, merchandise that is national product. Therefore, all savings must be equal to investment, which is spent on capital goods or, in other words, is the production that remains after having spent part of the income on consumer goods. One needs to exercise great tact with this statement made 11 years before Keynes' *General Theory* in which he expounds that savings is equal to investment ( $S = I$ ), an identity so highly criticised by Bernácer.

$P$  is the total value of production,  $R$  the value of payments or income and  $d$  the value of what is demanded (don't confuse this with disposable funds, denoted by  $D$ ) or the value of the purchases made on the market.  $T$  is the period between two moments  $a$  and  $b$ <sup>20</sup>.

$P = R$  whenever Say's Law is fulfilled potentially and theoretically. The value of stock at the beginning and end of the period will be respectively  $E$  and  $E'$ ;  $A$  and  $A'$  will be the unspent income that is available at the beginning and end. As they are not spent, there is unsold stock, and  $d$  will be different than  $P$ , because everything produced was not sold. This difference is explained and are analysed in *The Interest of Capital* (1925).

1. In the beginning at point  $a$ , there are goods that have been demanded in the period  $ab$ ; therefore they will be found in the value of  $d$ , and  $E$  and must be eliminated by subtracting  $d - E$ .
2.  $P$  includes products found at the end at moment  $b$ . Thus, they must be eliminated by the difference  $P - E'$ .

From 1) and 2) the part(s) that are common to both  $P$  and  $d$  are obtained (common but not equal). Thus:

$$d - E = P - E', \text{ and isolating } P:$$

$$P = d - E - E' \text{ or also } P = d + (E' - E)$$

To express this phrase commonly, it says: 'production is equal to what is demanded plus what remains or that which is not demanded'.

$$E' - E \text{ is the value of unsold stock represented by } DE.$$

$$\text{So } P = d + DE.$$

Savings is the part of income  $R$  that is not spent. Why will  $R$  be different than  $d$ ? For the following reasons:

1. Because  $d$  is a demand that may have been fed from previous resources and is found at the instant  $a$ .
2. Because  $R$  includes payments that may not be spent in the period  $T$  between the two times  $ab$ .

That which is *still* not spent at time  $a$  is  $A'$  and that which is unspent at time  $b$  is  $A'$  as mentioned. So, the difference  $A - A'$  will indicate the part that is spent or not spent depending on whether it is negative or positive. Then it is agreed that:  $d - A$  is equal to demand minus what remained at the beginning and  $R - A'$  is the part of income that wasn't spent, so that the terms will have a part in common and therefore:

$$d - A = R - A'$$

which means that net demand is equal to the net part of income spent, which has the same meaning. Then:

$$R = d + (A' + A) \quad A' - A = DA$$

then

$$R = d + DA$$

an expression that when commonly interpreted means that income is equal to the value of what was demanded plus what wasn't spent or saved. Therefore:

$$d + DE = d + DA \text{ (because } R = P) \text{ and thus } DE = DA$$

This means that as people don't spend and liquid savings are formed, there will be a quantity of unsold

merchandise. If there is greater spending and lesser savings  $A$ , in parallel there will be a lower quantity of merchandise  $E$  that is unsold.

As you will see, macroeconomics calls this part of  $E$  nothing less than inventory investment, thus violating the fundamental equation or identity of macroeconomics:  $S = I$ . Observe that demand  $d^{21}$  includes consumer goods, which you already know, as well as capital goods. Demand for capital goods is called investment. What Bernácer wanted to stress from the beginning is that savings comes from equivalent production and due to this, it is equal to this unsold production and that which is really sold.

At the risk of seeming repetitive, I repeat that there is nothing more complex to Bernácer's logic. As people save more, this means that their disposable funds will have increased by  $DA$ , and while the converse is not true and this savings is not invested, the parallel consequence is the increase in stock  $DE$ . ' $A$ ' comes from income and  $E$  comes from production and, in turn, income  $R$  is born from production  $P$ . Then, in order to bring the entire market into balance, previous unsold production and previous unspent income are both added.

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<sup>19</sup> For Bernácer, savings comes from previous production. This interpretation of macroeconomic thought is essential to his body of thought. Savings is thus the fruit of production in generated capital goods, paid via income, which has not been spent  $R - C = S$ , because  $P$  production =  $R$  income and production of  $C$  consumption and of capital  $K$  or  $I$ , then  $S = I$ .

<sup>20</sup> Due to dealing with production income that is different from other income, financial or speculative. Remember that both of these different types of income are called  $R$ .

Thus  $P$  is production and  $D$  disposable funds, where  $D = S - Sk$ , and  $S$  is total savings and  $S_k$  the part of savings that is not capitalised.

<sup>21</sup>  $d$  (small letter) is demand and  $D$  (capital letter) are disposable funds, or unspent income or the absence of demand

# Market terms in mathematics

## 5.1. INTRODUCTION

Bernácer carried out a comprehensive and thorough analysis of economic phenomena, providing extraordinary detail. These phenomena are transactions made by different agents always using money against goods. Money and goods have different names in traditional and Bernacerian symbology, given that they derive from concepts that are also different.

These operations and things have a specific nomenclature, which does not coincide with traditional macroeconomics, but be warned –it is advisable to move with caution here- that this lack of similarity is double: one superficial, with respect only to the letters employed. Thus, production is not  $Q$  but  $P$  ( $P$  is prices in traditional macroeconomics) and the other refers to concepts.

Without these mathematical rudiments, it is still possible to understand Bernácer's economic logic, but it is better to express it here in its entirety so that you can understand it *well enough*.

## 5.2. THE SYMBOLOGY

*Macroeconomic symbols:*

*Total national income:*  $R$

*Total value of production:*  $P$

*Potential demand:*  $d_p$

*Actual demand:*  $d$

*Potential supply:*  $O_p$

*Actual supply:*  $O$

*Company operating surplus:*  $b$

	At the beginning	At the end	Variations
Amount of working capital	$m$	$m'$	$Dm = m' - m$
Clients' money	$A$	$A'$	$DA = A' - A$
Companies' money	$c$	$c'$	$Dc = c' - c$
Merchandise stock	$E$	$E'$	$DE = E' - E$
Working capital	$K$	$K'$	$DK = K' - K$
Fixed capital	$X$	$X'$	$DX = X' - X$
Loans and transfers from funds T o companies	$Z$	$Z'$	$DZ = Z' - Z$
Loans for working capital	$H$	$H'$	$DH = H' - H$

As seen in the last chapter, potential supply and demand will be expressed by:

$$d_p = R + A + M$$

$$O_p = P + E$$

Actual demand and supply will be expressed:

$$\begin{aligned} d &= d_p - A' - H' = R + A + M - A' - H = R - (A' - A) + DM - DH = \\ &= R - DA + DM - DH \end{aligned}$$

Moreover and according to (1)

$$O = O_p - E' = P + (E - E') = P - (E - E') = P - DE$$

As said, potential market balance  $d_p = O_p$ , is different from real or actual balance  $d_e = O_e$ . This last balance would mean:

$$R - DA + DM - DH = P - DE$$

and taking into account that  $R = P$ , we have:

$$DA - DM + DH = DE$$

For the particular case that  $DM - DH = DE$ , that is, when the increase in the quantity of money is equal to loans for working capital, then:

$$DM = DH$$

$$DA = DE$$

and in virtue of that:

$$DM = DA + Dc$$

$$DK = DE + Dc$$

then

$$DM = DK = DH$$

This equality expresses Bernácer's equilibrium or the conditions for equilibrium. Expressed more simply:

*'In a balanced state, the increase in companies' working capital is equal to loans for working capital and also equal to the amount of money created...' (Germán Bernácer, A Free Market Economy....: page 230).*

I believe that expression could be better as follows:

*'For balance to exist, the quantity of money created must finance the loans for working capital, which in turn must finance increases in working capital by the same amount'.*

To complete the study of equilibrium, let's look at two situations of disequilibrium, first when  $d > O$  and second when  $d < O$ .

Let's start with the first when  $d > O$

$$d - O = R - DA + DM - DH - (P - DE) = DE - DA + DM - DH$$

replacing  $M$  for its true value, which is  $M = A + Dc$

$$d - O = DE - DA + DA + Dc - DH = (DE + Dc) - DH = DK - DH$$

or

$$d - O = DK - DH$$

disequilibrium in favour of supply that is expressed:

*'Excess demand over supply corresponds exactly to the remainder of the increase in working capital formed on loans to companies for working capital.'* (Bernácer, *A Free Market Economy...*: page 230).

Don't forget that working capital is a demand and that it subsequently indicates two things: one, it is the displacement of money for its financing and two, it is the application of raw materials, etc. for the production process. For its financing, money must be new money. If there is excess working capital on the loans needed to form it, there will then be excess demand, which would mean investment in working capital.

Let's now look at the second case of imbalance when  $d < O$ , which is the more frequent case.

In this case, the imbalance between  $DH$  and  $DA$  will be the same as  $O$  and  $d$ . If  $H > A$  this means that there will be more loans for working capital than acquisition funds  $D$  in the hands of consumers. The following is needed so that balance is maintained:

*'...It is necessary to create exactly as much money as the increase undergone by working capital and that this money is wholly ceded to companies for this purpose...'* (Bernácer, *A Free Market Economy...*: page 230).

This statement means the following: *Increase in working capital will mean new production*. Indeed, national product, either in consumer or capital goods, is a part of working capital while it isn't sold and if the funds transferred to finance them are higher than the consumer purchasing funds to acquire them, there will be disequilibrium in favour of supply and against demand.

When excess working capital is generated that is created above the resources supplied to companies, it must originate in the profits obtained by companies. If it originated somewhere else, this alleged increase would be frustrated by the set of all companies, which is precisely the case in question. Excess supply over demand means there will be company losses.

# The axiomatic and the market: production & consumption

## 6.1. INTRODUCTION

In the first chapter of Bernácer's first book written in 1916, when he dipped his pen into ink to write his first lines on economics, he established his appeal for principles about what economics is. It was as if he were saying: 'This is my work plan for the next forty years of my life and I will therefore set forth some truths from which I am starting. These truths must be so self-evident on their own that no proof will even be necessary. To do so, I will observe certain certainties in the world of the intelligent animal that have always been fulfilled. This is the *need* and the desire to assuage them. Given that the issue I am dealing with is economic science, there must be some starting principles like mathematicians have. These will be axioms. Since economic science is the science of scarcity, these axioms must connect desire and scarcity. What assuages a need, if it is scarce, is an economic good.'

I don't really think that this would have been Bernácer's first thought in his first book. However, if from the retrospective position of his last book, we return to the first, to his roots, we will find the ultimate support for his entire conceptual building blocks in these self-evident axioms. For this reason, Bernácer's work is a complete body of principles.

## 6.2. THE AXIOMS

'All social phenomena are the external manifestation of man's life in coexisting with his peers, as a part of society...' This is literally how Bernácer's first book *Society and Happiness* starts. Some trait must be distinguished that makes it different than sociology. And what makes it different from social sciences is the nature of the impulsive force determining human action. This basic impulsive force is *desire* and behind it, and to *partly* define economic activity, is need.

Desire and necessity are innate to all animals. Perhaps one of man's characteristics that differentiates him from animals, besides intelligence, is his capacity to increase his needs. This is also a social feature. Desire incites people to perform acts that are then carried out. Necessity demands its own satisfaction. The most immediate or animal needs are satisfied through acts, which are not all economic ones, although everything occurs due to scarcity or abundance. Thus, there are desires and needs that are satisfied almost mechanically and without any effort owing to abundance. Others are satisfied via effort and toil, which are organised and distributed by intelligence. Scarce goods are what satisfy these needs that are so difficult to obtain. These are the goods consumed by men, who are rational and hedonistic animals.

Human needs are progressive. This is a natural trait of mankind or social beings. Therefore, economic goods will have to grow, which requires more work and greater social cooperation. It is production and not consumption yet. If one wants to alleviate effort (hedonism in production), means must be invented to

increase production using the same or less effort. This means is capital goods or capital equipment. Greater social cooperation is also required, which will rely on the common goal of production, as well as division of work.

Growing human needs stimulate social cooperation. The manufacturing of instruments that reduce effort requires initial labour or hardship consisting precisely of primitive manufacturing. This activity must be less than the subsequent series of goods produced by this work instrument.

The axioms that sum up the primitive and universal reality of economic factors can be summarised as:

1. Man feels different and imperious needs, whose satisfaction cannot be obtained without laborious toil using his capacities, which is called work.
2. Man always tends to carry out his economic aim -the satisfaction of his needs- as completely as possible, but with the least effort possible.
3. Human needs are progressive, and their augmentation and development are one of the manifestations of social progress.

## 6.3. PRODUCTION & CONSUMPTION

Bernácer's first economics book was *Society and Happiness*<sup>22</sup>. I almost didn't notice his 'Essay on Social Mechanics' and not because I was not aware of it, but because it was his first book and had a title with a utopian inference, I thought there would be little economic substance. This was a serious mistake that made me have to redo almost all of my Bernacerian analyses. A large part of his macroeconomic theory is set forth therein and renowned scientists in the field of economics should have to read it. They would realise that they were caught up in superficial matters and had forgotten the true origin of economic processes.

For Bernácer, economics is the administration of that which is scarce and desired. Following his axiom, things or goods become scarce for different reasons. Do not forget these reasons, as they illustrate his entire body of work.

The first is that it is the growing needs typical of man's intelligent nature that makes the quantity and variety of goods never enough. If they grow and human needs grow faster, the goods acquire value and the things that were not goods before, now become goods. There are assets in themselves, like money, that represent other goods (gold is a good in itself) and can become scarce through human speculation. If money flees towards other aims, besides the natural one it was created for which is production, it becomes scarce. This means that its price increases and interest arises. Interest in turn will make production scarce (consumption and production capital).

Increased production will satisfy economic needs. Production is comprised of consumer goods and capital goods. First, you must understand what production is and what the objective is of production.

Production is destruction and its aim is also immersed in destruction. Variable elements or inputs or variable factors, like working capital, are fully destroyed in the production process to spawn a new asset. Capital goods or fixed production elements also are destroyed through use. This is the so-called functional depreciation. Another type is technical or obsolescence depreciation. Functional depreciation explains how fixed capital goods are destroyed, but this gradual consumption is nothing more than gradual



transformation into a series of goods (made possible by the depreciation of the value of the capital goods). Like nature, the new, the product that is created, represents the incorporation of what was destroyed before: quickly from the total working capital goods and slowly from the fixed capital goods. Thus, the new is the destroyed good plus the cost of human work. Furthermore, since human work is also destruction via the consumption of energy, entailing the consumption of food and other goods, it turns out that everything in production is destruction and everything is creation. Schumpeter's phase on *creative destruction* is approximately and brilliantly set forth by Bernácer with respect to production. The only thing that does not wear out is money. This is clear, since money is not wealth and not even capital but a representation of these things.

This is how Bernácer ended up both defending the classical economists, but then attacking them when he said that goods that wear out, the same factors, the capital equipment and the same elements offered by nature ultimately require the continual intervention of human work. It is not odd that they would draw up the doctrine of the work value. But assuming Bernácer has read about marginalism (only a supposition), he would know that this theory, although meritorious, cannot be true. A purposeful attack on *classical and neoclassical economists is that they confuse capital with money*. In production, only capital equipment is consumed, but not money, which is an intermediary. It is an intermediary and something more.

The goods produced for consumption, not only capital goods, are also consumed. They are consumer goods par excellence. Some are entirely consumed and others are consumed in the long term. And this is how he expressed his desperation to distinguish the consumption period and even more the difficult boundary separating a consumer good from a capital good.

Bernácer intuited the great macroeconomic truths and I will now make reference to macroeconomics in the fifties, not by Keynes, whose work he thought was superficial and false, but to relate production with its final aim, direct consumption with the production of consumer goods for consumers. This will be set forth in the following inquiry.

## 6.4. THE CONSUMPTION FUNCTION FOR BERNÁCER

This relationship was developed in 1916 before JM Clark and before Keynes. I would like to stress his pioneering and original character with respect to these economists, but not with economic science in general that existed at that time. You will see that it is an obvious relationship, understood and comprehended earlier than the time of Adam Smith.

More can be added. The consumption function is not articulated around a model of income determination like Keynes would do quite acutely. It is a simple ratio. Remember that this is 6 years before his theory on disposable funds and, thus, virtually impossible that the 33-year-old Bernácer could have established a macroeconomic formula about the consumption function. However, in his book in 1916, he already expressed that production and subsequent income move and oscillate and therefore consumption as well. Suppose that period production is  $A$  and that it will stop at a certain time. If production increases after that time, consumption will also increase and will not totally use up production until another period. If production continues increasing, for example by an increment of  $b$ , the total production that was  $A + a + b$  will gradually be absorbed by consumption.



The theoretical drop in consumption is point 4, but since the subject has dissaved to keep the previous consumption level, point 3 remains above point 4. The distance 3-4 indicates the greater consumption that is financed with dissavings<sup>23</sup>.

*NOTE:* This last graph and subsequent comments are my own; Bernácer did not express it directly in this way.

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<sup>22</sup> There was another on the food sector entitled *The Food Industries (1906)*

<sup>23</sup> Germán Bernácer, *Society and Happiness*, page 87. As readers can see, this function is an isolated piece within Bernacerian macroeconomics and is not set forth around the model of income determination.

# Part Two

## Money

## 7.1. INTRODUCTION

‘Our civilisation is the child of money, as it is the child of fire, of the alphabet and of some of these elemental and grand inventions upon which the sciences and the arts rely’, Bernácer affirmed. Later, he continued by saying ‘Among easy-to-move merchandise, there is none that surpasses money’. These sentences appear in a masterly book in which he summarised his essential body of monetary thought. Other sentences include: ‘Great economic revolutions have taken place revolving around money’. And another, perhaps the most appropriate: ‘Money... whatever form it takes, is essentially the sign of a claim against society, the symbol and measure of a right held by society to claim those things that the market views as equivalent to money’<sup>24</sup>. This sentence is the child of his monetary thought and, like the others, it appears in: *The Functional Doctrine of Money* (1945).

As one can see, he astutely expressed his enthusiasm for the advantages of money, but he also warned about its dangers. Like all economists, he knew that he needed to talk about equilibrium between the quantity of money created and the wealth generated. Like Schaaff, Hitler's minister of finance with whom he had a lively conversation, he knew that when too much money is manufactured, inflation accompanies the economic system. Like Keynes also knew, if there is scarcity in the symbol of wealth (symbol and not wealth) like money, that same wealth cannot be increased and ends up suffocating the production apparatus and the market. This is the criticism made of the gold standard, which, when lacking, becomes a golden restraint for Bernácer. But, the original criticism that he made of money does not refer to money itself, but rather to its use. Indeed, money is a basic means of exchange and can be used to trade anything that has monetary value. What does this term *monetary value* mean? Well, that to which society gives a value. Unfortunately, not only those things that are useful for life have value, such as goods and services that are generated, but also speculative artifices that we have included in *our* financial assets.

Useful things for life mean, in addition to said utility, their manufacturing and the distribution of their value in the form of income. And if money, created *by* and *for* the ordinary market, a laboratory where useful things for life are manufactured, finances and makes transactions possible in illusions of wealth, anti-wealth, or symbols of symbols of wealth or, more simply, *our* financial assets, then it weakens the market where it came from, thereby resulting in economic crises. Money, furthermore, has its own movement, or as a physicist would say: its kinematics. This movement means passing through different economic agents, each of which have their own function. These agents are consumers, savers, producers, intermediaries, investors, etc. This passing of monetary units from one agent to another entails a metabolism or different economic function, and its explanation makes it possible to fully and completely understand money or, in other words, the economic operations that are carried out with it, which are all of those encompassed by economic events.

Anyone who knows the theory of disposable funds and its implications in depth will find that it is not the first, but yes one of the primary monetary scientific contributions to the history of economic thought. It was

deservedly discovered and praised by Robertson. Due to the early years in which it appeared, at the beginning of the twenties (14 years before Keynes's *General Theory*), one can say that not only was it original but that it was totally modern. Moreover, I believe that its incorporation into modern macroeconomics has yet to happen.

## 7.2. MONEY<sup>25</sup>

Money is useful because it is demanded by everyone for everything. Since it means the possibility of things having a price, exchange is possible, and this is made possible by production and production, in turn, by the division of labour. Money also makes it possible to produce and distribute this value through income. But, in the same way that its measurement requires the non-variability of what is an abstract symbol of measurement, such as the metre for lengths, the value of money is more of a desire than a reality. One of the most useless efforts put forth by economists, where illustrious minds have been worn down, consists of finding an invariable way to measure the value of things. In fact, things are permuted through money according to the preference and scarcity of each thing; therefore, its value is mutant.

*Our kingdom, Bernácer says, is that of relativity.* But, one thing is that the value of things –or the price of things– changes due to the varying relationship of the preference between both, and another thing is that the price is altered by the value of the currency itself. Nonetheless, a point of reference is needed to measure the price of things, and this point is money, in the same way that the geodesist needs a fixed point to measure the height of the mountains and that physicists, like Huygens and Newton, needed to invent an immobile ether that could be used to measure the speed and propagation of light. A balancing is necessary, in turn, to establish the value or price of things, which is to first establish the value of currency, even though this value may be temporary. He developed this estimate in a complete and simple way<sup>26</sup>.

It's not possible, he said, to establish the value of the currency on the one hand and the value of merchandise on the other. One of the many reasons that it is not possible is that the value of the currency is necessary to value the goods. Another reason, and it is the most important one, is that these markets are so inter-related that the sum is an operation that requires at least two addends.

The oldest historical economic transaction since the creation of money is to supply money and demand goods and supply goods and demand money; this is one seamless whole due to how the two actions complement each other perfectly. Thus, he said: 'Whoever supplies goods -or products- is actually demanding money, and whoever supplies money is actually demanding goods'. What economists teach is nothing more than an academic simplification that is so pure that it is almost false, and it consists of studying the supply and demand of goods separately. Microeconomics studies the supply and demand of a specific good, and macroeconomics more generally and exotically studies the supply and the demand of national product as a whole.

Since it is necessary to understand the supply and the demand of goods in order to create equilibrium in the goods market and to do so money is necessary, the money market, or what is the same, the value of currency, is automatically determined. And if, on the other hand, the goods market is not stable, like the water level of the ocean, but instead oscillates searching for equilibrium, then the value of money is not stable either, i.e. it also oscillates searching for its complementary equilibrium.

### 7.2.1. Disposable funds<sup>27</sup>

Disposable funds or available funds are that part of income that is not used to demand consumer or capital goods. It is disposable precisely because it has not been allocated to these natural destinations. Therefore, they are potentially gravitating over the market and, since they are composed of money, given that in the end they are money, they represent potential demand in the same way that they represent a non-executed demand. Disposable funds can be found by subtracting as follows:

$$S_k = \text{invested savings}$$
$$D = Y - C - I \text{ or } D = Y - C - S_k, S_k = I$$

From the above expression, it may seem like disposable funds are the same as hoarding. We will see that it is not exactly this way, given that disposable funds are a flow that comes from a greater flow, which is income, which provisionally and continually turns up to demand financial market assets.

In a more generic sense, disposable funds are that part of income that has been recently earned by economic units. Thus, domestic economies, producers, capitalists themselves, when receiving their income as a whole, keep all of their income disposable while they don't spend it. When income becomes consumer goods, capital goods or financial assets, it stops being disposable in the portion that is spent. The most important thing is the monetary circulation explained by Bernácer through the economic transactions of consumption, investment and speculation (the latter would be financial investment). This circulation brings about a disposable funds process that is continuous and different in the hands of consuming, capitalising and speculating economic agents.

### 7.2.2. The Theory<sup>28</sup>

In 1922, Germán Bernácer's first strictly macroeconomic and monetary treatise appeared. His article, which was well-known by Robertson and extensively praised by him, was entitled: *The Theory of Disposable Funds* and was published in 1922. This fantastic intuition-creation is one of the most important contributions to the history of economic thought, even though it does not appear in any text on the History of Economic Doctrines.

The contributions made by Newton or by Einstein to physics or those made by Galileo to astronomy, among others, were original intuitions that suddenly made science advance infinitely in knowledge. They were the result of long years of work, and it took many years to equip them with greater scientific precision, but when they appeared, they were simply intuitions. In them, we not only find the truth, but the prolific source of other findings, in the same way that when a discoverer discovers a continent, he is making other future findings possible by other men on the same continent. Thus, *The Theory of Disposable Funds* is discovery of this type.

And it is one of these sorts of discoveries even though nobody has bothered to develop his theory in the least, not even in Spain, Bernácer's birth country, which would have been natural somewhere else. I say that it is a fertile discovery, because from this discovery sprang the paths that made it possible to explain the theory of the money market, of interest, of economic cycles, all of this through a number of varied and, at the same time, basic economic operations.

*The General Mechanics of Disposable Funds*<sup>29</sup>

I have roughly explained what disposable funds are, saying that they are the part of income that remains available. In principle, income received by economic agents is totally available to them. Later we see that they will spend some of it and save the rest of it and will pass on to another economic agent, not only the spending, but also the saving. The first will be passed on to industrialists or entrepreneurs and the second to capitalists. Likewise, this spent and saved income becomes a part of the disposable funds of entrepreneurs and capitalists, and they will spend it or use it on certain economic activities; the former, for the supplies and expenses of their production tasks; the latter, when transferring it to investment units so that they invest.

All will make payments in the form of wages, salaries, capital interest, rents, leasing and profit, in short income (national income) to production agents. Money, as can be seen, has different functions depending on where it is, and it is these functions that are much more important than the amount in and of itself. The transfer of fractions of monetary mass from one place to another explains economic operations: consumption, savings, investment, industrial spending, loans, etc.

If disposable funds are totally formed when income is created, they completely disappear when they are used for expenses or when lent to another economic agent. This is not totally true. In a *consolidated* monetary system, there will be certain *net disposable funds* that will be formed during the economic process. This is the first clarification to be made; the second is that the separation between consumers, savers, saving capitalists, producers, investors, is an abstract separation, since producers can frequently be consumers, savers, capitalists and, of course, investors. Consumers are production agents to the extent that they represent part of the workforce in the economic system. However, the breadth of the market in a modern economy makes one think about the phenomenon of the division of labour. Various production units appear in the form of companies in a large and complex system of units that channel savings. These then move from consumption and production units to a series of domestic economies that engage in acts of consumption and that are factors of production that are in turn hired by entrepreneurs.

### 7.3. THE TWO MARKETS<sup>30</sup>

It is important to remember the two markets. One is the ordinary market, which is where national product is produced: productive agents are paid income according to their productivity, and the income is later used to demand products. All of these operations are carried out with money. National product is a real magnitude that when multiplied by its price has a monetary representation  $P * Q = M$ , where  $P$  is price,  $Q$  is units produced and  $M$  is monetary stock. Income paid is a monetary flow and demand is an exchange of things or wealth for money.

The operations described involve activities for creating wealth, accruing income, which are total disposable funds that are later spent and saved and subsequently go through this spending and this saving to become part of producers' disposable funds. This flow of disposable funds with a varying degree of availability occurs on the ordinary market. As will be seen later, this is where certain net disposable funds will be formed, which will then flee from the ordinary market. The fact that these disposable funds are formed means that the entirety of consumer and producer income will lead to the formation of some savings which will not return via investment, but instead they abandon the consumption and investment cycle, thus leaving the ordinary market.



These disposable funds leave the ordinary market and become a part of the financial market, where it is possible to buy and sell stock or securities, ‘papers’ or secondary financial assets or actual secondary assets. In short, such actions entail profit-oriented transactions that do not involve the creation of wealth or the generation of income (in which case we are obviously referring to production income or national income). Such operations are focused on profitability and/or speculative gain.

If this happens, it is because they have received money that has made it possible (see diagram), money that is nothing other than the disposable funds that come from the flow of income. Accordingly, the money metabolism of the ordinary market that deals with production, distribution of income, consumption, savings and investment will continue to occur but with a smaller and smaller volume of money.

It is true that the economic system creates money and that this money is channelled towards the ordinary and financial markets, but this phenomenon will not interrupt the natural and anti-natural process entailed in the creation and fleeing of income respectively.

## 7.4. THE EXPLANATION OF THE THEORY<sup>31</sup>

Bernácer discusses three types of disposable funds, which are divided into different degrees due to the way they are employed. These are:

1. *The disposable funds of consumers*: Consumers receive income, which they use to meet their basic needs for survival or minimum vital services and those that are essential according to the common levels marked by civilisation. They are called *minimum* or first-degree disposable funds, because they are the most difficult to separate from the expense or final destination that is consumption. As Bernácer would say, there is no business more interesting than subsistence itself.
2. *The disposable funds of producers*: These are generic disposable funds in the sense that they are profits and other income received by producers, but they stop being so to the extent that the normal course of the business largely conditions the reinvestment or productive spending thereof. Therefore, they are called *second-degree or intermediate* disposable funds. They are not required by the urgency stemming from the private needs of producers but are required by the needs of their production activity.
3. *The disposable funds of savers or capitalists*: In the ordinary sense and that which has been formed by them, monetary stock of merchants, funds of producers formed above and beyond the needs of their business or activity. Since it is deemed that they have been formed once expected personal and productive consumption expenses have been covered, they are called *maximum or third-degree* disposable funds.

*The disposable funds that have been referred to and that will be dealt with subsequently will be the latter, third-degree or maximum disposable funds.* The reason is as follows: the first two, those of consumers, i.e. first degree, and those of producers, i.e. second degree, will stop being available as soon as they are spent. This is not the case with the last disposable funds, which are created precisely because they are not spent and so that they may be used for other speculative activities.

Bernácer made a terminological mistake in calling these three types of disposable funds ‘three classes of money’, when in reality they are three different ways for money to operate as opposed to different classes of money itself.

#### 7.4.1. The Functional explanation of the theory

As was stated earlier, the movement of disposable funds through the market entails various operations, which will be explained below.

When production begins, entrepreneurs have their assets in liquid form and they transform them into non-liquid assets by, on the one hand, acquiring fixed capital and, on the other hand, demanding working capital; one in collaboration with the other will work to transform them into sellable items, which, it should not be forgotten, are sometimes not sold and continue to be working capital. They use the initial liquid assets to pay income to workers, thus making them no longer liquid for producers while they become liquid for employees. Subsequently, liquidity and disposability return once again into the hands of producers by means of the sale of the product. This passing on of money is made possible due to demand, which in hands of producers is for factors of production and in hands of consumers is for final goods.

Fixed capital will be eroded by depreciation and it will be recovered by creating a *sinking* fund for it. This fund will be used to fund compensatory investments or replacement investments.

Receivers of income or wages do not spend them entirely, but instead create savings from the disposable funds of producers that, if used to fund the acquisition of production capital, is called investment. *Investment* is a financial operation for purchasing capital or financing to create capital. If this savings, on the other hand, is spent on consumer goods, this operation is called *dissaving*.

Capitalisation does not only mean using money for production, it also means transforming it into industrial disposable funds. Let's take a look at *decapitalisation*. Transforming capital into cash is called decapitalisation. This is the case of fixed capital, he said, it can only be done through redemption. This operation consists of trying to keep the level of disposable funds invested previously in their construction so that, in this way, it is possible to acquire these capital goods. The truth is, Bernácer could have used decapitalisation to refer to depreciation or erosion of capital goods. Bernácer was concerned about developing a monetary theory, and he uses decapitalisation to refer to the monetary activity necessary to eventually be able to be capitalised, and while it is not capitalised, it is a disposable fund. This activity, the activity of accumulating a disposable fund in the theoretical context of equilibrium between technical and financial amortisations, means that capital is eroded to the same extent and with the same intensity that disposable funds are formed. Thus, the *monetary measurement of depreciation* is decapitalisation.

With working capital, decapitalisation is nothing more than the selling of products to consumers. This necessary and desirable operation for the market is called *liquidation*. And, decapitalisation in working capital persists provided that this money from sales is not reinvested during the period into production or purchasing other products. Remember the considerable importance that working capital has for Bernácer, or its internal complexity, which I believe is an issue that has been and continues to be dealt with little by macroeconomics. Working capital is partly products that for one company are finished and that for the following company are products in progress to which the latter will be responsible for adding value to: they are raw materials, energy, labour that makes it possible to add this value. It is also money and end products, both consumer and capital, produced by the last company and upon which no production or value is added, as long as they are not sold.

All of said operations, consumption, investment or capitalisation, savings, dissaving and decapitalisation, are active operations in the sense that they entail a change of disposable funds in the economic cycle. On

the contrary, passive operations are those operations that, although they are economically necessary, do not entail a global or macroeconomic change of disposable funds.

Active operations affect price levels, and passive operations do not, since active operations are operations upon demand and supply among different production agents and other agents, while passive operations are not. This aspect will be dealt with later.

## 7.5. ACTIVE OPERATIONS<sup>32</sup>

Active operations are those that entail a flow of income in one direction and a reciprocal flow of goods and services in the opposite direction. Successive movements of disposability among the different economic agents are evident in active operations. The aforementioned active operations will be repeated describing the functional variations of disposable funds.

Consumers, as production agents, work for companies and receive wages. This operation means that, while consumers don't have this income, they are producers' disposable funds that will be passed on to consumers. Once consumers have this income, it becomes *minimum or first-degree* disposable funds.

Consumers acquire goods produced by producers by paying their price. As a whole, producers will receive disposable funds measured by multiplying total production units sold by their prices. These disposable funds are those of the producer to the same extent that they have stopped being the disposable funds of the consumer through spending. *They are second-degree or intermediate disposable funds.*

Producers acquire capital goods and working capital with their disposable funds, which stop being disposable as they spend them and in turn create the disposable funds by means of the 'liquid capital' operation, by means of the accumulation of company *sinking* funds and *reserves*, as well as by *liquidation* operations, which consist of the sale of end products. Before the sale, end products sold by companies are the working capital of such companies. Savers in the economic system are both consumers and business owners (in the same way as business owners are also consumers). Academically speaking, and for the purpose of this analysis, these economic agents are placed into another compartment and are called *savers or capitalists*. These agents provide resources to businesses through loans so that businesses can demand capital goods and to consumers so that they spend. The first operation is called *investment* and the second is called *dissaving*. Investment means that system disposable funds that are on the borderline between second degree or intermediate disposable funds and third degree or maximum disposable funds stop being such in order to carry out, through spending, the acquisition of *capital goods* and thus subsequently become entrepreneurs' disposable funds. *Dissaving* means that disposable funds are returned to consumers to be spent on consumer goods, thus transforming consumers' disposable funds into the disposable funds of producers or business owners. In fact, the operations of dissaving and saving are not in themselves active operations but are rather neutral operations. What is done with them next is another economic event that involves, via consumption and via investment, active operations.

These operations are depicted in the following graph created by Germán Bernácer that explains them clearly and insightfully, first published in his article on disposable funds. It also shows the formation of the money market and the financial market<sup>33</sup>.

I'll begin by explaining Bernácer's reasoning shown in the larger diagram. The smaller diagram also includes the financial market, and is one Bernácer repeats several times in his works. I believe it may be a

personal interference from his original position.

Let's take a look at the following phases:

1. Masses of disposable funds. They are described by the lowercase letters  $a$ ,  $b$ , and  $c$ , where  $b$  is the mass in the hands of consumers,  $a$  is the mass belonging to savers and  $c$  is the mass of producers. The total amount of money will be:  $m = a + b + c$ .
2. The grouping of *different funds* according to the common function they perform is shown by the symbol ' $\}$ '. Thus, there are *three* groups, represented by the capital letters  $A$ ,  $B$  and  $C$ .  $A$  is the acquisition fund,  $B$  is the production fund and  $C$  is the available fund. The functions are as follows: the acquisition fund is used to acquire consumer and capital goods, which are  $a$  and  $b$  (disposable funds of consumers and capitalists).  $B$  or the production fund feeds the production fund of business, and with the available fund  $C$ , it is possible to do 'anything'. It is made up of the savings of savers and capitalists and the liquid funds resulting from sales liquidations and from accruals in sinking funds and reserves. This available fund can be used to demand capital goods, but it can also be used to speculate, in which case it will be outside of the ordinary market and it will not have been capitalised nor will it have been invested nor will it be disposable, because it has already demanded something: financial or real assets from the financial market. This is described in the second diagram (the lower small one).
3. The arrows indicate the direction of disposable funds, which entails two reciprocal flows: active operations. As can be seen, each operation involves a movement of a disposable fund mass ( $a$ ,  $b$  and  $c$ ) toward consumers, producers or savers, thus making variations in  $a$ ,  $b$  and  $c$  possible, as well as the large masses or funds ( $A$ ,  $B$  and  $C$ ).

The mechanics of active operations and those explained hereafter, passive operations, are equivalent to continuous supplies and demands for money, which in Keynesian and modern macroeconomic language are nothing more than the demand and the supply of money for transactional reasons. We can 'do anything' with the available fund, and part of it is used to look for a speculative profit on the financial market. This market offers a supply and demand of money for this purpose against a demand and supply of these assets respectively. In other words, it explains speculative demand (and supply) of money.

The money market was clearly explained by Bernácer in 1922 and the scientific superiority of his explanation over that of Keynes is evident. Bernácer not only makes his explanation with greater clarity and detail, but he also explains the operations of the real economy within the same framework as the money market and not outside of it, which is logical, since operations entailing the buying and selling of goods are nothing more than a symmetrical and reciprocal reflection (even legally speaking) of operations involving a supply and demand of money.

## 7.6. NEUTRAL OPERATIONS

If one consumer gives another consumer his disposable funds (he obviously cannot give him the disposable funds he has already spent) or if a producer gives another producer his disposable funds for nothing in return, the first disposable funds will remain *wholly* with consumers and the second disposable funds *wholly* with the group of producers. There will no transferring of external disposable funds, i.e. between different agents (producers, consumers, savers) and, therefore, such actions do not involve demand or supply operations and, henceforth, do not affect price levels. These operations are classified in five

groups in order to be better understood.

1. Payments made without a benefit received in return, such as donations and inheritances
2. Payments without a *present* benefit received in return, such as loans and loan repayments
3. Payment for realisation operations (sale of businesses and buildings that do not involve present production)
4. Payment for advisory services
5. Payments between merchants and industrialists

The explication of each of the above is as follows:

1. Donations or inheritances are simply a passing on of disposable funds from the pocket of one party to another, and they do not entail wages, payment or opposite economic operation. In macroeconomic terms, they are equivalent to taking money from the left pocket of a pair of trousers and putting in the right pocket.
2. Loans are a neutral operation similar to the preceding one. In this case, lenders transfer their disposable funds to borrowers. The operation itself is passive, yet the purpose for which the loan is used shall not be passive; it may be used for consumption or investment, both of which are active operations, but these operations are different from the loan. Loans do not change the amount of disposable funds in the system; however, since there is a loans market, loans directly affect the price of money (not that of goods), i.e. they affect the interest rate.
3. If a business owner sells his business, part of it or simply elements pertaining to the production activity such as capital goods move to another party in exchange for what has been sold, but producers' disposable funds as a whole do not change. This was Bernácer's affirmation, which I agree with; however, I don't agree with the following: Bernácer stated that these disposable funds do not affect the price of these goods, since in the end... 'the value of money is its exchange ratio with common products, that is, the fruits of current production'. The truth is that the price is the existing exchange rate between money and what is bought or sold, and it doesn't matter if the good is present or past (personal comment).

This aspect should be given great emphasis, because these operations, which are effectively passive, are *potentially active* in the long run; they are negatively active.

This is because in these types of operations, the disposable funds buy real secondary assets that are one of the components of the financial market. The other components, financial assets, are evidence of previous funding and of past production that it helped finance. When these goods (or past goods) are demanded, disposable funds begin their exodus from the ordinary market to the financial market.

According to Bernácer, financial market elements are valued and demanded for their financial value (or capitalisation or updating of the income they generate). This is true, but it does not hinder what is demanded for its price, a price which in turn they help create.

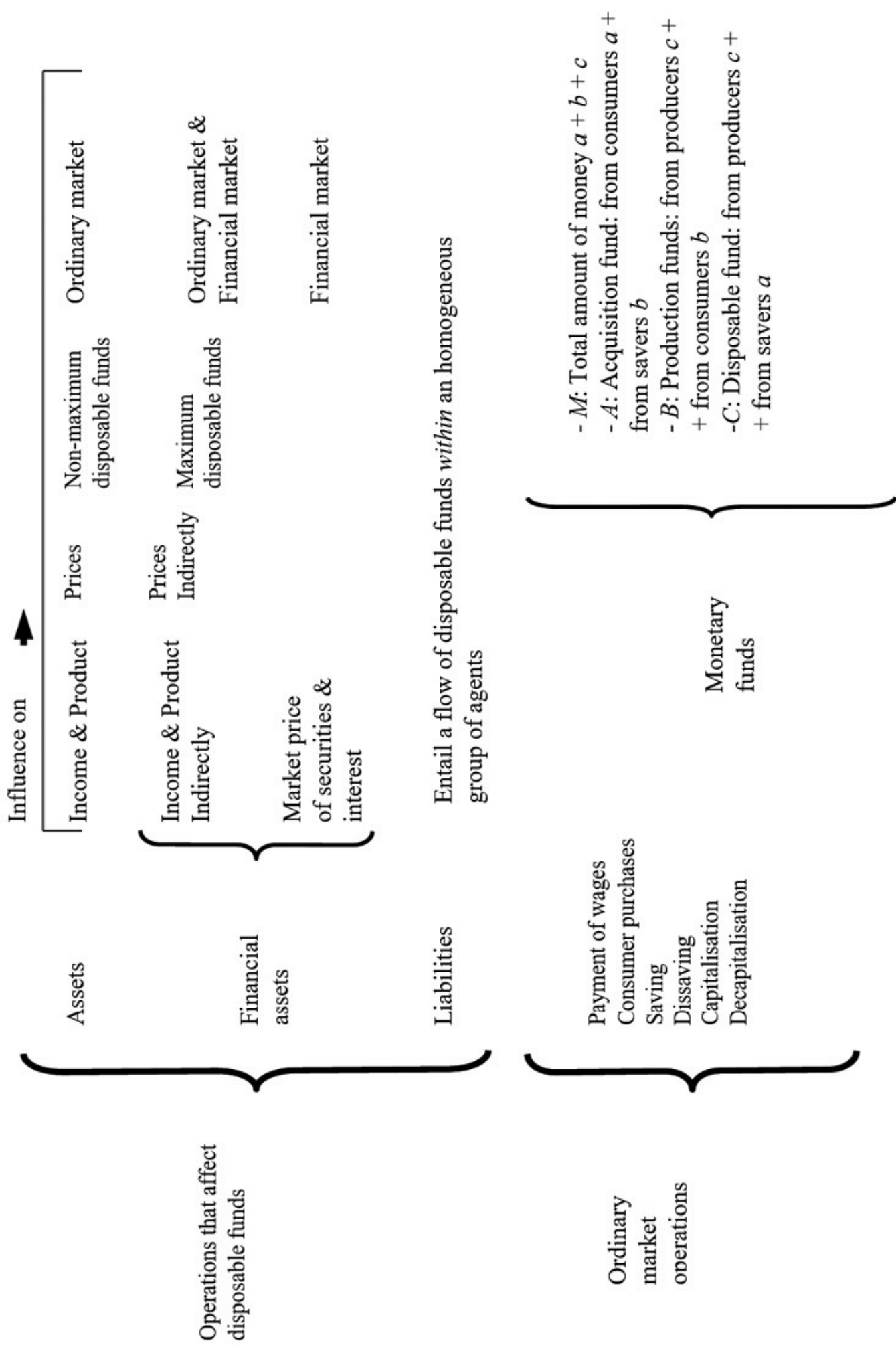
4. This operation, which is not at all innocent for the market and is neutral, is called *realisation*. The seller has the same capacity of liquid savings, of third-degree disposable funds, that the buyer had before. The buyer principally had liquid capital and now he has real capital, but the market as a whole does not have more real capital or more disposable funds.

5. Payments for services are enormously significant for two reasons in my opinion. First, as an object of study of a neutral operation being executed. Second, and most importantly, because of the analysis that Bernácer carried out about its nature, similar to accounting methods in countries with communist systems, which is an incongruity given the aversion he had for this type of economic system. Bernácer began by separating two types of services: production services and consumption services. Contrary to what it may seem, this separation is not brought about by the activity type, as it should be, but in something as superficial as the accounting technique. However, there was macroeconomic logic behind his analysis. This logic was as follows: he said that if a physician provides his services to a company, then his monetary compensation or income is recorded by the company as a cost and, therefore, the final product cost includes the physician's activity. But, if this same physician works outside of this company, at a private surgery, providing his valuable services to the public, then the service is consumption and not production. As can be seen, this whimsical separation does not involve the nature of the product or activity.

He stated that including services or intangible production, apart from the fact that it completely violates the concept of product, offers many disadvantages and no advantages. Even his writings included words like: ‘... When valuing a country’s production, no one counts the value of *non-productive* services...’ I am not sure what Bernácer was thinking to make these outdated and erroneous assertions that date back to the time of classical economists when they believed that product or wealth had to be something material. In modern economics, including those in which Bernácer lived, a *large* part of production or wealth of a country is comprised of services or *intangible* production and, for over a century, economic science has known that wealth is comprised of both tangible and intangible products and services. For example, at a barber shop, the scissors (tangible) and the actual haircut (intangible) both comprise part of the national product.

As stated, the logic in Bernácer’s assertions is as follows: the service provided by a lawyer in a company is accounted for as a cost that is reflected in the product. This means that the value of the product on the market amounts to a cost that represents nothing less than compensation generated to create it, including the wages paid to the lawyer. In this way, it is possible to state: *as much product as income*. If all purchasing power must entail an article ready to satisfy it, this cannot happen when the lawyer or physician works for himself (outside of the company), since in this situation, the client or patient uses his income to pay for something invisible that is not offered on the market as supply. Even so, this assertion is not very correct, since nobody can affirm that these services are not supplies. The only possible solution is that Bernácer deemed the market of invisible services to be in the flow of disposable funds rather than where the services are generated. Clients or patients, demanders of invisible services, transfer part of their *disposable* income, which was earned when they helped to create the product, to the suppliers of these services, the lawyer or the physician.

As can be seen, these operations do not affect the level of income or production or the prices of current production, as opposed to active operations. Another type of operation should be noted, active financial operations. These operations entail buying and selling on the financial market.



## 7.7. ACTIVE FINANCIAL OPERATIONS<sup>34</sup>

*Bernácer didn't use this name for these operations.* He simply divided operations into active and passive operations. Given that his entire work is centred on explaining the movement of disposable funds to the financial market, I have equitably added this section. This clarifies the explanation by making it more rigorous and methodical, at least in my opinion.

When maximum or third-degree disposable funds have been formed on the market, which are the authentic and *definitive* disposable funds, these funds go to the financial market to demand assets there (real and financial assets). Active financial operation is used to refer to this passing on or exodus of this income to the financial market and from here to the ordinary market. In the first case, it means that part of available income acquires financial assets, which brings about an impoverishment of the ordinary market and an enriching of the financial market. It thus decisively affects production, income and price levels. In the second case, it entails a sale of assets on the financial market, which indicates a flow of income to the ordinary market. It positively affects production, income and price levels. Since the two operations stimulate the financial market, they affect the price of securities and other assets  $V$  and interest  $i$ .

These are basically active operations, but the process by which they are formed has a different logic than that of other active operations.

If  $D$  is disposable funds, these  $D$  will come and go during the course of active operations *from* and *to* the available fund  $C$ .

Operations on the ordinary market are necessary to attend to the economy's production and consumption needs or, in other words, survival needs. This is not the case with speculative operations on the financial market. Basic operations include production, payment of wages, saving, investing, etc.

During basic operations, consumers obtain a utility and producers obtain profits. Neoclassical theory would assert that when in equilibrium, the former maximise their utility while the latter their profits. For producers, who are the agents that channel 'their  $c$  or industrial disposable funds', the profitability of such disposable funds is the object of their attention. Speculators focus on interest or financial profitability proportional to disposable funds, and the system as a whole –producers that are speculators and vice versa– is concerned with whatever provides the most profitability.

Therefore, it is possible to explain the flow of disposable funds from one market to another by the difference in profitability. This assertion is the starting point of economic cycles.

## 7.8. MONETARY EQUILIBRIUM OF THE MARKET

There is a market for factors of production, which give rise to a price. Land, labour, fixed capital and working capital, etc. have their price and, like any other production supply, prices are derived from the resulting forces of supply and demand. Business owners acquire an amount from each one of these factors that, multiplied by their respective prices, determines the amount that they pay for these production inputs.

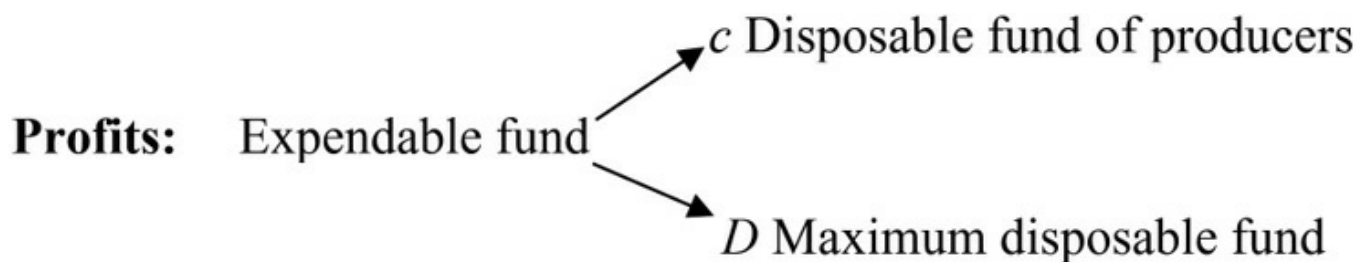
When these supplies are acquired, it is said that an expense has been incurred, and when they have been totally or partially destroyed, such as fixed capital goods, it is said that a cost has been generated. The cost is basically a sum of buying powers that are reflected in the product. In other words, the cost has generated a demand that is equal to the cost of supplying the product. But the cost does not coincide with the value.



The product is sold on the market at a higher price, and the difference is the profit obtained by the capitalist entrepreneur.

For the first time, discontinuance occurs in the income and product creation process, since the value of the product, which is equal to the system's income, is not instantly equal or at least not in the period. Incomes resulting from production have been paid and they measure the cost of the product and admit the possibility that this demand may remove the product from the market at its cost price. The other income, the residual income or profit, is yet to come, and it will be realised when the product is sold. Bernácer says, 'From the point of view of the circulation of money, the creation of value is a function of monetary activity...'

With profits, businesses receive a production fund  $c$ . This fund will be used to increase the production of the following year, and part of it will be saved in the form of a sinking fund and reserves. This is the most dangerous time, since this savings is not kept inactive by businesses; businesses try to find a combination of liquidity and profitability. They look for this on the financial market by acquiring financial assets, which are more or less liquid and more or less profitable. This operation can become dangerous, given that profitability can deceive business owners and resources can end up not returning to the production activity, thus decreasing  $c$  and increasing financial disposable funds  $D$ . This assertion can be expressed as follows:



An outflow of  $c$  in favour of  $D$  entails depression of the ordinary market and marks the beginning of economic crisis.

Both company macroeconomics and economics deem this step mechanical. They consider it important to the extent that if the company failed to form a sinking fund, it would decapitalise on the basis of the non-recoverable depreciation of the capital goods. Bernácer believed that not only is the formation of the sinking fund and reserves important, but the *way* in which it is formed is also important. Moreover, danger looms when developing the sinking fund, because it depends on the internal physiology of the economic process, a process by which the monetary magnitude formed by the expendable fund  $C$  (and of course  $c$ ) transforms into a real magnitude that is the value of capital goods destroyed.

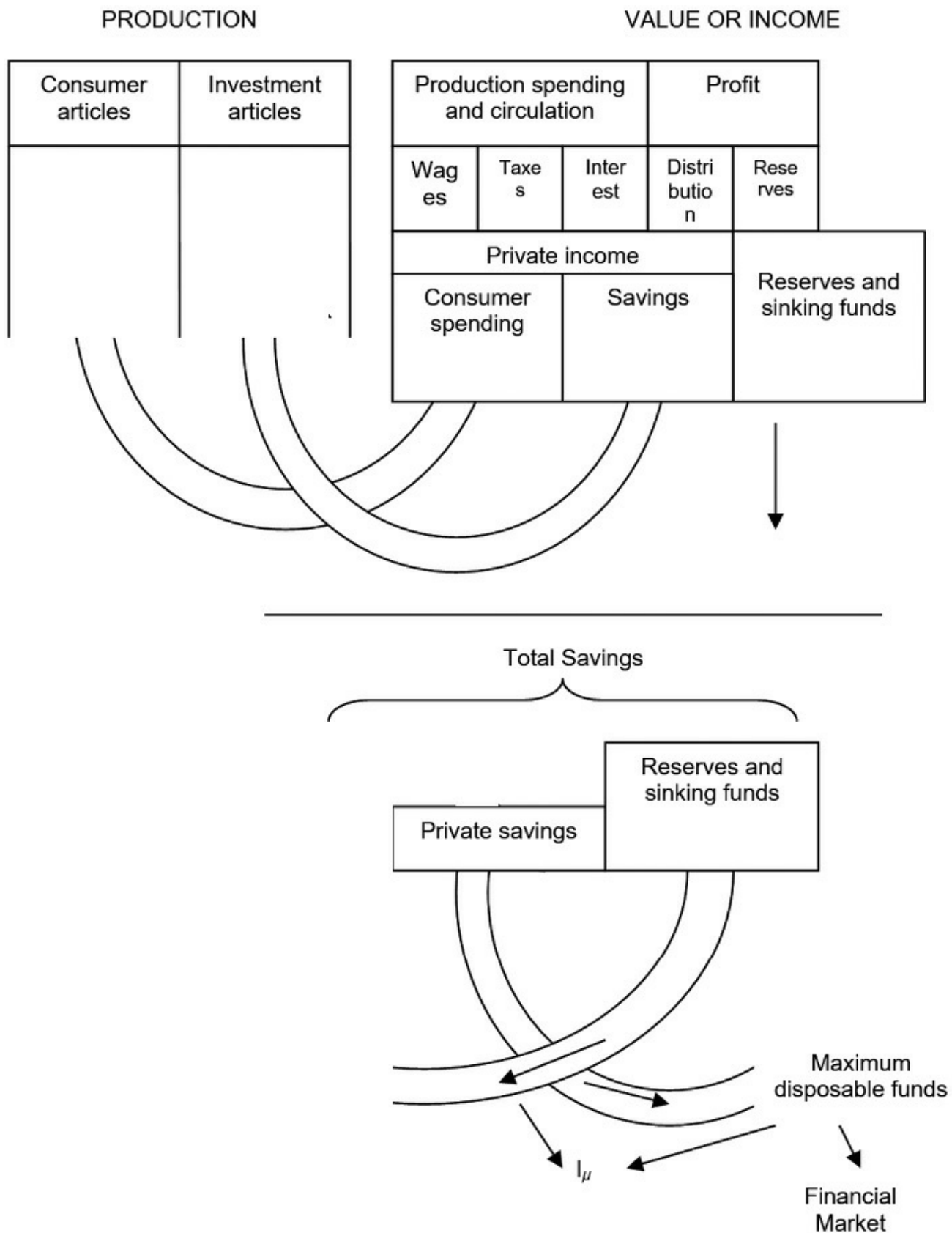
Oddly enough, this doctrinal statement was experimentally verified by economist Jesús Prados Arrarte, who was also Spanish. What is amazing is that Prados Arrarte did not know about Bernácer's theory and was astonished when someone explained the similarities between their two theories. I also explained it to him (before the connection was made) that if this was fulfilled, the basic macroeconomic equation was unfulfilled. Prados rejected it categorically saying that '... $S = I$  is as true as arithmetic ...' that '... it was a mere accounting formality...' (see the prologue). He simply found it absurd. However, he fully agreed with Bernácer's theory explaining how sinking funds and the management and maintenance thereof allow those funds to leave the ordinary market to go and demand financial and real assets from the financial market. The real assets from this market can entail the purchasing of buildings, purchases that are speculative, as

well as the purchasing of land, and so on, in other words, real assets that are not *newly* created<sup>35</sup>.

Prados conducted a study on Chilean corporations and monetary instability over a considerable period of time. This study is of great methodological value because macroeconomic conclusions were derived from a microeconomic study, or better yet, a business accounting study. Comparing the balance sheets of corporations at different periods of time, it was noted how companies ceded their sinking funds. Rather than using fixed assets to acquire amortisable assets, they were used to acquire non-amortisable ones. This clearly showed something, and that was that companies were *really* decapitalising, although their balances resulting from the balance sheet showed monetary profits.

In short, it is possible to draw somewhat more extensive conclusions about the market than those in the first chapter: *Actual demand is the demand effectively realised on the ordinary market. It is fed by or comes from income, but not all of the income, but from the income that remains after having separated maximum or authentic disposable funds.*

When that savings is spent on acquiring capital goods, it is referred to as making an investment. This demand, investment coupled with consumer demand, makes up *actual demand*. The following diagram explains the process:



That is:

$$R = C + I + D$$

Where  $R$  is income (equivalent to the modern nomenclature  $Y_e$  income),  $C$  consumer spending,  $I$  investment and  $D$  disposable funds. Therefore:

$$R - D = C + I$$

The disposable income cited above has nothing to do with the macroeconomic concept that cites it. The latter or modern disposable income has to do with that part of the income that remains after deducting taxes, while ours is related to the income that returns to the ordinary market.

As has been shown, not everything is that simple. There are a number of intermediate operations, such as the formation of sinking funds, taxes, public spending, etc. But these operations originate from income and return in the form of spending. Incomes are divided fully among consumers. This income  $R_c$  is coupled with the business  $R_e$  to form the total system income  $R$  (equivalent to the aforementioned  $Y$ ). Of the total income that consumers use for spending, it is the consumer spending (carried out with part of the  $b$  from disposable funds) and the other part consumers save. This savings is in addition to the business savings that has been formed by the undistributed profits with the intention of forming sinking funds and reserves. This fund will be used to replenish depreciated capital goods, and it will be possible to do so given that there is disposable income (disposable income  $C$ ). This is social savings.

The diagram shown by Bernácer in *The Functional Doctrine of Money* (page 58 of the 1956 edition, the original dates back to 1945) has an error that has been corrected in the lower diagram (small). In fact, the upper diagram (large) explains the theoretical functioning of the market in the context of Say's Law. In it, savings and sinking funds and reserves are completely used to acquire capitalisation products, when we know from Bernácer that part, the maximum or third-degree disposable funds, the authentic ones, are *diverted* and escape to the financial market. The latter circumstance is shown in the lower diagram and is an original diagram that I created.

It is time to move forward to discuss an aspect of great importance that has already been hinted at in previous pages. If it is true that the maximum disposable funds have been formed and they are lubricating the financial market, *they are ceasing to demand current production*, the income from which they originated. This *ingratitude* is punished by the market through a production of consumer and capital goods that has remained unsold, which is arbitrarily called investment in inventory. These are reflected in the lower diagram and are  $l_u$ .

This is the main reason why he harshly criticised the fundamental macroeconomics equation.

General equilibrium entails:

1. That there is parallelism between the total value of production and the buying power used to purchase it.
2. That there is equality between the production of consumer goods and the demand used to acquire it.
3. That there is a correlation between the production of capital products and the portion of buying power *reserved* for purchasing it and formed by total savings in the system (consumer savings plus sinking funds and reserves).

When explaining economic crises, economists focus on the asynchrony between savings and investment, or between spending on consumer goods and the production of consumer goods. True crises, of course, are those that are manifested by unemployment and this can only be explained by weakness in demand. For Bernácer, the disequilibrium caused in a market, consumer goods or capital goods, is wrong, because if disequilibrium exists, it will only be a partial disequilibrium that the market will tend to correct. Thus, he says: '... if the demand for machinery falls and that for fabrics increases, it is a sign that it is necessary to

stop producing one thing and work harder at producing another ...".

Large fluctuations, he says, must be sought in disequilibrium between overall demand and supply, or, as a modern macroeconomist would say, the difference between aggregate demand and supply. If, as Bernácer says, there is an exodus of disposable funds from the ordinary market to the financial market, financial crises can *only* be caused by a weakening in demand, which some economists pretentiously refer to with another name: *overproduction*, which in the end is the same.

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<sup>24</sup> Schumpeter says something similar: Money is a claim against social production. Bernácer's sentence is more appropriate because unfortunately, money is a credit against something more than social product, which is actual financial secondary assets, a sort of anti-wealth.

<sup>25</sup> The issue is first seen in the first part of *Society and Happiness*, book I, Economic Foundations, chapter IV; page 46, as well as in book II of *The Distribution of Wealth*. The article that explains the mechanism of generation, distribution and transformation of income is the famous *Theory on Disposable Funds* (1922), in which the money market is explained. However, the book completely explains *not only* the money market, but also the *nature* of money is *The Functional Doctrine*...

<sup>26</sup> The often-repeated sentence of Bernácer that whoever demands money is supplying goods and whoever is supplying money is demanding goods, is outlined on page 35 of *Society and Happiness*, repeated innumerable times in *The Functional Doctrine*... and in *A Free Market Economy*..., defined well in the first chapters. In the article 'Metric Economics', (1955-6), published in the magazine *Arquímedes*, he stated: '...The supply and demand for money, without saving in exchange for what, does not make sense, because the act of exchanging money requires some qualification that removes its appearance as an absurd operation...'. Although Bernácer handled the issue of interest from the beginning, it was in 1925 when he explained how money-income-savings are supplied and demanded in exchange for financial assets respectively, thus being how consumer and capital goods join with financial assets to supply and demand money.

<sup>27</sup> Henry Savall made an interesting historical classification on the generations of economists who have handled money: *Germán Bernácer: Heterodoxy in Economics*, part 2, I, 'The General Theory of Money', page 163, published by the Institute of Alicante Studies, Provincial Council of Alicante, 1983. The first edition was in French and entitled *Germán Bernácer: L'hétérodoxie en Science économique* published in 1975 by Jurisprudence Générale Dalloz.

<sup>28</sup> The first record of his concept on disposable funds is on page 157 of *Society*..., where, due to his business background, he called totally *circulating money disposable assets*. He was referring here to the forms of saving. If it is already employed in real capital and fictitious capital (deal wealth or financial assets) the rest that is completely liquid and he would later call these maximum or third-degree disposable funds. In 1916, he stated: From where it turns out that, separately from assets represented *fictitiously* (my italics) by credits or lands, and *really* consisting of capitals or wealth in use, there is certain asset that is available to be employed and is, as a general rule, made up of money. It is suitable to use the nomenclature of working assets or disposable assets, because it can only attend to new production needs and extraordinary consumption...' (page 157 of *Society*...

<sup>29</sup> *The Theory of Disposable Funds*

<sup>30</sup> As one can see, Bernácer analyses the two angles of savings: as investment and as speculative activity on the financial market. See *Society*..., book II, chapters III, IV & V. However, in the article from 1922, *The Theory on Disposable Funds*, he barely explained them.

<sup>31</sup> *The Theory of Disposable Funds*..., etc.; *The Functional Doctrine*..., book one; 'The Fundamental Expression of the Value of Money', article in *Anales de Economía* 1942. In all these works, the following discoveries are basically found: 1. A classification of disposable funds; 2. Movement from one degree to another, through the mechanism of the creation and distribution of income; 3. A comprehensive typology of economic operations that are defined by transit from one disposable fund to another.

<sup>32</sup> Economic operations or the metabolism of disposable funds (income creation and distribution) are found in *The Functional Doctrine*, pp. 33-45 (1956 edition). It was first expressed almost entirely in *Society*..., p. 14 (dilapidation, loan...).

<sup>33</sup> In the graph that explains the theory of disposable funds, the financial market is not represented. Nonetheless, the explanation analysed the part of authentic disposable funds that, despite specific operations (passive), do not alter their state. The graph is on page 34 of *The Functional Doctrine*... (1956) and on 272 of the article from *Anales de Economía*. I have faithfully reflected it, only that I have added a flow of savings at the bottom that is not consumed or capitalised, which is a disposable fund that goes to the financial market for speculation.

<sup>34</sup> José Villacís, *The Theory of Interest and Money in Germán Bernácer*, magazine of the Institute of Fiscal Studies, Ministry of Economy and Treasury, Year 1983, no. 1981.

<sup>35</sup> In *Society*... (chapter III, part 11), he started the explanation of financial operations, analysing income from the land and the general concept of income (non-production). Readers should know that, in the beginning, Bernácer did not clarify the excess value existing in properties or sterile assets over the value resulting from updating their incomes. 'The Financial System and Crisis' is of enormous interest here, *Revista de Economía Española* (Madrid) 1935.

# Macroeconomic terms for the market: global supply and demand

## 8.1. INTRODUCTION

This chapter deals with a somewhat complicated scientific area in the functional doctrine of money, yet the initial idea is rather simple. There is an extensive and broad set of symbols that is structured mathematically, which makes reading it slow and difficult. The math is not complex but rather the need for readers to remember at all times what each letter means. There are, moreover, letters like  $p$ ,  $e$ ,  $I$ , and  $K$  that in the normal macroeconomic set of symbols mean one thing and that in Bernacerian macroeconomics mean another. I will try to be clear about their meanings at all times.

The technique to be followed will consist of an explanation that is neither mathematic nor symbolic. Once the market terms have been described in a number of appendices, they will then be described mathematically. I want to make sure readers can clearly understand the explanations.

The vast number of symbols in Bernacerian macroeconomics is not arbitrary. It corresponds to the large number of operations that take place on the market and that Keynes and modern macroeconomics have not fully explained or have simplified unnecessarily. Each operation –and not several– has a specific economic meaning and in each of them, money experiences a specific metabolic process.

## 8.2. ACTUAL AND POTENTIAL SUPPLY AND DEMAND

You must understand Say's Law in order to understand the market, and understanding the market involves understanding the exact mechanisms that make it possible for Say's Law to not work. This non-fulfilment is generated by different routes other than handy hoarding.

Actual supply and demand is that which has actually been generated. It has happened and could therefore be shown on the books. Potential supply and demand is going to happen and can maybe be forecast, planned for or budgeted. As the Swedes would say later, there will be planned and unplanned elements in demand and supply. Bernácer, unlike the Swedes, did not try to be so wise. Throughout his work, he was always suspicious of subjective implications and scientifically studied what happened. Therefore, he focused on studying *actual* supply and demand.

Demand is the child of income, which results from production; and in turn, production generates supply. Little more can be said of the market. For Bernácer, there is a simple and clear explanation for these relationships.

Production becomes a part of the market as a flow of supply. This is potential supply. To generate this flow, it is necessary to pay production agents through income, which, once in the pockets of these agents, constitutes present disposable funds that make up potential demand. Disequilibrium, which is common, should logically be rare and almost impossible. Therefore, it will be explained.

The relationship between potential supply and demand is *critical* and inevitable and the relationship between this potential and actual supply and demand is *probable*. It is a desire in the brain of economists and politicians.

The first thing we must understand is that income and production are two different things and I could set forth a formula for this relationship. They are not the same, they are two different things. However, I can say that their potentials are equal numerically. Potential supply and demand are even less equal (we know that actual supply and demand are not equal). One thing is demand and the other thing is supply. And although potential supply and potential demand are numerically equal, the nature of each one is different. One action is to demand, and one demands with money to satisfy a need, and the other action is to supply, and one supplies what has been produced in order to demand money.

Since production  $P$  ( $P$  in my examples is not price) is equal to income  $R$

$$P = R$$

*then market imbalances must be corrected by way of demand or, what is the same, so that income originating from production does not once again demand the fruit of current production. In this respect, Keynes and Bernácer are in total agreement.*

Since there may be weakness in demand, a weakness that can only be measured by unsold production, which is measured by the difference between potential supply and actual supply or supplies sold, there will be a real value in stock. Let's take a step-by-step look at the processes of market equilibrium and disequilibrium. Disequilibrium will be balanced numerically, not economically.

1. Real or actual demand is made up of consumer and capital demands. In other words, actual demand is comprised of consumers' disposable income (consumption and capital) that has not been spent at a given time. That is why it is available. This floating acquisition fund, called  $A$ , will undergo variations. If they are positive, it will signify new income that has not been spent and entails an increase in stock  $E$ ; spent income signifies decreased stock. It is referred to in this way because they are unsold production. It is only offered, but not sold, and is *weighing* over the market. If it were sold, it would no longer be on the market. .

Let's take a look at interval  $ab$ , where  $\Delta A$  is the increase in this acquisition fund and  $d$  is the real demand of this fund (not to be confused with maximum disposable funds  $D$ ). Thus:

$$A \quad A'$$

$$a \quad b$$

$$A' - A = \Delta A$$

$$A' - A = - \Delta A$$

$$R = d + \Delta A \text{ production income}^{36}$$

Part of income is spent  $d$  and the other part, in principle, is not spent (later, what happens with these disposable funds will be seen).

$$d = R - \Delta A$$

Later, demand is measured by income minus the fraction of income that is not spent.

2. Production is either sold or kept in stock  $E$ . If production is  $P$  and supply is  $O$ , then:

$$P = O + \Delta E$$

where real or actual supply is production  $P$  minus the part that is unsold and remains in the warehouse. Before continuing, it is important to remember a reality that is commonplace in business economists, which is that while this production is not sold, *it is working capital for the merchant and the producer*.

The increase (or decrease) of  $\pm \Delta E$  is the merchandise's value at time  $b$ , minus the initial value at initial time  $a$  and assuming price constancy. The value of  $E$  must be determined by measuring *what it has effectively cost to produce it*.

3. In the event that real supply and demand are the same, then:

$$R = \Delta A = P - \Delta E$$

Given that:

$R - \Delta A$  is actual demand and

$P - \Delta E$  is actual supply

And since I stated that income and production are the same, or  $P = R$ , then:

$$\Delta A = \Delta E$$

a simple expression that means something as evident as the fact that some disposable funds  $A$  have been formed, which entails a fleeing of buying power. On the other side of the market, the supply side, there are goods that have not been sold  $\Delta E$ . If consumers' and savers' available funds decrease, it is because they have spent them and they will have, therefore, withdrawn from the market a part of production  $P$ , thus decreasing  $E$ .

The diagram of disposable funds showed that  $A$  was formed by the disposable funds of consumers and of producers ( $A = a + b$ ). There are other disposable funds that are in the hands of business owners or industrialists,  $c$ . If we add all  $c$ , this gives the total disposable funds in the system  $M = a + b + c$  (or if you like,  $M = A + c$ ).

Now I will add the disposable funds  $c$  to the equation  $A = E$ .

$$\Delta A + \Delta C = \Delta E + \Delta c$$

It is possible to see that:

- a) The increase in disposable funds  $\Delta c$  is being handled here and not simply all  $c$ .
- b)  $A + \Delta c$  is the amount of money in the system. Given that all system money is here, it is possible to analyse what happens on the other side of the equation and to understand its meaning.
- c)  $E + \Delta c$  is simply working capital. As is known, working capital is made up of resources that the company consumes in the production period and that are used up in the production process. This includes production supplies and inputs, included in the capital goods that are transferred to another production sphere to continue with production. Money is also added. Even finished production, whether consumer or capital goods, *continues to be working capital* while it is not sold.

Therefore, I can say:

$A + \Delta c = \Delta M$  is the increase in the amount of money

$E + \Delta c = \Delta K$  is the *total* increase in working capital



And eliminating variables:

$$\Delta M = \Delta K$$

Which inevitably expresses the condition of equilibrium (remember that  $R - \Delta A = P - \Delta E$ ;  $R = P$  and therefore  $\Delta A = \Delta E$  added to  $\Delta c A + \Delta c = E + \Delta c$ ;  $\Delta M = \Delta K$ ).

The condition of equilibrium is expressed as follows: ‘...It is only possible when a change in working capital accounts for an *equivalent* variation in the amount of currency in *circulation*’. This assertion is the key to economic events for Bernácer.

This means that to *increase production*, new money is needed in the system. Thus, the *creation* of money will fund *new* production, giving rise to monetary equilibrium, an equilibrium that will reflect equivalence between money and production. This statement stipulates that *income from the savings system should not be used to finance working capital*, because if it is, *it cannot be used to demand current production*. And if it demands current production –final production– it is not able to fund working capital.

This brief mathematical explanation is fundamental to understanding Bernacarian equilibrium. Market balance was also briefly explained in the preceding chapter.

4. Equality between supply and demand without the creation of money is expressed if  $A = M - c$  is taken into account

$$d = P - \Delta A =$$

$$d = P - \Delta(M - c) = P + \Delta c - \Delta M$$

And since the creation of money  $\Delta M = 0$  is not being considered, it is necessary for:

$$d = P + \Delta c$$

5. If equilibrium in the market does not exist,  $D$  and  $O$  are different and their difference will be:

$$d - O = P - \Delta A - (P - \Delta E) =$$

$$\Delta E - \Delta A =$$

$$\Delta E - \Delta(M - c) =$$

$$\Delta E + \Delta c - \Delta M = K - \Delta M$$

since:

$$\Delta E + \Delta c = \Delta K$$

Demand exceeds supply by the increase in working capital  $\Delta K$ . Since supply is referred to as  $P - \Delta E$  and demand as  $R - \Delta A$  (supply is what has been produced minus what hasn't been sold and demand is what one has minus what has not been spent) and with  $P = R$ , the equality between supply and demand is  $\Delta E = \Delta A$ , it is possible to see that:

$$d - O = \Delta E - \Delta A$$

And since it has already been stated that the difference between supply and demand is  $\Delta K$ , it is possible to conclude that:

$$\Delta K = \Delta E - \Delta A$$

Here it is deduced that: demand exceeds supply by the increase in working capital, which in turn equals

the difference between the increase in stock and available funds of the acquisition fund (potential supply and demand, respectively).

If  $\Delta E > \Delta K$  where  $\Delta K$  is positive, then more income has been spent in buying the sold products than they earned. If  $\Delta K$  is negative, the opposite has occurred; less income has been used to acquire sold products than the products earned.

If available funds increase, it means that spending has decreased; if available funds decrease, it means spending has increased. If stock has increased and is greater than available funds  $\Delta A$ , there will have been an increase in spending. And if there has been an increase in spending, how is it that the  $\Delta E$  has increased?

This question only has one answer, although Bernácer doesn't explain it.  $E$  is working capital that aids production and has been funded with available funds  $\Delta A$ . It is precisely because of this operation (disequilibrium without new money) that available funds decrease in favour of working capital that increases.

6. The same merchandise may be resold. This means that a final product that was circulating for the producer or merchant left the market when it was sold but returned to the market when it was resold. A good can be resold to a consumer or to another merchant.

If it is sold to another consumer, such an operation only entails a transferring of disposable funds between consumers, and acquisition fund  $A$  is not changed. It is, therefore, a *passive operation*. If the good is sold to another merchant, this merchant buys the good with his acquisition fund, which is industrial fund  $c$ . In this case, acquisition fund  $A$  is fed by fund  $c$  and all stock on the market increases by the price of the objects that return to circulation.

The amount of money does not increase, since it is money that leaves  $c$  and goes to  $A$ ; stock  $E$  or working capital also does not increase in net terms, given that it was already manufactured.

In the expressions for supply and demand,  $(R - \Delta A$  and  $P - \Delta E)$  respectively,  $\Delta A$  and  $E$  reduce demand and supply, as has been seen many times. But in the resale transaction, the opposite occurs, since it is an increase, an increase that was corrected with the positive term  $\Delta L$ , where  $\Delta L$  is the amount of resale transactions.

<i>Without resale operations</i>	<i>With resale operations</i>
Demand $d = R - \Delta A$	$d = R - \Delta A + \Delta L$
Supply $O = P - \Delta E$	$O = P - \Delta E + \Delta L$

These operations that correct resale transactions  $L$  are not very important for the market, provided that we dispense with intermediaries, which, in the short term, carry out a mere exchange of available funds  $A$  and of stock  $E$ .

However, the buying and reselling of gold is very important, since gold can be a means of payment and its speculation distorts the market.

Of course, the importance is fundamental if instead of buying and reselling consumer products, actual secondary financial assets are bought and resold. This is an operation that profoundly changes the kinematics of the market.

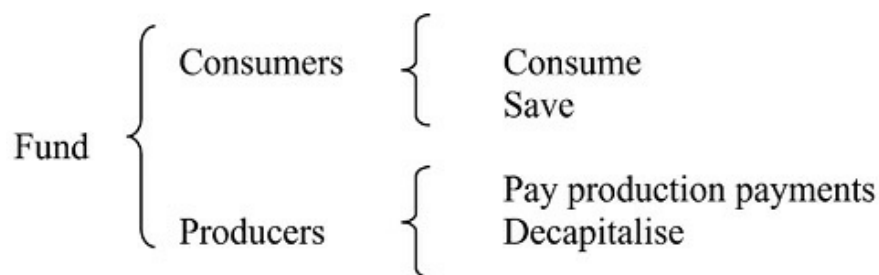
### 8.2.1. Summary

These monetary operations that explain a change and permute between different market disposable, which are clearly specified within the framework of Bernácer's theory of disposable funds, have already been dealt with in the end of the last chapter (7.8 Monetary Equilibrium on the Market). They are operations that are understood without symbolic or mathematical devices; they are very simple operations.

## 8.3. CAPITALISATION AND DECAPITALISATION

Consumer and producer funds each have two possibilities.

Consumer and producer funds each have two possibilities.



Savings are that part of income that both consumers and producers have in principle separated from its final destination. Savings can be used *potentially* 'to do anything'. Savings *can* be used to carry out the following functions:

1. Hoard them.
2. Use them in *passive* or *neutral* operations, such as giving them to another saver (inheritance, legacy, etc.).
3. Allocate them to buy current production items such as consumption or capitalisation.
4. Use them in production.

Hoarding entails a permanent flight of part of  $M$ , which involves a definitive reduction of disposable funds  $a$ ,  $b$  and  $c$ . Ultimately, *after* hoarding there will be a monetary mass  $M' < M$  and, therefore, several  $a$ ,  $b$  and  $c$  such that  $a' < a$ ,  $b' < b$  and  $c' < c$ , which will depress the market, a market that might be in equilibrium.

The overall liquidity situation is not changed in neutral operations, since available funds do not change their nature, because they simply permute between pockets *within* agents of the same sector: consumers, savers or industrialists.

When making purchases using available funds from current production, whether consumption or capital purchases, companies make their working capital liquid; this enables them to continue producing. The final effect is to *increase actual demand* to the extent of purchases made.

When used for production, savings added to these activities go through various stages:

- a) The creation of savings.

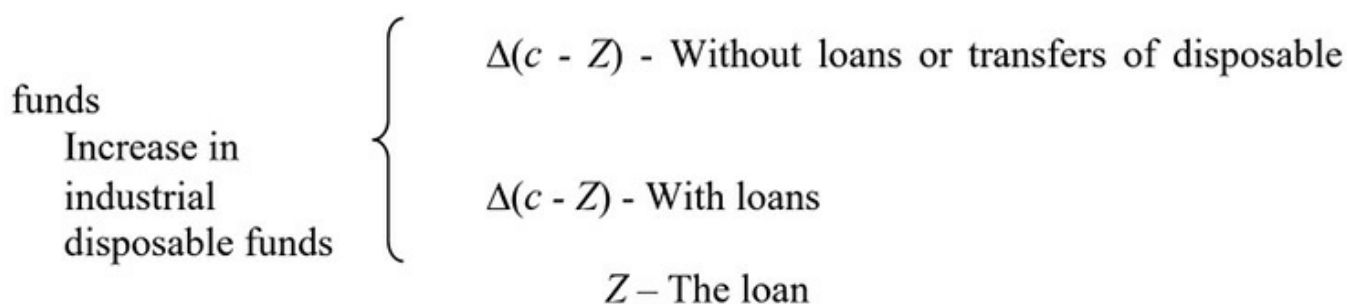
- b) The influx of savings from private capitalists to industrialists and businesses (passing on of disposable funds  $a$  to industrialist disposable funds  $c$ ).
- c) Investment of these available funds in circulating or fixed capital.

## 8.4. THE OPERATION OF CAPITALISATION

Let us take a look at points a), b) and c). Explaining this process is much more detailed and exact than the explanation given by pre- and post-Keynesian economists.

*The formation of savings represents a weakness in demand, while it is not invested.*

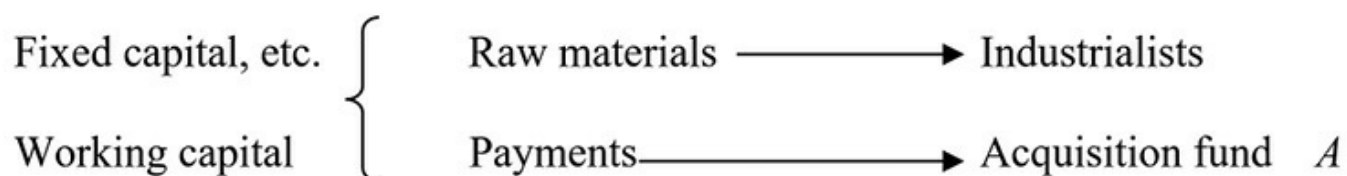
The second operation involves a transferring of available funds between *different* economic agents, savers and industrialists. Yet at this stage, no operation has been carried out. However, what has happened is that business owners have *a greater amount of money without having sold anything* and, therefore, consumers have not bought anything either. On the contrary, acquisition fund  $A$  ( $A = a + b$ ) has decreased, even though no purchase was made. Entrepreneurs have increased their available funds by  $\Delta c$ . Let us suppose that the influx or loaning of available funds made to industrialists or producers were  $Z$ . Then, the net influx or net increase in net disposable funds of producers would be  $\Delta(c - Z)$ .



Available funds can be invested as follows:

1. Buying end capitalisation products of other companies (4<sup>th</sup> operation in the previous section)
2. Manufacturing and constructing capital goods, machinery, initial set-up costs, new plants, etc.
3. Use all or part of the resources to increase working capital

The operations involving the creation of fixed capital (2<sup>nd</sup> operation) or those of creating working capital are divided into two parts: one part that is used to pay for raw materials and other part that is used to make payments (salaries, interest and general costs). The first goes to industrialists and the second to  $A$  or the acquisition fund.



The meanings behind the 2<sup>nd</sup> and the 3<sup>rd</sup> operations have different logic. Let us see why. Investment in working capital *adds* stock and, therefore, burdens supply. It is, furthermore, one more demand on the

market. Investment in fixed capital *eliminates* supply on the market and is also a realised demand. *This aspect, which has such different effects on the market, can never be stressed enough; investment in one case adds production to supplies and in the other case it decreases supplies. It is therefore evident that in order to bring equilibrium to the market, new money will be needed to finance working capital. This is an assertion that is understood intuitively and directly.*

The amount invested in working capital must be eliminated from the total amount used in investment in order to find net demand or simply end market demand. This means working capital is eliminated from the total savings that is loaned or passed on to business owners. It is clear that funds used for fixed capital are included within the initial whole allocated to working capital *while they do not receive real investment*. The destination of the funds is clearly to move later to investment in fixed capital, which is an operation of a different nature.

In short, the following has occurred: throughout the three phases mentioned referring to investment in disposable funds, the formation of savings resulted in an accumulation of disposable funds  $A$  ( $A = a + b$  or acquisition fund) and of  $E$  or accumulation of stock. Therefore, there was a decrease in supply and demand equal to savings. This decrease can only be corrected by a final increase in demand so that it takes away *part* of the product on the market. This demand will be investment, and what is taken away is capital goods, industrial plant, etc. However, this correction is partial and is not enough, since greater demand is needed. This means that a deficit is produced on the market. It is once again necessary to stress the different nature of investment in fixed capital and investment in working capital. The latter is demand, but it adds more potential supply to the system, while investment in fixed capital takes away supply.

As a result of the flows that are lent to industrialists  $\Delta Z$ , *part* is withdrawn, which is the *net* demand that took place. In other words, this is the investment in *fixed capital* and the *rest* is *working capital*. This deficit in the system is caused by working capital. This deficit is exactly equal to the disequilibrium between potential supply and demand.

In other words: the acquisition fund grew insofar as payments increased (wages and salaries, not the payment of raw materials that was passed on to industrialists) and it decreased by the volume of savings transferred to business owners. However, available stock or potential supply increased by the difference between these payments paid minus the capitalisation made (*not* the funds transferred to business owners  $Z$ ). This gap in the market is a result of the difference between supply and demand, and is like the comparison of the net increase in the acquisition fund with the increase in stock.

This difference determines the savings fund transferred minus the part of this fund that is transformed into investment in fixed capital. Of the part of savings that is invested, part is for fixed capital and the rest is for working capital. Later, this difference between savings transferred and fixed capital is working capital. The final outcome, if money is not created, is inevitably inflationary. This is one of Bernácer's most original principles, which states that the system, without any external cause, even without the existence of our financial market, contains the seed of dysfunction, or crisis, within its internal mechanism.

*Precisely, if money is not created, the increase in working capital must correspond to an equivalent provision of production funds. But as is often the case, this fund entails a prior savings so that its provisional formation involves market weakness; the process as a whole is deflationary.*

This phenomenon does not happen with fixed capital, whose financing, while it should entail savings,

removes the product or supply from the market and transfers funds to industrialists. However, with working capital, the savings that are transferred and help fund this capital result in *new* working capital (until sold) *on* the market that needs *new* money to be sold.

Bernácer expressed this disequilibrium as follows: ‘Disequilibrium between demand and supply is the same as that existing between the increase in working capital and the provision of disposable funds to production’. The provision of disposable funds to production will never exceed provisions to working capital. Disposable funds are initially used for working capital. That is, what is lent for working capital cannot exceed working capital, because it would indicate that the money would be idle or semi-hoarded, which contradicts common sense, *since by definition working capital cannot be inactive. It is essential for working capital to be active.*

## 8.5. SYMBOLIC MATHEMATICAL INTERPRETATION OF THE OPERATION OF CAPITALISATION

This section will be used to symbolically develop what has been explained in the preceding section. The conceptual and symbolic interpretations were not done together so that readers would not be overwhelmed, finding the formulas a bit complex. Thus:

The loan is  $Z$  that is a flow of previous savings that is joined to  $c$  industrial disposable funds, which *after* are  $\Delta(c + Z)$ .

Demand ( $R = P$ ) is  $P - A$ , but when savings are formed, it will be less inasmuch as the savings that are formed and lent by  $Z$ , hence:

$$d = P - \Delta(A + Z) = P + \Delta(c - Z)$$

The reason behind the second half of the equation is explained by Bernácer: ‘if the real increase in industrialists’ disposable funds is  $\Delta c$ , the virtual one, i.e. that which would have been *without* this neutral operation of transferring disposable funds to production, would be  $\Delta(c - Z)$ , and the virtual acquisition fund (the real one being  $\Delta A$ ) would be  $\Delta(A + Z)$ .’

The investment that savings fund is divided into two parts:

Fixed capital  $z$

Working capital  $K$

For the production of both, it is necessary to pay:

Payments (salaries, interest, expenses, etc)  $r$

Raw materials  $y$

... $y$  moves to industrialists

... $r$  moves to acquisition fund  $A$ , thereby increasing  $P$  (the same amount of production).

If  $Z$  are the funds transferred for industrial uses and these are earmarked for working capital  $K$  and for fixed capital  $z$ , then:

$$\Delta Z = \Delta H + z$$

Note that  $K$  has been replaced by  $H$ , since  $K$  is working capital and  $H$  is the part of the funds that is going

to form working capital, which is not *always* the same.

In addition, these saved funds will be used as a whole for  $r$  payments, for  $y$  raw materials, etc. Thus:

$$\Delta Z = y + r$$

The result of the capitalisation done will be:

$A$  has increased by  $r$

$c$  has increased by  $\Delta Z - r = \Delta H + r - r$

$P = R$  has increased by  $r$ .

Logically, these increases have had to be this way following the process of disposable funds. The letter  $r$  is money received by the industrialists' employees (it is not received by the industrialists) and therefore increases acquisition fund  $A$ . Business owners increase their disposable funds in the process of capitalisation insofar as the transferred funds –savings–  $Z$ , minus the part that is taken from the disposable funds and goes to others, which is  $r$ . Since these savings were used to fund working capital  $\Delta H$  (the part that is channelled toward working capital) and fixed capital  $z$  ( $Z = H + z$ ), in the end it will be held by the industrialists as has been explained  $\Delta H + z - r$ .

The previously mentioned expression  $d = P + \Delta(c - Z)$  would end up substituting  $P = r$ ,  $c = \Delta H + z - r$ ,  $\Delta A = r$

$$r - r - \Delta Z = - \Delta Z$$

The increase in demand  $d$  is only  $z$ , said Bernácer (improperly, in my opinion; he should have said *final net demand*). The working capital *employed*,  $H$  (not simply working capital, which is  $K$ ), will need to be deducted from demand  $d$ , since actual demand in fixed capital  $z$  is the same as  $\Delta Z - \Delta H$ .

$d = P - \Delta A - \Delta Z$  is transformed into  $d = P - \Delta A - \Delta H$ ; working capital has been taken out. In reality, and without altering Bernácer's thought, working capital invested really is a demand. And because it is demand, it is also supply at the same time, thereby eliminating the demand for working capital on the market, which is why it is preferable to refer to *final net demand*. As indicated,  $H$  includes the transfers of funds made to industrialists and those used for fixed capital *as long as they are not invested*.

It is necessary to subtract the disposable funds allocated to working capital from the *total* disposable funds of industrialists  $c$ , thus making it so the final demand on the market is as follows:

$$d = P + \Delta c - \Delta H$$

(do not forget that production =  $P = R$  income).

When analysing supply, an increase in  $P$  was seen equal to  $r$  and an increase in stock of the same value (X production equals X supply equals X stock while it is not sold). But the demanded fixed capital, an operation referred to as investment, entails a withdrawal of stock from the market, because producers withdraw it for themselves and not to supply. The reasoning is as follows:

As seen, the expression for supply will be:

$$O = P - \Delta E$$

Since  $\Delta P = \Delta E$  in the increase in new production (the same increase in production as supply...) and both are equal to  $r$  and taking into account the sign opposite to capitalisation  $z$ , the previous expression of the

supply is as follows:

$$r - r + z = z$$

The increase in fixed capitalisation carried out is the amount of the demand in equilibrium.

If the three stages are considered as a whole: first, the formation of savings and decreased demand; second, the transfer of disposable funds to industrialists and; finally, the investment of disposable funds, it is necessary to close the circle.

The first involved an increase in  $\Delta A$  and  $\Delta E$ ; so much savings led to so many unsold products  $E$ . These decreases are equal to  $Z$ .

This decrease is *partly* offset by an increase in demand  $z$  that is investment in fixed capital. Since the investment in working capital is  $H$  and it entails new supply, there will be a demand deficit. The demand is partly compensated, as mentioned, because it is not enough; something else is needed: this quantity is measured *plus* the deficit:

$$\Delta Z - z = \Delta H$$

This is where the heart of the Bernacarian argument lies. *New money is needed on the market to feed demand. Since demand is unable to absorb supply by  $H$* , which is supplied working capital (while this working capital is unsold), the new money created must have exactly the same value as this working capital. It is important to stress that new money is needed to fund working capital.

This deficit amounts to a disequilibrium between potential supply and demand. Why? The acquisition fund grew by  $r$  because of the payments made and decreased by  $\Delta Z$  because of the savings. Therefore, the total increase will be  $r - \Delta Z$ . This is the case on the demand side. However, on the supply side, stock does not decrease but rather increases by  $r - z$ , so that the total disequilibrium equals:

$$P + \Delta c - \Delta H = P - \Delta E$$

We thus have:

$$c + \Delta E = \Delta H = \Delta K$$

It was already shown that  $c + E$  is working capital. For it also to be equal to the working capital that savings pours into it and for equilibrium to be possible on the market, assuming that money is not created, it must match a transfer of funds to production ( $Z$ ). But since this transferring of funds entails the formation of prior savings that cause a depression in the market, the process inevitably involves a deflationary process.

This assertion, which is necessarily repeated throughout Bernácer's work, insistently necessary, constitutes one of his explanations of economic cycles.

The expression for demand was:  $d = P + \Delta c - \Delta H$ . If supply is taken away, we have:

$$d - O = P + \Delta c - \Delta H - P \times \Delta E = \Delta(E + c) - \Delta H = \Delta K - \Delta H$$

This expression states that the disequilibrium between supply and demand is the same as that which arises between the increase in working capital and the provision of disposable funds to production for working capital.

Obviously  $H$  will never exceed  $K$  when both are positive, because this would mean incorporating idle



funds, which by simple logic is impossible, since working capital is active. If it is not active, it is not working capital.

If  $K$  is negative, it means that working capital decreases and  $H$  must be positive. This is true as a result of the working capital that is decapitalised.

The mathematical operation relating to the capitalisation expressed in this section, which symbolically and mathematically explains the capitalisation operation (explaining more than just capitalisation), helps to understand Bernácerian concepts and symbols, which originate from the ebb and flow of disposable funds.

It is not necessary to emphasise the breadth of space devoted to capitalisation, since the system is playing with its future in this operation.

## 8.6. DECAPITALISATION

The explanation given by Bernácer on first-class and second-class working capital was not very clear. It was included in the first chapter (section on working capital). The explanation will be repeated here. It is known that the sum of added values is the same as national product and that this is the same as the national income.

Values added to production are done during each production phase. For the agents adding or manufacturing it, it is working capital while it remains in their power. It is *decapitalised* by the sale of this product to the next buyer-producer for whom it is, in turn, working capital. The first or previous producer recapitalises the monetary amount of the sale. Even the last producer or last producers have the total of national product: they have a total of working capital.

Total national product (consumer and capital goods) that has been produced and not sold will be working capital while it remains in the warehouses and shop windows waiting to be sold. How is value added? Through the addition of the new product or value *to the previous value*. What cannot be done, obviously, is to add the *new* value to the *previous* value and then in turn add *all* of the first production to this resulting value that is transferred to the following producer. This would mean entering the same item into the books twice. As stated earlier, Bernácer carried out such an operation, which is really an extremely strange operation, when it isn't wrong. But, he then stipulates that this is not the national product, since, as he well knew, national product is the sum of added values. In addition, in 1945, the definition of national product was widely known (see chapter 2 'Capital'). .

One thing is certain: each stage of production generates production that is working capital. The sum of all working capitals is the sum of all the bars on the following diagram which is repeated here for convenience. This operation, which is the sum of all working capitals, indicates all the payments actually made by productive agents. The sum of this working capital is not the final bar, but rather a much longer bar.

The last bar, *af*, is national product. The sum of working capital (set of payments) is  $K_2$ . The final working capital is the national product, which Bernácer called primary working capital  $K_2$ . Subtracting the difference between first-class working capital from the sum of all payments (long bar) is second-class working capital.

I don't understand it. If the preceding symbolic explanation is followed, it can only mean the following.

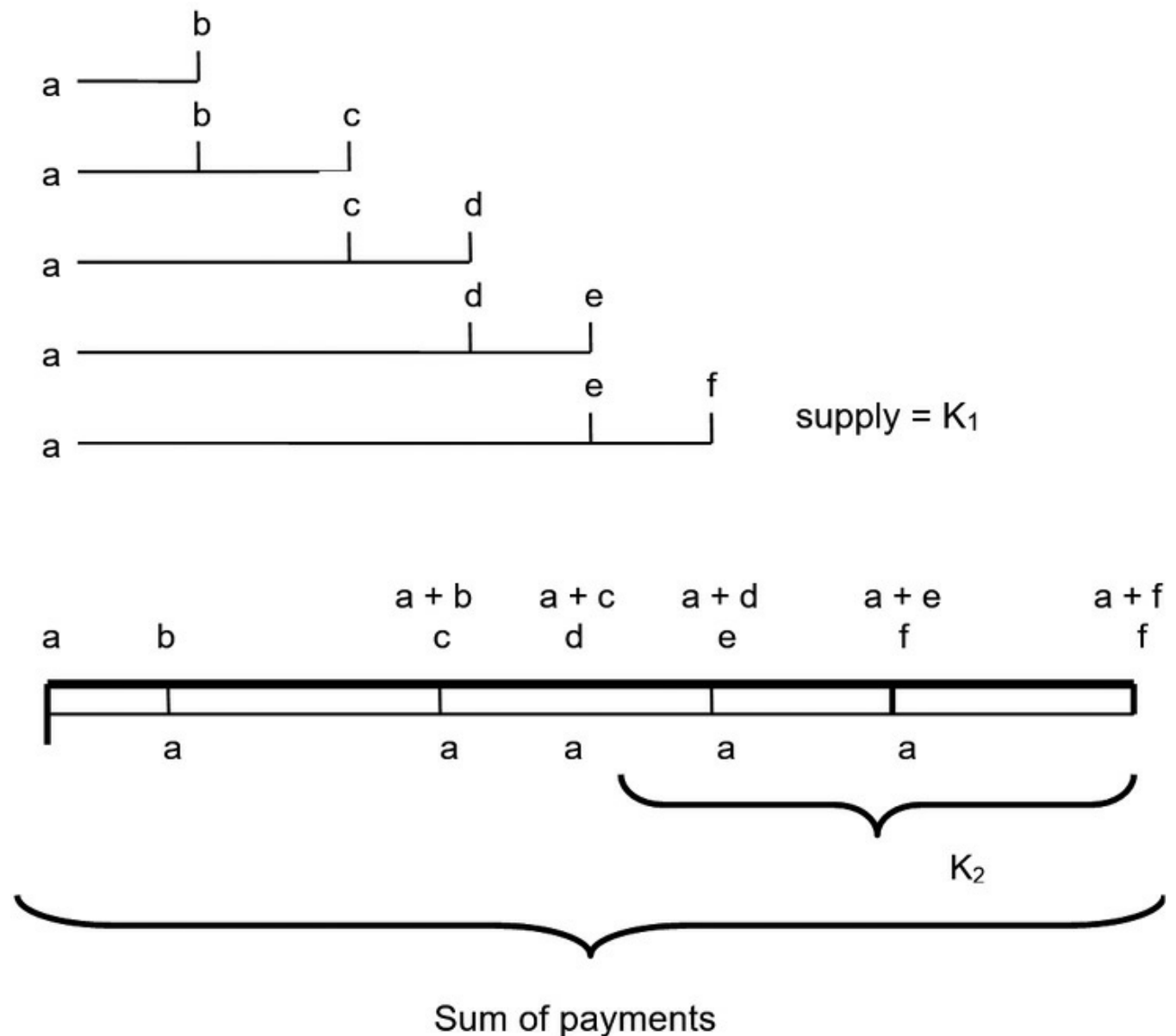
First I will explain the graph:

*National product*:  $K$  first-class working capital

*Sum of payments*: sum of all of the bars or final bar

*Sum of payments*  $K_1 \pm K_2$  = second-class working capital

The first observation that must be made is that the sum of payments does not mean that an equal amount of money is needed. Indeed, one sector of the production process pays the former one that has transferred it its working capital, which liquidises it, but in turn, the latter sells it to the following and recovers part of these liquid resources. The second producer, for example, pays  $ab$  to the first, but he recovers it when selling the fraction  $ac$  to the third producer. Thus, all in all, money must equal national product and equal national income. The continual sequence of creation and destruction of working capital makes it possible to form national product or, what is the same, the continuous pace of capitalisation and decapitalisation (liquidation) of working capital.



Fixed capital is decapitalised by depreciation and is capitalised by the amortisation of the company's non-distributed profits. This operation is an accounting operation that may or may not maintain equilibrium

with the actual depreciation of capital goods. Although it is possible that after being amortised it may still have a practical use or, conversely, may be decapitalised before its equivalent amortisation has been carried out.

By means of functional depreciation or theoretical functional erosion, capital goods transfer part of their value to product. By means of destruction, working capital transfers *all* its value to the product. Fixed capital is covered by means of periodic and partial amortisation. Working capital is decapitalised at once; through product sales or *liquidation*. It is also capitalised all at once.

There is another difference. The purpose of the decapitalised sums is to be recapitalised. Buying capital, whether fixed or working, by means of *savings* is called investment. Investment is recapitalisation. For fixed capital, it is carried out through the operation of rebuilding depreciated capital and adding new capital equipment (net investment), and for working capital, it is carried out by acquiring new materials, labour, etc. to continue production. The pace at which they both occur is very unequal. Each one takes its own time, which is always greater than that of fixed capital.

Both investment in fixed capital and investment in working capital equipment are demanded, but their economic functionalities, however, are different. Saving is the operation prior to any investment and implies a temporary dip in the market (while it is savings). The demand for fixed capital monetarily has the same meaning as the demand for consumption, because it means that production has been withdrawn from the market. The same cannot be said of working capital, because although it stimulates the demand for raw materials and production services to the same extent that it creates new income, it places or adds new production on the market (it doesn't withdraw it, as with fixed capital).

If working capital is an increase in stock  $\Delta E$  and in liquid disposable funds of industrialists  $\Delta c$ , given that ( $\Delta K = \Delta E + \Delta c$ ), there must be an increase in the disposable funds of the acquisition fund  $\Delta A = \Delta(a + b)$  plus industrialists' disposable funds (industrialists' demand). *If equilibrium is to be reached, the acquisition fund plus the industrialists' disposable funds must as a whole entail a demand capacity that can absorb this working capital* (which will be all production). In other words: *all increases in working capital must be accompanied by an increase in the amount of money*. Repeating what was expressed above:

$$\Delta M = \Delta A + \Delta c: \text{amount of money increased}$$

$$\Delta K = \Delta E + \Delta c: \text{working capital increased}$$

$$\Delta M = \Delta K \text{ in equilibrium}$$

Bernácer finishes this assertion by saying:

'In sum, the increase in working capital, without which it is impossible to expand production, implies a decline in overall demand that makes increased production superfluous. It is not possible to escape this vicious cycle, except by increasing the volume of money in circulation, which enables both working capital and total demand to increase at the same time.'

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<sup>36</sup> The reader must be reminded that there are two types of income: authentic income or  $R$ , which is production income and equals  $Y$  in textbooks ( $Y = R$ ). The other  $R$ , which also appears as an  $R$  and is called land income.

# Commodity currency

## 9.1. INTRODUCTION

Real money or commodity money is comprised of a valuable material of equal value to that which it really represents.

Fiat money symbolises a value, although the material of which it is comprised has a negligible value. Here, Bernácer introduced the value of the coin's metal into his equations. Bernácer's entire economic body of work is coherent and can be explained mathematically.

In the case of commodity currency, being dealt with here, it is easily adapted to be handled and incorporated into other parts of his theory in which he criticises the gold standard. For some time, I thought Keynes' criticism of the gold standard was better than Bernácer's. However, the mathematical treatment derived from his disposable funds theory in the chapter 'Commodity Currency' made me change my mind. It is possible to precisely determine the exact measurement of the monetary disorders caused by the gold standard in Bernácer's doctrine. This measurement is explained in his equations.

## 9.2. EXPLANATION

Noble metal is simply another type of merchandise. It is valuable because it is valued by the market. Upon being rescued from the bowels of the earth, it is *working capital while it is not sold* as a final good. Its extraction entails the generation of a part of national product and its cost generates income. Here, I will not be concerned with its transformation into durable consumer goods, but rather how this supply is transformed or permuted into demand according to capitalisation.

*As mentioned, the act of minting involves the conversion of what was a supply –the merchandise– into a disposable fund, which is minted metal.* The market becomes unbalanced in this way, a benign inconvenience for the market, as it has engendered an increase in purchasing capacity.

Disequilibrium is explained because a new potential demand has appeared, or disposable funds ( $A$ ) that do *not* come from income or at least from period production. Whether it arises or not from period production is not an issue that concerns us as much as the fact that this increase  $\Delta A$  of disposable funds is not accompanied by an increase in stock  $\Delta E$  or working capital. In this analysis, the increase of disposable funds or unspent income is logically accompanied by an increase in unsold production. This not only does not happen here –increased disposable funds  $A$  without increased stock– but, if gold or silver is considered stock  $\Delta E$ , it disappears when money is minted, decreasing the resulting  $-E$ . Now there is not a decrease in disposable funds but, conversely, an increase.

The situation is flipped *doubly* and with a *double* magnitude. Here, disposable funds increase to the same degree that stock decreases. The situation is equal to demand that has removed production from the market by  $\Delta E$ . Then disposable funds, instead of decreasing, have instead increased by the value of  $\Delta E$ .

Let's start with a status of equilibrium where  $\Delta A = \Delta E$ . When  $\Delta E$  decreases or disappears because minting new money means  $-\Delta E$ , since  $\Delta E$  is transformed into  $\Delta A$ ,  $\Delta A + \Delta A = 0$  and, simplifying the equation:  $2\Delta A = 0$ .

The terms have changed on the market: merchandise has decreased without any demand and the disposable funds are the previous ones plus the new ones. I said it was harmless to the market because stock has disappeared (I assumed that the only merchandise on the market was gold) and, furthermore, demand has potentially increased, or restating this, disposable funds have increased.

What was said in the last chapter about the need to finance working capital is not required in the case of minting money. The reason is that working capital disappears on its own and more money does not need to be created because it has already been created by this minting of new money.

Bernácer's mathematical formula on this issue (which will be set forth in the next section) seems to be vexingly complex. Concerned about the issue of money due to the weakness of actual demand, Bernácer knew how to see the advantages of minting coins (gold is worth more as a currency than as a production instrument) and the enormous disadvantages of the gold standard. His conversation with the famous Dr Schaaf is also famous. This conversation that took place at the Council of Scientific Research in which Bernácer told Hitler's Minister of Finance at that time –contradicted him may be more precise- that part of Germany's development was due to abandoning the gold standard.

Like Keynes, he clearly understood the ideas of mercantilists and interpreted them correctly. About them he said: '... Mercantilists understood well that the abundance of precious metals was a reason for prosperity, not because they were wealth, but because obtaining a means with great enough circulation, at a time when there was no currency but commodity currency, was a necessary condition for expanding production. Lacking this circulating means, production could not be extended, even with a surplus of material and personal means to do so, due to the impossibility of distributing it while maintaining the prices paid...' (*The Functional Doctrine...*, page 101, 2<sup>nd</sup> edition, 1956)

As to the rest, the young Keynes in 1913 systematically described the gold standard-exchange. He would later originally criticise this system. Furthermore, in his historic studies, he rescued the monetary reasoning of the mercantilists.

Bernácer had not discovered a Spanish pioneer who spoke of these issues. I am referring to what historians of economic thought, Schumpeter and, more methodically, Margarie Hutchinson cite as the School of Salamanca. I am specifically referring to Tomás de Mercado, who established the relationship between the quantity of money and inflation in 1560. It seems as if Bernácer did not know of him or the school or at least didn't cite them.

### 9.2.1. Symbolic-Mathematical Explanation of the Commodity Currency

This is the amount of metal with the value  $S$  that is transformed into a sum of money  $\Delta S$  via minting. The worker doing the minting receives  $r$  for his work in wages, which will be equal to:

$$\Delta S - s = r$$

The operations explaining the variations of the acquisition fund and stocks are:

Acquisition fund:  $\Delta S$

Increase in: Stock by:  $r$  and decreased by  $S$

end increase:  $r - \Delta S = -\Delta S$

Demand easily ends up being overpriced. This demand is the difference between production and disposable funds  $A$ . Given that minting does not involve any demand transaction, the latter must be corrected by  $-\Delta S$ , which is the metal that has *disappeared*.

Supplies are improperly decreased, where this decrease is measured by:  $r - (r - \Delta S) = \Delta S$ . This error must be corrected by adding a negative term equal to the value of the minting executed.

I consider minting as a fixed capitalisation act. Sales are equal to fixed capitalisation, here equal to  $\Delta S$ . The apparent increase in demand is equal to  $r - \Delta S = \Delta S - (\Delta s - \Delta S) = -\Delta s$  (where the creation of money is not considered). Since in reality, it experienced an increase of  $\Delta S$ , the previous formula will have to be corrected by the addition of  $\Delta S + s$ . Supply has undergone an increase  $\Delta S$ . The formulas obtained will be:

$$d = P - \Delta A - \Delta H + s + \Delta S$$

$$O = P - \Delta E - \Delta S$$

The difference between supply and demand then is:

$$d - O = \Delta E - \Delta A - \Delta H + \Delta S + s$$

replacing  $\Delta A = \Delta S - \Delta c$ , the following is obtained:

$$\Delta E - \Delta(S - c) - \Delta H + \Delta S + s = \Delta E + \Delta c - \Delta H + s = \Delta K - \Delta H + s$$

The expression of demand, according to industrial disposable funds, will be:

$$D = P - \Delta(S - c) - \Delta H + s = P + \Delta c - \Delta H + s$$

In conditions of free minting the margin between  $S$  and  $s$  is very small, so much so that it can be left out. Bernácer could have saved unnecessary complication by explaining that  $s = S$  from the beginning.

$$D = P - \Delta A - \Delta H + 2\Delta S$$

$$D = P + \Delta c - \Delta H + \Delta S$$

*The first equality explains that demand is income minus the disposable funds from the acquisition fund  $A$  and minus the quantity provided for working capital while  $H$  is not applied and more than double of the minted amount  $S$ .*

Equating supply and demand, we then have:

$$P + \Delta c - \Delta H + \Delta S = P - \Delta E = P - \Delta A - \Delta H + 2\Delta S$$

And:

$$\Delta E + \Delta c + S = \Delta K + \Delta S = \Delta H = \Delta E - \Delta A + 2\Delta S$$

Which indicates that market equilibrium survives while the increase in working capital plus that of commodity currency *is balanced by* the cession of funds to production for working capital. This statement is the same or equivalent to the so-often repeated one that the increase in working capital must always be financed with new money. Otherwise, the investment in working capital would be depressive for the system. Here, the same is affirmed for the minting of coins.

The criticism of the gold standard arises alone through this equation although Bernácer did not specify this

equation in his criticism of the gold standard. Consider the case that gold does not exist in the gold standard and it is decided to increase working capital. Consider something worse as well: in gold *hoarding*, where gold is highly suitable for hoarding.

The last part of the previous equality will now be isolated:

$$\Delta H = \Delta E - \Delta A + 2\Delta S$$

Equilibrium is obtained when supply  $O$  and demand  $d$  are equal ( $O = d$ ) and complete, necessary and sufficient equilibrium is achieved when potential supply and demand are *also* balanced ( $\Delta E = \Delta A$ ). The first equality does not indicate efficient allocation of economies if it is not accompanied by the second. The accrual of stock will be accompanied by an accrual of disposable funds.

Total equilibrium, which is also expressed by  $\Delta A = \Delta E$  means that the previous equation:

$$\Delta H = 2\Delta S$$

since  $\Delta A$  and  $\Delta E$  cancel each other out, which is interpreted as follows: The increase in provisions for new working capital must be *double* the minting executed. Thus, if assuming that there is no transfer of funds to industry ( $\Delta H = 0$ ), then  $\Delta S = \Delta K$  (where  $\Delta K$  is the change in working capital), which translates into the fact that the increase in circulating currency is compensated for by the decrease of stocks due to the disappearance of the minted metal.

## 10.1. INTRODUCTION

In Bernácer's contributions about fiat money, there are the following significant aspects:

An extensive and detailed study on the creation of money by the banking system.

1. The advantages of the independence of the gold standard and the free creation of money.
2. The beneficial impact of the creation of money on the cost of money. Interest drops and this will favour the production system.
3. If Bernácer's basic proposition is that savings must finance investments in fixed capital and that working capital must be financed with new money, the relevance of this new money is clear in the creation of fiat money.
4. New money M is expressed in the basic context of the theory of disposable funds, which is the starting point for the creation of flows of national income, the backbone of the whole of Bernácer's theory.

Bernácer sets forth a comprehensive explanation of the role of money in the formation of working capital. His description of the role of private banking in the creation of money is even better. As he stated, this is already well known and other economists besides Bernácer and even Keynes may have contributed to explaining the role of banks. For this reason, I will not go into great depth in this part of the work that is not original, which Bernácer himself knew.

However, certain criticisms can be made about his reasoning. One example is when he stated that bank currency is used to finance working capital and that legal tender, issued by the central bank, is the support for income and final demand. According to Bernácer, this is because production agents, entrepreneurs and merchants use bank cheques to pay each other and that to pay their most immediate production agents, such as employees, they directly use legal tender. It is likely that Bernácer was influenced by banking and payment customs of his time in Spain, but this does not give him license to generalise.

Thus, he stated '...Legal tender is used for the payment of production wages that make up the total value of the product and are also generally used for the payment of consumer products...'. He then stated: '...In summary, the use of bank currency must be limited to financing working capital and not all working capital, but that which I have called second-class working capital, as opposed to first-class, which finances the basic part of the value. And, outside of this, passive operations...'.

I think Bernácer confused desire with reality here. Like Keynes, he believed in the free creation of money and thus blessed the creation of money by the banking system. According to his theory, whoever invests in working capital not only demands but also increases the supply of products, then system income is not enough to achieve equilibrium, but needs the support of demand fed by new money, as well as an increase in working capital.

If, as he stated, the new money created by banks is possible due to the genesis of working capital (payment



between entrepreneurs of working capital) and this money also finances working capital, this desire or reality, I am not sure, makes the system *move* towards equilibrium. What makes this miracle possible? Private banks.

There is another aspect of great interest with respect to fiat money. Bernácer stated 20 years before the publication of his book *The Functional Doctrine of Money* that '...Bills entailed nothing less than the indefinite reduction of merchant interest up to the possible disappearance of the profit of the large part of capital employed in trade, which is known as working capital...' (*The Interest of Capital*, page 131). This sentence was written three years after the appearance of his theory on disposable funds, in the context of his theory on interest. Bernácer's blessing is repeated when blessing the creation of money. His line of reasoning is clear: a drop in interest lets new monetary flows exceed the ceiling of interest and be invested. But things are not that simple. They are more complex and, in turn, complementary. In short: *This money is not created easily but comes from bank money that spreads due to payments made between the production system. This money is also made possible by and for working capital, which is gradually transformed into national product.*

*The banking system creates money to finance working capital.* Since production agents make payments owing to the origin of working capital, this money inside the banking community vessels lets this money be multiplied. By how much? Approximately as much as the increase in working capital. What does this increase in money mean? *A decrease in interest*, which opens the door to the input of savings in the production system that, in turn, lets fixed capital equipment be financed.

It would be difficult to find greater harmony in an economic theory established by a single man using a core set of ideas. Greater harmony will be reflected when the question of why interest is born is understood, despite the tireless fight of the economic system to make it disappear through banks creating money.

## 10.2. FIAT MONEY IN THE THEORY OF DISPOSABLE FUNDS

This chapter analyses the vicissitudes of disposable funds in active and passive operations, in capitalisation and decapitalisation, in commodity money and, now, in fiat money. In this section of the book related to money, I simply explain the theory of disposable funds in depth. Then I will analyse other aspects deriving from it.

$M$  is the total amount of money in the system from which disposable funds  $a$ ,  $b$ , and  $c$  originate, where  $a$  are saver-capitalist disposable funds,  $b$  consumer disposable funds and  $c$  business-owner disposable funds.  $M$  will be the total monetary fund of the market, whatever this fiduciary money may be, merchandise, registered or banking.

The following transactions are analysed:

1. Money moves to consumers, increasing their disposable funds while they don't spend them. Product, income and demand do not increase.
2. Money moves into the hands of consumers, who spend it. Demand increases and disposable funds don't change, given that the new input of money is compensated by the decrease caused by demand.
3. New money is received by producers for production aims and they employ it totally in working capital.

*Net final* disposable funds, income and demand do not change. Money taken for working capital and new money are equal and neutralise each other, since there are no sales.

This is an analytical stage that is not clear to me, given that applying working capital means having demanded it, which also supposes increasing a part of the end added value and, therefore, national product and income. This is clear, although net final demand doesn't change because the supply increases in line with working capital, which cancels out its demand.

4. Money moves to producers who use it to invest in fixed capitals, which entails an increase in *end* demand. The quantity of money  $M$  and demand undergo increases.

As done before, I will repeat the previous line of reasoning, but do so mathematically. I believe this provides fluidity and better overall understanding.

### *Logical-Symbolic Explanation of Fiat Money*

Let's start with the basic for actual demand:

$$d = R - \Delta A - \Delta H$$

( $R$  = income,  $H$  = money saved and transferred to working capital and  $A = a + b$ ). With the incorporation of new money:

$$a = R - \Delta A - \Delta H + \Delta M$$

Repeating the previous argument:

1. The fund  $A$  increases while buyers receive it and don't spend it. Therefore:

$$\Delta A = \Delta M \text{ and } \underline{H} \text{ y } \underline{d} \text{ remain constant}$$

2. Consumers spend money that moves into the hands of producers. Since they have new money, which they also spend, there is no change to disposable funds. And  $H$  and  $R$  do not change either.

$$\Delta A = 0 \text{ and } \underline{H} \text{ and } \underline{d} \text{ remain constant}$$

3. Producers receive new money for their aims and employ it in working capital, then  $H$  and  $M$  increase, but not  $d$  or  $R$  or  $A$ .

$$H, \Delta M \text{ and } \underline{d}, \underline{R} \text{ and } \underline{A} \text{ remain constant}$$

4. Producers receive the money, applying it to fixed capital. Demand increases, as well as  $M$  and demand.

$$\Delta M, \Delta d$$

Repeating the expression  $D = R - A - H + M$  and replacing  $\Delta A$  for its equivalent  $\Delta M - \Delta c$ , the expression becomes:

$$D = R - (\Delta M - \Delta c) + \Delta M - \Delta H = R + \Delta c - \Delta H$$

This formula must have the same variations applied as the previous one. Let's see why:

*First case:* neither of the two quantities change.

*Second case:*  $\Delta c$  increases due to sales made by consumers.

*Third case:* equivalent increases of  $c$  and  $H$  mutually eliminate each other ( $\Delta c = \Delta H$ ).

*Fourth case:*  $H$  only contains increases in working capital and, therefore, does not increase despite the influx of funds.  $d$  sharpens the increase of fixed capital investment, which increases actual demand.

# Foreign trade

## 11.1. INTRODUCTION

Foreign production and income are related to their interior and domestic counterparts through international trade. We will not be concerned about foreign trade, only to the degree that it entails demand for domestic products and, thus, influences the management of domestic product and national income.

The demand for foreign national product is a topic considered in the theory of disposable funds as it involves a transfer of income abroad.

Operations derived from trade involve other intermediate operations, such as buying and selling foreign currencies or international capitals, which are reflected in exchange rates. In another part of his theory, Bernácer condemns fixed exchange rates, since they transfer economic crises with greater speed. In any case, this is not the subject here, but rather how foreign trade is related to the theory of disposable incomes. Another important part to stress is the transference generated on internal disposable funds, the inflow and outflow of purchasing power.

What Bernácer explained did not make reference to the advantages of international trade set forth by Adam Smith and David Ricardo, but rather the movement of internal and external disposable funds. As to the rest of international transactions, his explanations mirror those of other economists.

## 11.2. FOREIGN AFFAIRS IN THE THEORY OF DISPOSABLE FUNDS

The accounting document that records foreign economic relations is called the balance of payments (BOP). This balance is comprised of four sections:

1. Exchange of common merchandise
2. Exchange of metal coins and monetary metals
3. Exchange of services
4. Exchange of liquid capital or disposable funds

Each of these accounting items has its balance in what will be called respectively  $m$ ,  $n$ ,  $p$  and  $q$ . Conventionally and logically, their sum is equal to zero.

$$m + n + p + q = 0$$

These operations determine balances that are positive (+) when speaking of imports and negative (-) for exports. This should not be surprising, given that *only* the exchange of goods, metals and services is in question here ( $m$ ,  $n$ ,  $p$ ), still not disposable funds, which are quantities of money used for exchanges. An import entails an inflow of goods and an export an outflow. All commercial transactions are paid for or are owed. Therefore, there must be an account that records the debit status of the country with abroad and vice-versa. This is the capital account.

If we are owed money from abroad, capitals have been exported and if we owe money abroad, capitals have been imported. Thus, if  $m, n, p$  is positive, this means we have imported goods and have therefore imported capitals for this quantity and if the figures are negative, it means that we have exported capitals.

Imports are paid for with exports, possibly totally and exactly and possibly not. The difference is registered in the capital account, which sets forth the debit or credit status of foreign trade.

Bernácer clearly explains this monetary mechanism for trade, although his comments are in line with normal accounting transactions in international trade.

### 11.3. OPERATIVE TECHNIQUE

However, Bernácer was original in his application of a peculiar operative technique for understanding trade mechanisms as a manner to understand situations of equilibrium and disequilibrium.

There are three possibilities and each case will be considered sequentially and separately:

1. Zero balance of the four different entries.
  - a)  $p = 0, q = 0, m = -n$
  - b)  $n = 0, q = 0, m = -p$
  - b')  $m = 0, q = 0, n = -p$
  - c)  $p = 0, n = 0, m = -q$
  - c')  $m = 0, p = 0, n = -q$
  - d)  $m = 0, n = 0, p = -q$
3. General case: none of the entries is zero.
  - a) A single balance with the same sign and the other three opposite.
  - b) Two balances with one sign and the other two the opposite.

Each of these three analytical stages is linked mathematically to the theory of disposable funds, but they do not add anything new as a whole (as regards mathematical formulas). Disposable funds, unminted metal and minted metal, when it exists, etc. come into play. The best way to really understand is to summarise the different balance and imbalance situations on the balance of payments.

### 11.4. BALANCE AND IMBALANCE ON THE BALANCE OF PAYMENTS

I am obviously speaking of situations of economic equilibrium and disequilibrium. Formal accounting is rigorous and is always used because it follows the double-entry convention. The following cases will be looked at in this order: balance and imbalance, warning that a debt or credit cannot be left pending, whether it is a capital export or import.

*1) Balanced balance*

The supply of goods is not altered given that the articles that are imported allow for the replacement of those articles exported. Qualitatively, not quantitatively, imported goods are preferred to the excess called exportation.

The payment mechanism, which is what can involve demand, is explained as follows. To collect, domestic exporters issue bills against their foreign clients that they take to the bank, which discounts them and gives them domestic currency. Bankers, in turn, buy foreign currency and place national currency into circulation and then issue the discounted notes to foreign branches so that they are paid in the currency of their country. Foreign bankers in turn receive the notes from their exporting clients to be collected in other countries, which send them to their branches to cash them. Part will be against our country and collection by national bankers will pay them back from their expenditures for the purchasing notes from the foreign entity.

Like our country, hypothetically there is a balanced balance after carrying out the compensations between different banks and the arbitrage transactions that liquidate the largest debts from countries with larger credits than others, the bankers' accounts will be settled. In short, they act as intermediaries between importers and exporters, collecting money from the first to give it to the second.

There is no increase or decrease in money M. Monetary circulation is equal to production and the sale of part of national product. Money moves from consumers (part of *b*) to producers (*c*) and then returns to consumers (*x* again) and to financiers (part of *a*).

## *2) Unbalanced balance*

An excess of imported or exported articles represents an increase or decrease in overall demand. When balancing the foreign notes collected and paid, national bankers will end up either in a creditor or debtor position. In the first case are those that have a surplus and the second those that have a deficit. In the first, there will be more money in circulation than was removed. Conversely, in the second case, there will be more money removed, with the money in circulation decreased. If the foreign currencies that are hypothetically needed are not available, in no case can the credit be made up for in foreign currency or the debt contracted eliminated.

Bankers will unload their debit or credit balance, turning to capitalists in the respective country who wish to exchange their balances in national currency for balances in foreign currency. Bankers in the country with surpluses then repay their excess money in exchange for fund holders, thus contracting the amount of circulating money that equals the surplus.

In deficit countries, bankers will pay individuals who want to accept pending debt with foreign currencies. In the first case, buyers' disposable funds decrease, or potential demand. Due to this, for the formula to be exact, the amount of the surplus must be decreased (Bernácer used  $m + n + p - q = 0$  and also  $W = m + n = -(p + q)$  where  $W$  is the joint balance of the balance of payments. In the second case, the amount of the deficit must be added to re-establish the deficit situation. The addend  $W$  is negative when there is a surplus and positive when there is a deficit.

If the previous solution is not viable, foreign currency holders or debtors will want to settle their positions and bankers and individuals will place pressure on the foreign currency market and will make the exchange relation vary in favour of the country with the surplus. This phenomenon will be against the country with a surplus, whose exports will become more difficult, stimulating deficit countries, tending to

re-establish balance equilibrium. Here, Bernácer follows a traditional line of reasoning made by Hume (and probably by the mercantilists before him). He continued: if the deficit country wants to defend its currency from relative depreciation, it will implement a restrictive commercial policy on imports and give priority to exports. If these measures prove to be insufficient to obtain balance and absorb the remainder of its previous disequilibrium on the exchange market, there are two measures to equilibrate the banking foreign exchange balance: loans are issued in the creditor countries so that the market is cleaned of foreign currencies with the foreign currencies obtained.

In this last case, the contraction of the country's circulation with favourable balance operates because the loan subscribers decrease their disposable funds, which are deposited in the bank to settle the monetary deficit in its foreign department.

Exporting gold is another solution. There will be an increase in the country's circulation that receives it, provided that the country does not eliminate the gold by using it for durable or industrial consumer goods. This elimination will of course be monetary. The minting operation or replacing coins with bills is independent of the event of importing metal, which in international trade is simply one more type of merchandise.

## 12.1. INTRODUCTION

Interest is the price of money. If money in some way springs up from production or the ordinary market and thus represents wealth, then why does it have a price? All prices reflect situations of greater or lesser scarcity. If this is true, why does money get so scarce that it gets expensive? In a non-monetary economy, goods are exchanged for goods. In a monetary economy, they are exchanged for money, with the result being the price of the goods.

Money is used to transport and distribute income arising from production. *Income and production are equal*. The supply and demand of money should also be equal, while in my judgement, it seems like the clearest truth of macroeconomics is that the supply of goods is a demand for money and demand for goods is nothing but a supply of money.

One can argue, albeit not very correctly, that interest is the outcome of the supply and demand for savings and capital, respectively. I admit that this is true. The next question that must be asked is what part of and why income leaves consumption to be saved. For Böhm-Bawerk, this is obvious: people save to receive compensation through interest, which is an award for renouncing consumption. For Bernácer, there are additional reasons. Savings are demanded to acquire capital goods and capital goods are acquired to obtain profitability. Keynes gave an explanation about the marginal efficiency of capital. But the origin of interests continues to be a concern, which is a price that reflects relative scarcity. Scarcity of what? Of money. Along the present line of reasoning about savings, if a price is generated, it is because savings is scarce. Scarcity is a relative matter. For example, savings can be abundant in absolute terms, even more than in other periods, but if there is a greater demand for savings and it becomes scarce, relatively, then the price or interest goes up. Capitalists who form savings (entrepreneurs that produce capital goods are producers and the savers who acquire this capital good are capitalists or investors) can offer a lot, but if producers request more than they produce, savings becomes scarce again and interest rates rise.

One thing that is clear in Bernácer's theory is that the cause of interest is basically found in the *relative and even absolute scarcity* of savings. *Savings become scarce because they flee to the financial market, outside of the ordinary market, which is where national product is formed*<sup>37</sup>.

Savings or not, what is true is that money has moved to the financial market, a type of limbo where shadows roam with a monetary value, but lacking a real body or national product. If income and production are equal and the supply and demand of goods reflect the demand for and supply of money, respectively, the fleeing of money distorts the same money market, making it scarce.

## 12.2. EXPLICATION<sup>38</sup>

Interest is a rate normally expressed in a percentage. A percent is the relation between a base magnitude and a variable rate. The quotient between the variable rate and the base is the percentage. Thus, I can



speak of a child's growth rate by month or by year, of the temperature increase rate, etc.

Interest is a percentage that indicates the increase rate for an amount of money and the amount of money that is lent or requested for a loan. If it is not repaid or it becomes a debt, one owes the accrued amount multiplied by the interest rate. This is the rule of commercial calculation or financial maths.

However, this explanation tells us nothing. Conversely, the percentage does explain something, which relates the gross yield of an investment with its cost. If an investment  $V$  for an amount of 1,000,000 gives us a yield  $R$  of 100,000, the profit percentage or percent yield would be  $R/V = r$

$$\frac{100,000}{1,000,000} = 10\% = r$$

( $R$  in this case is non-production, speculative income. In other parts of the book,  $R$  refers to income or national income).

When the yield is from the financial market and the investment is a financial investment, the yield  $r$  is interest  $i$ .

Interest is a percentage. It is the percent determined by the yield of an investment and its cost  $R/V = i$ . This statement makes no sense without the following explanations. Firstly, investment is simply a placement of speculative money. Secondly, this placement in speculative assets *does not represent the creation of new wealth*, but it is rather past wealth or an illusion of wealth. The initially-cited term investment is quite ambiguous, given that for myself and any sane economist, investment can only mean an increase in the economy's production capacity.

Speculative assets can be financial or real. Both are secondary and are sold and bought on the financial market.

*These assets are bought with part of non-capitalised savings. The percentage profitability of the savings that is not capitalised is the interest rate.* As you will see, savings that are not capitalised are disposable funds.  $S = S_k + D$  where  $S_k$  is the capitalised savings and  $D$  the disposable funds or non-capitalised savings, and  $S$  is simply total savings.

Disposable funds finance the acquisition of speculative assets, so:

$$D = V$$

$$\text{if } i : R/V$$

then:

$$i = R/D$$

Note:  $R$  = non-production earnings in this case (and not  $Y$  or income).

Which has the following consequences<sup>39</sup>:

1. Interest is generated outside of production.
2. Interest is bait that leads to the formation of disposable funds.
3. The fleeing of savings causes its scarcity on the ordinary market, which needs money for production and income to exist, causing scarcity on the financial market and thus leading to the formation of interest.

After understanding the theory of disposable funds, the theory of interest may be known, which in turn requires an understanding of the financial market. These two areas will be explained in this chapter.

These two areas comprise the third neutral operation in the theory of disposable funds. I believe that *neutral* operations were a poor name choice by Bernácer, given that they are the most dynamic of all transactions. Pernicious and dynamic operations. The classification of the financial market operations that give rise to interest are cited in the present work. Payment for realisation operations, business payments and property payments that do not represent present production.

### 12.3. BACKGROUND AND EXPLANATION OF THE ORIGIN OF INTEREST FOR BERNÁCER

In *Society and Happiness*, the theory of interest was set forth and even explained. Land is an asset with which you can speculate, because its possession lets the owner obtain free rent (not for the operator or farmer though). Land is not the only speculative asset. Robertson believed this and fondly chided Bernácer as a neo-physiocrat. Bernácer said: ‘...Wealth lent for another purpose accrues interest or a profit in favour of its owner, equivalent to what would be obtained by employing it to buy lands...’ Relating it to other assets that are *not new* wealth, the interest rate will be obtained. But the theory of interest cannot be completely set forth due to the simple reason that the theory of money is not constructed. The theory of money was written in 1922 in the work entitled *The Theory of Disposable Funds*. His exclusive treatise on interest was published three years later, in *The Interest of Capital* in 1925. *The Problem of its Origins* (obviously written earlier than 1925, indicating that there was little time between 1922 and the development of the theory of interest).

This treatise explains interest from a complete monetary viewpoint and from even a psychological point of view. The treatise demolishes the masterly work of Austrian Böhm-Bawerk. The theory of interest is a wise and polished piece, which is adapted with millimetric precision to the vast building of Bernacerian macroeconomics.

### 12.4. INTEREST AND SAVINGS

In 1925, there was no other remedy than explaining interest as the supply of and demand for savings. It cannot be isolated from the long classical and neoclassical legacy, even though different conclusions are reached than in those schools. I believe that if Bernácer lived in present days, he would continue thinking the same and would follow the route of savings to explain interest. In 1956 he published his last article and in 1955, his last book. At that time, the Keynesian models of the supply and demand of money were more or less developed (although not for money). Bernácer knew them and criticised them, continuing loyal to his analysis.

Why do savings form? In principle, I could say that it is because it hasn't been necessary to spend it. This statement has several consequences. The fact that money is not spent does not mean that it hasn't been *necessary* to spend it. Maybe it is spent out of need and maybe it is saved because, even though it was needed, a sacrifice was made to save. And if a sacrifice was made, it is because you think you will be rewarded for it. This reward is interest.

This is Böhm-Bawerk's proposal and also Bernácer's. The only and essential difference between the two is that Böhm-Bawerk used it to explain the origin of interest, on which his entire theory is based. For Bernácer, the sacrifice derived from savings is *one of the causes* that explains the birth of savings, not necessarily interest, and nothing else. The explanation given by Bernácer to determine the birth of interest requires an explanation of the money market or the monetary metabolism of disposable funds, already set forth, and of the financial market). It also requires other considerations: deep down, the mill of national product production moves continuously with water working at full employment for Böhm-Berwerk, but not for Bernácer.

## 12.5. THE ORIGIN OF SAVINGS

People save for a wide range of reasons. These causes are both psychological and real. In any case, desires are satisfied through savings. Thus, Bernácer said: 'Saving is simply one of the multiple objectives demanded by our desires and resources, a particular case of choice and preference.' The reasons that lead to the formation of savings are the following:

1. The need to obtain positive profits over time will lead subjects to postpone consumption for the future. This postponement is savings. Excess consumption of a good will cause saturation and probably leads to a negative utility. Needs according to Bernácer '...are not an indivisible whole', like physicists' matter is made up of portions with limits of divisibility and elasticity. As they are satisfied, their marginal intensity decreases and the value given to products to appease them is less than what is attributed to those destined at starting to satisfy them.

Here is where a mortal attack is made on the Austrian school, in the same psychological arena and using the same weapons. Böhm-Bawerk, with ties to Menger and Wieser, should have forecast this contingency, but maybe the timelessness of marginalism cut off possibilities when analysing interest. Timelessness that is quite paradoxical in the case of interest, which is related to *time* by definition.

In the act of renouncing consumption when satiated, the desire to obtain greater future profits arises, greater utility that is not explained by interest and that involves some type of sacrifice.

2. People save to consume no more and no less than the savings they have accumulated. People save even when interest is not paid. You want jewellery, a car or a house. Since you don't have enough money, you save and you save, even though this savings does not accrue interest. You reject present consumption obviously to obtain greater future consumption. This greater consumption is made possible because you have saved, not due to the accrual of interest. Bernácer said '...I have a situation here where a future good is valued more than a present one; the act involves depriving yourself of current pleasure for a greater future pleasure.' Note that Bernácer's argument is not clearly set forth. He should have added that this greater pleasure, or greater consumption, is nothing but the sum of all savings (without compounded capitalisation). I am referring to the motivation for obtaining greater consumption.

If you can obtain interest for this savings, even better, even though the goal is not interest, but more consumption. Let's look at this as a formula:

$$S_1 + S_2 + S_3 + \dots + S_n = n S =$$

= value of the consumer good you have saved for

This is Bernácer's statement for this specific case.

It is not:

$$S(1+i)^n = S'$$

where  $S$  is total savings,  $S'$  capitalised savings and  $i$  is interest.

3. People save with the objective of financing a production instrument. Carpenters save to acquire an electric saw and cobblers save to acquire leather and nails. This savings will be collected for essential goods from the production system, whether or not there is interest. Sure, it is better if there is interest, but the savings will be made regardless.

This should be the natural destination of savings, assuring economic equilibrium. This final operation, not the formation of savings, but the purchase of capital with this flow, is called investment and lets national product and the flow of wealth be increased. In this sense, one can speak of the percentage profitability of savings, where this *percentage profit is that of the investment*, or the theoretical-real profitability of savings in investment. I stress its importance because the dynamic explanation of economic cycles will come from this understanding.

If the relationship is established between savings and investment and we consider that profitability (or increases in national product) is:  $\Delta PNN$ . Then *real interest* is  $i_r = \Delta PNN / \Delta K$ , with the understanding that savings  $S$  finances  $\Delta K$ . This explanation is not set forth in the theory of interest but rather at the end of his book *A Free Market Economy* from 1955. I thought it important to cite this work now to relate it to financial interest, which is real interest.

Here there is suddenly a cause for savings that does not spring from interest but from the typical needs of the economy.

4. Human beings have the ability to look towards the future. Since the future is unknown and filled with uncertainty, you accumulate savings to protect yourself against the unknown. Other future realities are known. Thus, he said 'Planning can go further and you may set up reserves for days when you cannot or do not want to work, thus consuming in the future without producing, although in the present you produce excess without consuming it. Here is where the word appears that is so often repeated in economics: *forecast*. Savings are formed as a forecast (one does not say that money is demanded in anticipation). The fact of having forecast and calmed the future, the known and the unknown, is a utility, a good that calms a psychological need and savings somehow buys this good. And, the price of this good, which could be called security (my word, not Bernácer's), is savings, but not interest. Furthermore, savings can become a pleasure in itself in these cases.

In any of these cases, the future is confronting the present, a confrontation that is intelligently established. Greater consumption, the inevitable financing of the investment, prevention, etc. are nothing more than the continuous psychological evaluation of the balance in our minds, of present needs with estimated future needs. But needs are felt and the *present is felt*, but the future is not felt, *at most it is calculated*. Thus savings is the result of a psychological and rational, intuitive and logical web. Bernácer had a good sentence that gave an explanation of savings '... so that savings is done, planning faculties and future aspirations must enter into conflict with current needs. Continuing: '...Of course, the fewer projections that must be placed on saving, the more that will be saved equally to other circumstances, but individual

psychologies have an enormous influence...’

And in economics, I don’t think there is anything as true as the law of minimum effort and, if this effort is minimum and the yield is maximum, savings activities are assured. I am referring to owning assets that have been bought with savings that, although in our possession, generate profits. This monetary profitability is achieved without any present work. This causation is explained in the next section. Profits without working (savings was formed with past work) is a reality that has been deeply-rooted in human psychology since ancient times.

5) The economic system makes it possible for a lender to give his savings to other people, borrowers, with the promise that they will return interest along with the savings lent. This operation is as important as the real and institutional manner in which it is carried out. Large loans are implemented via legal means; where there is a certificate that accompanies the right and that the law calls movable property or bearer securities or securities. In macroeconomics, these are called financial assets (for the lender or holder) and financial liabilities (for the issuer or borrowers). There are other ways of accruing income while keeping savings and these are real assets with a different nature than financial assets, but with the same microeconomic causation.

This institutional complex makes it attractive to manage savings and it is attractive because the savings, due to accruing interest, lets people obtain free earnings *R* (not national income or production income).

Savings are accrued here in the system, exclusively by obtaining interest.

An explanation of the causes and consequences of monetary flows that make this savings possible is not suitable here, but I will make one comment about its birth. This savings is independent of the reasons set forth in 1), 2) and 3). And I believe that this savings is created after covering future needs for consumption, investment and planning, although the last is very difficult to separate from speculation of 4). The first are peremptory and the last are desires to place what is left *after* heeding the most-pressing estimated future needs.

This savings, formed to obtain interest, is the maximum third-degree disposable funds, or simply disposable funds *D*. They are similar to savings due to foresight, because the person saving seeks to obtain profits temporarily.

Even without interest, savings will be needed and this need will rest on other needs, such as future consumption, hiring a production assistant or planning for future contingencies. After meeting these needs, there may still be one more: obtaining marginal profits on the savings. This can only be obtained if interest exists. As you can see, it is one *further* factor that explains the formation of savings.

I still have not explained interest, where it comes from or how it survives. In principle, I can say that interest is a price and thus comes from the exchange that is agreed and *executed* between the suppliers and demanders of savings. If interest is a price, this means that spontaneous savings in the system is not enough to meet the normal needs of industry, with investors (not capitalist-savers) fighting to attract it, a fight that translates into higher interest rates.

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<sup>22</sup> Interest, as the central axis of Bernácer’s theory, has two grounds: first is the income considered in the previous section and secondly the market price of securities, which he called disposable assets; see *Society*... Later, he doctrinally qualified them (in ‘The Theory of Disposable Funds’) ‘as maximum disposable funds’. This is where the market prices of securities come from (*V*). Thus, the marginal profitability of disposable funds is calculated, called interest. This is the last mathematical explanation of interest (already set forth between 1916 and 1922) and it is also clearly explained in the book *The Interest of Capital: the Problem of its Origins*, 1925; on p. 115, part 11,

chapter 11 'Turgot's Refutation and my Response'.

<sup>38</sup> Bernácer had his predecessor not in the classicists or even in Böhm-Bawerk, whom he criticised, but in Turgot. When he stated that the value of securities or lands were not determined by the updating of earnings at an interest rate, but rather that this price is market information that lets interest be calculated, which is an unknown, what he did was revive part of Turgot's body of work, formally relating it to David Ricardo's analysis. In any case, on page 115 of *The Interest of Capital*, Bernácer's writing successful, given that he called the capitalisation rate, which is the inverse of interest rates,  $1/i$ .

<sup>39</sup> José Villacís, *The Macroeconomic Theory of Germán Bernácer*, *Revista Católica Portuguesa*, Vol. IX, October 1985, no. 3.

# A Psychological and monetary criticism of Böhm-Bawerk<sup>40</sup>

Not consuming today is equivalent to consuming tomorrow; a statement that I have made clear. This postponement is sometimes inevitable because present assets do not allow for present consumption. This consumption can also be of capital goods, in which case its acquisition is called investment and its consumption depreciation. Other times it is a simple business of a person being exhausted today and preferring to keep his belongings close, transferring consumption to tomorrow. Thus, the cases multiply.

And if today's savings leads to greater future consumption due to interest, this is even better, but as stated, this does not explain the origin of interest or the genesis of savings. This is Bernácer's basic criticism of Böhm-Bawerk, which is also psychological. And I have others:

Let's focus on interest. Savings  $S$  is formed with an interest rate over a period of time  $t$ . When period  $t$  has ended,  $S$  has converted into  $S'$ , where  $S' > S$ . This savings  $S'$  permits *greater* consumption than what was renounced. This greater consumption is interest. Total interest is compensation, according to Böhm-Bawerk, for this renunciation of consumption.

renounced consumption or savings
$S' > S$ $S'$ greatest possible consumption

Since days of yore, possibly since the Babylonians, capitalisation and discount systems can be found using certain operational rules. But none, not even the most perfect, makes it possible to calculate or measure interest that takes place only in subjects' minds. If interest is subjective, how can be it calculated?

However, given that interest is calculated and other values are also calculated using interest like the final total and current values, it is clear this calculation has been possible owing to the existence of a numerical reality.

Interest is given as a datum from the outside world, outside of the subjects' minds. It is a number and an economic category of which the market loquaciously talks.

After calculating interest using market data (everything is ex-post in economics), the number is inserted into the formula for the amount saved, which is another reality, a certainty. Then using these two factual numbers, the other is calculated, which is capitalised savings  $S'$ , which lets consumers acquire consumer goods for this value  $S'$ , which is in turn is another number, a market figure. *All are realities that come from outside the mind into the mind, but nobody denies the existence of greater utilities derived from greater consumption*<sup>41</sup>.

How are these calculations performed? Let's use a simple example. If a person has placed (lent) his savings of 10,000 euros and it has given him income  $R$  of 1000 euros, what is the profit or percentage income? 10%, the interest. Income assets, a bad choice of name by Bernácer, given that they are not assets, but are *our* actual, financial, secondary assets, are bought and sold with system savings, resulting in a

price  $V$ <sup>42</sup>.

Ingenuously, Böhm-Bawerk complicates things and tries to calculate the value of  $V$  by financially updating incomes. Updating that involves the prior existence of interest, which to make matters worse, is subjective. Thus, Bernácer said ‘...and who told him to discount something, for which the first thing needed is to have an interest rate, which we are searching for a way to establish?’.

The solution could not be easier for Bernácer. Ask the market to continuously and loudly publish the price or value of securities. The market informs us of this for free, as well as the value of  $V$ . The value of  $V$  is the exchange of securities for savings.

With  $V$  known, as well as the income generated by each asset  $R$ , the profit percentage can be calculated for savings invested in these actual, financial assets. *This percentage profitability is the interest rate.*

Böhm-Bawerk's calculation is: Data:  $i$

Unknown:  $V$

$$V \text{ unknown} = R [(1 + 1/(1+i) + 1/(1+i)^2 + \dots + 1/(1+i)^t] = R / i$$

Bernácer's calculation is: Data =  $V$

Unknown =  $i$

$$i = \text{unknown} = R/V$$

*Note:*  $a_n \square_i = [(1 + 1/(1+i) + 1/(1+i)^2 + \dots + 1/(1+i)^t]$  if the income is undefined  $\lim_{t \rightarrow \infty} a_t \square_i: 1/i$ .

*Note:* here  $R$  is not production income, is not  $Y$ .

Bernácer's statement does not rest solely on scientific theory, but on the operative reality that economic agents continually execute. This still does not explain interest and Bernácer does not even attempt to analyse it. Interest is born because system savings becomes scarce. And it becomes scarce because there is no need in the system, but there is a need in the capital market (factor of production capital)<sup>43</sup>.

I repeat that interest is not only the percent profit of the placement of savings. The most important thing here is the nature of the placement or purchase made with this savings. The things that are bought with this savings are actual, financial assets from our financial market. These assets, as seen already and that will appear again, do not represent current production. They are dead wealth at the most. *The purchase of these assets with savings is not investment at all, but rather the outflow of income from the ordinary market to the financial market.* It is almost the opposite of investment, given that the natural destination of savings is investment or buying of capital. However, something else has been bought here: financial market assets. *The percent profit from savings placed on the financial market is called interest. And the percent profit of savings placed into capital goods is called the marginal profitability of capital goods. It is somewhat similar to what Keynes (maybe inspired by Irving Fisher) called marginal efficiency of capital and distantly similar to Wicksell's real interest. Marginal profitability of capital and the interest rate are not only different, but opposite.*

Another viewpoint separates Bernácer and Böhm-Bawerk. From a macroeconomic perspective, things will be different. In summary, interest lets savings be separated to form the accrual of capital. In an economy close to full employment (serious, scientific prejudice from 19<sup>th</sup>-century economics), if a person wanted to invest, savings had to be obtained and this could only be done with the allure of interest.



The *History and Critique of Theories on Capital Interest* (1884) and the *Positive Theory on Capital* (1889, Innsbruck) are books on marginalism that establish a bridge over macroeconomic ideologies. But they are rigid ideologies with respect to full employment. Only 27 years later, Bernácer did not even believe in full employment or savings recycled in the production system. He claimed that rents from the land are the historic origins of interest.

Bernácer was surprised, not just at the coexistence of wealth and misery and subsequent social criticism, but at something more intimately connected to the economic system. He was perplexed by the coexistence of the economic system's enormous capacity to generate wealth (as a physics teacher, he knew how to appreciate this) and misery. He was also interested as a physicist in the waves of prosperity followed by waves of depression. And as a human being and scientist, he was surprised that the manifestations of destruction were the same as those held by production resources. Wars occupy mankind in their bellicose zeal, more than the tasks of peace.

For Bernácer, both in 1916 and in 1955, the economy is normally found in unemployment. If resources are unemployed, no allure is needed to rescue them and put them into activity, into investment according to Böhm-Bawerk.

But don't be fooled by words. The thing that is idle is money and nothing else. The production system can be put into operation with money. If money is inactive, interest will do nothing as a prize to rescue it from where it is. However, the stimulus of future profit is required, a category that is different than interest. This is Bernácer's central macroeconomic criticism of the Austrian school that closely resembles the Keynesian school.

Money is an economy of unemployment, where it is idle and production factors are also idle. Investment is possible without the existence of interest. Let's look at this statement from another point of view, since it is much more complex than it seems. It has taken me a lot of work and I am not sure if I have been successful. If money is unoccupied, then where is it? I want to speak of savings for a moment instead of money. And if savings is unoccupied and is therefore *relatively* abundant, then interest should be low. However, it is not low, but high. The matter becomes enormously complex when pointing out that the phenomenon has double causes. Let's see why:

Interest is high and it is high because savings, which is paradoxically abundant, has become relatively scarce. It may be high because there may be great demand for it, which I don't believe, because one of the characteristics of unemployment is the lack of demand for savings. Maybe the demand for savings may slow down because interest is high, although this statement poorly captures the problem. The first thing is to find out why interest rates are high. Interest is high because savings are abundant, in quantitative terms, and have become quantitatively and relatively scarce. Saving is high in times of unemployment because *it is self-exiled on the financial market*. The starting point, the original homeland, is the ordinary market where investment takes place. Why isn't it there then on the ordinary market? *It becomes scarce in this market* and abundant in the financial market. The latter market is where interest is produced.

Money's brothers are production and income and the *twin brother of savings is investment*. But this ungrateful brother has left home when there was still unsold production and potential production resources from fixed and working capital that had not been incorporated into production. Since part of savings is now in another market, the paradox arises that there are unoccupied production resources when there is an abundance of savings.

Interest was possible due to non-capitalised savings, which Bernácer called maximum disposable funds or authentic disposable funds *D*. This same interest is the allure that makes it possible that savings is not invested and that the scarce demand for capital goods, potential demand, is discouraged from production activity (see section 6 of the introduction of the book, and section 1.2 of Part 1, How Money Works).

As you can see, the Austrian's theory has been attacked from all sides. Almost nothing useful survives except the contention that one of the multiple causes of the formation of savings is interest.

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<sup>40</sup> Böhm-Bawerk, *Capital and Interest (Kapital und Kapitalzins)*, 1884-1889 Innsbruck, which is the main book by this Austrian author, criticised by Bernácer for his idea of interest. His study is divided into two parts: the first is the 'History and Criticism of the Theories on the Interest of Capital' published in 1889 (Geschichte und Kritik der Kapitalzins-Theorien). He made a brilliant critical analysis and a meticulous inventory of the theories existing on interest. In the second part, 'Positive Theory of Capital', 1889 (Positive Theorie des Kapitals), he set forth a concept of interest that expressed his thought, which can be divided into two complementary directions. One is the psychological theory and the other, the greater productivity of longer production processes.

<sup>41</sup> Bernácer's central book is *The Interest of Capital*, in which he criticised classical theories (and earlier ones) and neoclassical theories. He focused on rejecting criticism of Böhm-Bawerk. The book is illuminated by monetary concepts, with interest understood as a price, where price is a datum about scarcity. Then, his constant question was the following: Does any theory explain the fleeing of system savings, which determines scarcity (is hoarding eliminated)? Book one is devoted to analysing previous doctrines and the rest to refuting the Austrian, whose theory was prosperous, but damaged by Swedish opposition. Cassel's economic concepts also appeared, etc.

<sup>42</sup> In the book's notes, there is an odd mathematical criticism of the discount of future utilities. A sum *A* with interest of 8% doubles, he said, after 9 years. Using income at the end and not capital, satisfaction of 1/2 of the present will be given. Thus, a convergent succession can be established as follows:

$$a(\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \dots + \frac{1}{2} n)$$

He mathematically showed that the terms in parentheses form a converging series whose value does not reach the unit when it is not equal to infinity, or never. Consequently, a sum that is saved and placed forever, no matter how favourable the interest, will never yield its holder the equivalence of the sacrifice made and, furthermore, assuming that the intensity of needs related to the means to satisfy them do not decrease.

<sup>43</sup> The criticism of the Austrian was basically centred on the fact that no income determination model existed at that time (or at least not of the circulatory mechanism) that let saving and its scarcity be explained (see the book *The Scarcity of Capital*, page 59). This criticism is expanded to the same psychological arena (book III, chapter I 'The Pain of Saving' and chapter II 'The Postponement of Satisfactions', page 155).

## Turgot: a discovery in the history of economic thought related to interest<sup>44</sup>

Bernácer's admiration for Anne Robert Jacques Turgot is seen throughout his work. We will never know if the French economist was the beginning of Bernacerian theory or the middle. In the world of macroeconomics, Turgot's work on interest is a masterly piece, providing so much evidence that the rest of the theory can be reconstructed by simple logic. This is perhaps the reason why we can never know the total influence that Bernácer had on Keynes for certain.

The origin of interest is found in Turgot's work. Almost one hundred years before Böhm-Bawerk, this great French economist could dismantle almost his entire theory on interest. The drawback Turgot had was the time in which he lived, or rather the physiocratic school, which imprisoned him in their analytic schemes. Nevertheless, Turgot frequently detoured intelligently from the physiocratic school. Another disadvantage that is obvious is that it would still be another century and a half before a theory on money appeared, the money market specifically, at the hands of Bernácer and Keynes.

He did have one large advantage that he didn't know how to best benefit from. He was the economist who explained the law on diminishing returns (*Réflexions sur la Formation et Distribution des Richesses*, 1766). While his analysis was good, he could have (a forced supposition) compared monetary interest to percentage yields on production assets instead of those acquired with money. This is the facet that Bernácer glimpsed, who quickly compared Turgot's inheritance with his conception of money.

Turgot postulated on the freedom of lending with interest (words Bernácer quoted in *History of Economic Doctrines*). The reason is that whoever lends money could acquire lands, which generate rent, on the assumption that if lands are not acquired and money is still lent, as a minimum income should be received. This is the origin of interest. Bernácer said that Turgot appears here as a predecessor to interest and productivism. The latter is a theory already defeated by Böhm-Bawerk and the first is linked directly to Keynes' liquidity preference and Bernácer's disposable funds.

Inspired by Turgot's body of work, Bernácer collected Calvin's ideas that said: 'Money does not give birth to money: but with money farmlands are bought, which produce more than it costs to work them, and leave the owner with excess income after deducting current expenses. With money, one buys things that produce incomes. Now: something with which one can buy objects that produce income on their own, can't they be considered as producing income?<sup>45</sup> ..'.

The matter is more complex and transferred to David Ricardo. To Bernácer, rent from the land is natural income. He referred to the comparison between land of better and worse quality. Speculative income is the marginal or percentage result generated between the free supply and demand of land. Supply that is from the owners and demand from those who put it into working conditions. This statement and difference between actual and speculative income goes back to *Society and Happiness* (1916), which also provided a modern and detailed explanation of production elements and what wealth is.

As this is known, the analogy is mandatory. One thing will be profitability from production and another thing is speculation, which is done with funds that theoretically finance these elements. The same that happened with land, but transferred to capital equipment.

I do not suggest throwing light on and differentiating the thought of David Ricardo and earlier Turgot. That is not my task, but rather what Bernácer thought. Yes, he is confrontational about what is actually productive and, in the long run, productive less than proportionally (law of diminishing returns) with the profitability of the funds that let them be financed. These funds, and this is Bernácer's view, are savings. What is important is to know that these funds *are not enough*. They are insufficient because they are found in financial speculation. They are in the financial market and not on the ordinary market<sup>46</sup>.

Readers may wonder why after insisting so much that savings is insufficient (because part is in another market), I have still not explained its scarcity. The reason is found in the fact that what enters the financial market from your right pocket may exit from the left pocket to be spent on consumer goods or capitalisation by speculators. It can only be explained by the net variations determined by the relationship between what enters and leaves the financial market to and from the ordinary market.

Turgot praised savings, because it made interest drop. However, he did not see Bernácer's financial market or Keynes' speculative market. Physiocrats assumed that only hoarding and accrual in kind would remove resources from the market, but if this savings did not occupy itself in this toil, the potential problem would disappear. Thus, Bernácer pointed out: 'Turgot and his opponents disputed the fact that returning to circulation involved a return to the product market, since savings could take part in financial or speculative operations. Turgot was not unaware of this, but he believed that the time was negligible during which loans and land were exchanged and savings occupied and, therefore, the sums occupied in these exchanges.'<sup>47</sup>

And the case arises in which this innocent occupation of savings, financial and speculative, is where Bernácer's attention gravitates<sup>48</sup>.

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<sup>44</sup> *The Interest...* (book 11, chapter 11), 'Turgot's Rebuttal and My Reply', takes advantage of an opposition of Turgot by Böhm-Bawerk. 'The explanation of the interest of capital given by Turgot is insufficient, because it establishes a vicious cycle...' (page 104). Bernácer's defence of Turgot is lucid. I believe there is not only kinship, recognised by Bernácer in the theory on interest, but also in monetary theory. It is a fact acknowledged by economists that Turgot came before the great macroeconomic creations with regard to monetary issues. Bernácer, who had already written a theory on income and the money market, could have easily rescued Turgot and destroyed the Austrian.

<sup>45</sup> Turgot not only justified interest, but explained: 'One can rent money as legitimately as one can sell it; and the owner of the money can go one thing or the other, not only because money is equivalent to income and a means to procure income, not only because the owner loses income he would have procured during the time of the loan; not only because he risks his capital; not only because the borrower can employ it in advantageous acquisitions or in companies where he will get great benefits; the owner of the money *can legitimately obtain interest* for a more general and decisive principle. Although none of this happens, he has no lesser right to demand interest on the loan for the mere reason that the money is his...' (Turgot, 74, *Reflections on Wealth*, used in Bernácer in the epilogue of *The Interest on Capital*, chapter VI, page 237).

<sup>46</sup> Obviously to Bernácer, given that his so-called income assets or financial assets are acquired with money and yield income, the owner of this money and, with much more meaning, the lender, is worthy of this interest. This argument can be seen in the article 'The Genesis and Incidents of Savings', *Economía Española Revista*, September 1934, no. 21. Also in the book *A Free Market Economy...* chapter IX, section 10, page 176. Don't forget that Bernácer called actual financial assets, *income-based* or *income assets* and that Robertson corrected him, sensibly to be sure, by calling them income-yielding assets.

<sup>47</sup> Bernácer's gratitude could not be more justified, as he stated that there are activities *that on the one hand produce yields* (a concept he later expanded upon) and, on the other hand, he implied about the part of income that makes income-yielding activities possible, which he later identified as maximum disposable funds. Turgot's insinuation is found in his distinction between current money and money in reserves (*The Interest...*, Epilogue X, page 243 'Savings and the Physiocratic School'). In this way, Bernácer's theory is perfectly tied together: income is born in production; part of it is consumed and part is saved. Part of this savings is capitalised and the other part is not. The part that is not capitalised acquires assets that yield income (Turgot's reserve money) giving rise to interest.

<sup>48</sup> Despite everything, Turgot (according to Bernácer) did not acknowledge or did not insist that savings could end up not returning to the market due to its occupation in financial operations. This occupation time would be negligible to Turgot (*The Interest...*, epilogue X, page 242,

‘Savings and the Physiocratic School’). As important as time is the final or net volume of savings, which is related to the savings that come out of the financial market, which I call net disposable funds, to give greater precision to Bernácer’s thought.

## Interest revisited

Interest for Bernácer is financial interest. There is no other. Different terms may resemble it, but they are other economic categories, not interest.

The part of savings that is not capitalised is maintained in disposable funds  $D$ , the rest  $S_k$  is savings that is capitalised and, when invested, stops being available. Disposable funds leave the ordinary market and go to the financial market, where they acquire securities, to name but one example. Thus, they stop being totally available and are *partially* available. Don't think that 'partially' is an ambiguous term. There is another bigger and useless one called liquidity. I will speak of its uselessness later. Securities can be sold quickly and transformed into money, returning to total disposability. Half disposable is a scientific joke. Money is available or it isn't available.

It is not available because it is placed in the financial market to acquire securities  $V$ . The funds invested in  $V$  yield a chain of yields  $R$ . Updating this chain of yields:  $V = a_n \square_i R$  and in an undefined series of time towards infinity  $V = 1/i R$ . However,  $V$  is a security provided by the market and resulting from the free play of supply and demand. This supply and demand for securities is nothing but the reciprocal one for the supply and demand of disposable funds. *Whoever has securities and sells them is demanding disposable funds and whoever has disposable funds supplies them to demand securities.* The mechanics is the same as merchandise supply and demand.

Once  $V$  and  $R$  are both known, then interest is found by:  $i = R/V$ . Expressed commonly, financial interest answers the question: How much money will you make from the money placed in these securities? This is *our* interest. (Note:  $R$  is not production income.)

The enemy of investment is this interest, due to the simple reason that it is possible to obtain profits by placing liquid capitals (disposable funds) into speculative activities instead of productive ones. This is the same as going to a bank to demand money to invest (others' savings) and asking about market interest rates. If they are high, higher than the yield of the investment, you leave the money in the bank or you speculate with it.

This interest is the enemy of the production system in general. Just remember that the disposable funds used to produce interest represent a purchasing mass, a monetary mass to be blunter, that has left the market. The production system thus becomes less profitable monetarily and thus also reduces its fighting capacity against speculative profitability.

Deep down, it is only a causation that is negatively strengthened in two ways. One, disposable funds lubricate the financial market and make security prices rise. Financial investors find that their interest has gone up or that speculative securities have increased. Both results are interesting to them. Disposable funds decrease the profitability of the ordinary market by using income spawned in this market that does not return to it. As seen, the effect is co-causal and negatively strengthened in two ways.

## 15.1. THE PROFITABILITY OF CAPITAL

A series of terminologies that are imprecise and become conceptual are clarified by Bernácer. I am not referring to Böhm-Bawerk, but to productivism theory. Bernácer's words reach across time to modern macroeconomics.

The last unit of capital employed is what determines the demand for capital. Or using the terms of productivism: The productivity of capital or the production of the last unit of capital applied is what determines the percent interest earned by the capital. Bernácer felt that this reasoning had to be turned around. Thus, he said: 'It is not the productivity of capital, or even the productivity of the last portion of capital applied, that determines the percent interest earned by the capital, but rather the current interest that limits the capitals that can be applied with payment.'

In this statement, written in the beginning of the book *The Interest of Capital*, page 18, when he still hadn't explained the origin of interest, he took for granted that one thing is the profitability of capital and another thing is interest. He also wanted to clarify a confusing term –*capital*– that is sometimes used as synonymous with money or money-savings and other times as factors of production. Not only are they not equal, they are opposite, although complementary. Savings is what lets capital be financed. I stubbornly continue to be faithful to my style of reasoning that says that whoever supplies one thing, demands another.

*In the ordinary market, whoever demands capital goods supplies savings in exchange and whoever supplies capital goods is demanding savings.* This reasoning is basic for explaining the shortage of capital in productivism theories. In said book, Bernácer started by saying 'With this, we return to classical theory, which postulates the scarcity of capital as the basic fact over which the existence of interest must necessarily be supported'. It is a demonstrable fact that capital is necessarily advantageous and useful. In reality, the sun and air are also advantageous and useful natural capitals. The price does not rest in its utility but rather, the price is basically a function of scarcity. Capital is scarce. Why is it scarce? They say that to form it, a series of obstacles must be overcome. Abstinence, pain, waiting, the sacrifice of renouncing consumption, etc. Bernácer said that none of that is true and added that they spoke poorly, imprecisely.

There is surplus potential capital in the system. It needs to be constructed and put into operation and to do so, money is needed or, perhaps more precisely, savings or money-savings. *Thus, capital is not scarce but the savings that form it.*

Bernácer said that the origin of discord '...rests in the fact that one speaks of capital, but really referring to something that is not capital...' *'They confuse capital and money.'*

This confusion, which I believe was clarified later by economic science, is spread throughout economic literature. *They say that capital is the thing that produces and that capital is the thing that earns.* The first is the one who makes a mistake. A machine is productive and a plough is also productive, but a public debt security also is productive. Turgot's student quickly realised his error. It has been known since before the days of David Ricardo that capitals are the factors of production manufactured by man. Capital is formed and acquired with savings. With savings, assets are also acquired that generate speculative income.

Stated more clearly, savings (which is not capital) can be distributed into two portions: one that finances capital and the other that acquires assets that generate free income. They are two different realities that

involve two complementary economic operations. Savings that finances savings is an operation called investment. Savings that finances the acquisition of securities is an operation called speculation or financial investment, although I don't like the term investment much here. Both transactions generate profitability, one productive and the other financial. The second is interest, the enemy of capital profitability.

I have gone off a bit on a tangent before explaining the profitability of capital. However, it was necessary to calibrate the original concept of capital<sup>49</sup>.

Bernácer did not explain the profitability of capital with great exactitude. He preferred to speak of the profitability of production in general. Perhaps, he thought it was forced and unrealistic to think that the only thing important to entrepreneurs is fixed capital. Many more factors intervene, everything in fact, but not all of them are financed with savings. Working capital is also essential. The most similar to capital profitability is the percentage between placed savings and the yields of investments at a given time. It is production profitability of investments.

This profitability is conditioned by the circumstance of prices and costs on the one hand and, on the other, market interest. Let's clarify these conditioning factors. Instead of speaking of awaited returns, he spoke of '...marginal investment earnings of industry at a *given time*...' (*A Free Market Economy*, page 171, 1955). We can logically understand that these are profits that are produced. Moreover, he analysed what determined returns instead of using this term as a piece of data. Returns are determined by the circumstance of prices and costs. The phrase that explained it was '...and it is conditioned by the circumstantial position of prices and costs, defining costs as the weighted prices of the elements that enter into product manufacturing' (*A Free Market Economy*, page 171).

Interest, which is only financial, sets the barrier for the entrance of financing of capital goods.

Bernácer was extremely innovative in his analysis. He distinguished investment that will be made with investment that is already made. Before, it is interesting to know the discourse he made on capital goods. These are acquired after first being manufactured by whoever is interested in their production. Capital undergoes depreciation and its monetary compensation: amortisation, which is a cost. But the market gives it a very different value, frequently higher than the cost value. Frequently, the sales cost of production capital is higher than in the past, although its cost is compensated. New capital has a supply price on the market and demand will acquire it according to the volume of sales available for these ends. Capital always has a specific form in production; it is a loom, a machine, etc. New capital is already created and old capital is in the production process. How is the value of these capitals measured? New ones by the market price. New capitals mean they will be bought or have already been bought and will now be used in production. The already-created capitals, or old production, are when they have stopped creating new capitals of the same type. The only way to estimate the value is by the monetary value of their production.

How is this price determined? Like all financial updating operations: by their profitability and the type of capitalisation. If this capital equipment acquired is  $K$  and the awaited profits are  $B$ , the value of  $K$  will be given by  $K = a_n \square_i B^{\frac{50}{}}$ . I need not repeat that the updating rate is  $1/i$  because this operation is the typical perpetual income formula for financial market assets. In production, specifically for capital equipment, nothing is forever. Its life is  $n$  and the profits  $B$  are obtained during their useful life,  $n$ .

Entrepreneurs who have already acquired this capital equipment  $K$  keep it occupied and have no interest in selling it, which is how their capital goods are given a price. Bernácer said '...with respect to completed



capital applications, due to the fact that they shouldn't be removed but are instead used up during production, there is no other solution than adapting their sales value to their profitability, with respect to how the free capitals are normally produced that are either dedicated to industry at that time or not...'

One shouldn't speak of capital abstractly, not even for evaluating future investment. As said, capital takes on a specific form; otherwise capital is confused with money, or with money-savings, which are the means by which capital is financed. How is *new* capital calculated? Firstly, by establishing a minimum limit determined by interest (value of the capital equipment at this interest rate). Bernácer's statement is understood, if all of his work is understood and readers do not continue clinging on to Keynesian criteria about the marginal efficiency of capital. Let me explain myself. Bernácer stated '...new applications of capital are not done if the calculation is not performed first of the least profit corresponding to their market cost with respect to the current capitalisation rate'. He is speaking of the current capitalisation rate or the market interest rate. The *least* does not measure the value of the capital goods; it only establishes the minimum condition. The profitability of capital goods is measured by establishing the relation between yields  $B$  and the value of the capital goods, which is determined by the market. Therefore, if  $K$  is compared to the updated value of  $B$ , the internal profitability of the investment is obtained. This was Bernácer's conclusion. The operational-financial mechanic was not formulated by Bernácer, but it is explained more than enough in any financial maths manual:

$$K = B a_n \square_r$$

where  $K$  is known by the market and  $B$  is the chain of returns  $r$ , or the profitability of the capital goods.

$$a_n \square_i = K/B^{51}$$

The investment will be made provided that  $r > i$ .

He added throughout his body of work that when determining these yields, the true crux of the problem, prices and cost intervene. When investment, and thus production, increases, marginal costs quickly increase and prices not as much, due to market saturation. These are obvious conclusions reached by anyone knowledgeable about the rudiments of microeconomics. The consequence is that the returns, or chain of profits, or business utilities as cited in manuals of the time, diminish. This diminishing return will be what leads to investments being suspended, given that they will reach a point when they are equal to market interest.

They are probably halted before equalling market interest due to the fact that compensation will be demanded of at least the risk entailed by the investment task.

## 15.2. RISK, PROFITABILITY AND SAVINGS<sup>52</sup>

The young Bernácer launched himself enthusiastically into explaining a vast and omnipotent intuition on the economic system. The book *The Food Industry* is behind him that was published in Alicante in 1906. His intuition is explained resolutely in 1916 in *Society and Happiness*. To be honest, I underrated this book, whose title continued with *An Essay on Social Mechanics*. I had reasons for disregarding it. A young man from Alicante with supposedly no scientific background in a capital of Spanish provinces; the most likely situation would be him writing a utopian piece, mixed with sociology, philosophy and passion.

Seven years after reading all of Bernácer's work, *except for this one*, and dreading the task, I finally read

the 582 pages of *Society and Happiness*. I paid dearly for having underestimated this master work. He set forth his thought clearly and originally that would be developed over the next forty years. Several basic concepts in this book made me think that I had to reread his extensive body of work. I carried out this arduous and exciting task quickly. I knew what I was doing and think I did it well.

This became relevant because the idea of risk related to profit appeared in this work, an issue that was masterfully set forth by Frank Knight. However, Bernácer did insert it into a general model, that of the theory of disposable funds. He did this not only with enormous scientific exactitude and vigour, but also explained it in great depth. Stated differently, the physiology of economics (physiology and anatomy) is explained by classical and neoclassical economists. Keynes did it better by explaining the income determination model. Bernácer, before Keynes, explained his peculiar model of the circulation of income. One part, among others, explained his theory on risk as related to profit. But in turn, risk comes and causes scarcity. Scarcity of what? Of savings. However, this part of his theory is not developed much.

He started by explaining a popular topic of his time: 'If gold is more precious than iron and diamonds more precious than greenstone, it is not because of their greater utility, but due to their lesser abundance...', *The Interest of Capital*, page 236. Then the absolute and percentage profits are related to abundance or scarcity of what helped generate them, which is capital and behind this, the savings that make it possible.

Capital equipment, skilled hands and an entrepreneur's intelligence all help generate wealth. They are factors of production, which cannot be said of risk that is nothing more than a concept expressing a state of mind. Risk itself produces nothing, just as overcoming it does not produce anything. In an economy, images and metaphors are used, which are useful as long as the symbol is not confused with reality. Language is found along these roads. Thus, Bernácer said: 'And although this will not always be due to error, but due to speaking consciously in a vulgar sense and due to linguistic brevity, it is no less true that it is accepted word for word by those little concerned with analysing concepts, with serious damage to scientific logic...'

Wealth generated by factors does not have inherent value either, at least not automatically. All of this is the fruit of abundance and scarcity. And nothing is abundant or scarce in itself. A good is scarce if demand is greater than the supply of wealth, although people intensely believe in this wealth.

If risk is not a factor, why do those who assume it and triumph obtain great profits? Risk entails an obstacle that not everyone surpasses to commit specific business activities. This means that the supply is scarce and profits, if there are any, are abundant. This abundance is relative because it indicates that wealth is distributed among few, the few who have overcome the risk. Thus, risk is not only a factor of production, but an obstacle to add to factors of production. Two complementary argumentations arise from this line of reasoning. The first is: it is always possible to obtain easy and convenient returns without any risk to savings. You just need to place savings on the financial market to get interest. In this market, the oldest placements of savings are overseeing and owning lands, which generate income. Of course there are other assets like perpetual annuity securities and others. Given that it is easy to obtain income without any risk, there will be a part of savings that will remain trapped there, making it scarce on the market.

There are investments with greater risk and others that are less risky. High risk ventures will be assumed by few and, even supposing that they succeed and keep production afloat, their supply will be reduced and therefore their high value. Due to this, profitability of invested capitals will be proportionally high. The

system's joint supply, not for a specific capitalist but as a whole, will be scaled by the *marginal capitalist*; where marginal capitalists are those who are willing to remove their capitals from each *specific use* as soon as *yields* are produced, with the estimated risk decreasing or *increasing*, or both.

Bernácer said (*The Interest...*, page 237): 'If capital becomes more timid, the interest yielded by the riskiest occupations increases...'

These digressions on risk and profit have always been well-known by everybody, both scientific economists and businessmen. Knight expressed it masterfully. And Keynes did as well. These two economists (Bernácer held no degree as an economist) link risk with the determination of income. The two arguments that I said were complementary are a single argument for Bernácer and I will repeat it here.

With formed savings  $S$ , the system can always find a way to place it so that interest is earned free and without risk. A large portion of savings has found this method and then savings becomes scarce on the ordinary market. Interest made this scarcity possible. Capitalised savings,  $S_k$ , is distributed into different occupations or production areas, each with a risk level. Obviously, those with the greatest risk are undertaken by few and as it decreases, the abundance of offering entrepreneurs abounds.

Ordinary  
market

Financial  
market

$r$  returns  
 $\xi$  risk

$r_1 > r_2 > \dots > r_n$   
 $\xi_1 < \xi_2 < \dots < \xi_3$   
 $\xi_2$   
 $\xi_3$   
 $\dots$   
 Marginal capitalist

$i = \xi_{ii}$

Marginal returns

$r_1 \rightarrow$   
 $\xi_1$   
 $r_2 \rightarrow$   
 $r_3 \rightarrow$   
 $r \rightarrow$

$S_k$   
Capitalised savings

$D$   
Disposable funds

Saving

In this way, products start off scarce or abundant, because risk has conditioned the greater or lesser abundance of savings placed in production activities. Then the market takes charge of rationing out profits, as it always does. Greater profits for the scarcest goods and less for the most abundant goods. The profitability of investments  $r$  slowly decreases from products with the highest risk to those with the least risk until reaching the border of financial interest, a zone where marginal capitalists wander.

Marginal returns  $r$  continue diminishing as investments are undertaken with less risk  $\xi$ , until reaching  $i$ , which is interest with a risk of  $\xi_{ii} = 0$ .

Savings is divided because part of it leaves as disposable funds  $D$  to the financial market and the rest is capitalised savings. This chart indicates that *first* the investments are made with the most profitability and the most risk, and secondly, the way that savings is distributed in a risk and profit ratio.

## 15.3. INTEREST AND TIME

Can interest exist without time? The answer is no. Scholars have said that since time is from God, interest is little more than taking advantage of divine fruits. Moreover, interest, which pertains to time, is the result of supply and demand.

There is nothing strange in this operation. Bernácer quoted Robertson in *A Free Market Economy...*: ‘This central mystery of the economic scheme: the theory of interest rates’. And this is not odd simply because when a financial asset is acquired, nothing more or less is being bought than the chain of future returns over time. The future is bought, or monetary capitals in the form of income pegged to time periods.

Financial-mathematical doctrine says that each monetary capital, or sum of money, has a different value at different times. Thus,  $M$  at time  $t$  is worth  $M$  and at  $t + n$  has a different worth. Then, if you buy a financial asset, in reality you are buying a chain of sums of money, income  $R$ , over a series of different times. And since the relationship of these updated  $R$ s divided by the market price of securities determines the percent earning, with this percent being interest, then interest will be a price in time.

This issue of interest was explained in the introduction and is simple, which does not mean to say that there is not an enormous quarry of additional concepts that emerge from everything institutional, from money, from cycles, from psychological matters, from production, etc. Proof of this are the different sections written about interest and that even appear in other parts of the work. Again and again I return to the same issue, and over and over again, old issues will appear illuminated in different lights. Economists have also returned again and again to speak of interest and will continue doing so.

### 15.3.1. Interest and the disposal of capital over time

Savings necessarily involving sacrifice is an idea that has been expressed throughout recent years. The words used have been many: abstinence, wait, postponement, privation, planning, lack, etc.

As strange as it may seem, the Keynesian concept of liquidity belongs to this genre of ideas. Let's first go back to Cassels. Classical economists (not Cassels) thought that since money was savings, it was the instrument for acquiring real capitals; financiers demanded this savings to acquire these capitals and increase production, then the grantors of savings or savers wanted to participate in the fruits of production. This aliquot participation would be called interest.

With Cassels, they start to attribute causation. Cassels said: 'Waiting entails a person going without using a certain sum of *available capital*' and further on: 'Waiting raises the price of the negative aspect of interest, abstaining for a certain amount of time from consuming existing capital. Disposal of capital is the positive control of capital that is provided in the same period' (Bernácer's quote of Cassels). Bernácer, between the acquisition and application of capital on the one hand and, on the other, the mere disposal of capital, Cassels' work seems like the precursor to Keynes' liquidity. Bernácer further stated that Keynes, like Cassels, did not distinguish between capital and disposal of capital<sup>53</sup>.

The epicentre of the problem, whose resolution will bring light to this complex issue, is as follows: If renunciation or waiting are in question (waiting for Cassels, renunciation for Keynes), then one must know for what one is waiting or renouncing.

If one waits, it will be to wait to receive the money earned, or wait to consume the goods one has renounced consuming.

Keynes aimed to clarify the point when he called interest: 'the compensation for abandoning liquidity' (Bernácer's quote of Keynes). The term of compensation compensates for the pain or sacrifice. There will be no more compensation for the savings or renunciation of consumption, just the abandonment of liquid money. Keynes continued in his explanation: 'interest is not compensation for not spending, but rather the compensation for not hoarding (Bernácer's quote of Keynes). With this savings that can remain liquid, liquid assets are acquired that provide profitability or interest. These assets can be short-term debts, which for Keynes is practically money.

We return to the same confusion of defining money as equal to that which was acquired with it, and what was acquired are the assets that are on different sides of the market table.

Readers may also confuse liquidity with disposable funds. If these more or less liquid assets were acquired with savings, when they are bought, the savings are no longer available and stop being a disposable fund. It stops being a disposable fund in the same way as if you have bought a house or a machine. It would be different if you sell these liquid assets, transforming them into money and thus they will be totally liquid and available.

Liquidity and disposability are only equal when there is total liquidity, that is, when it is money.

Cassels' work contains the murmurs of real neoclassical economics by confirming that the disposal of capital is abandoned when doing without the total possession of the *already-formed* savings. Keynes, the intelligent financier, forgot these whispers and also referred to formed savings. He paid attention to renouncing liquid money in exchange for other assets that provided profits via interest. Already-formed and totally liquid savings are fully available but do not provide profitability<sup>54</sup>.

Monetary clouds are found in this strip of liquidity. That is the problem, that in these clouds we do not know exactly what the money is. It is an ambiguous strip, not the sharp dividing line that Bernácer signalled for the monetary floor. You have money or you don't have it. If it is savings and it is in your hands, then it is disposable. If you have acquired short-term debt or other financial assets, obviously it is not available<sup>55</sup>.

Do not confuse market terms. Disposable funds, due to being money with which one acquires something they want, is demand and the supply is what is wanted, or financial assets that Keynes called money. Obviously, one thing cannot simultaneously be supply and demand, in the same way that a football team

cannot play against itself. This is the heart of the Keynesian ambiguity. Money is simultaneously supply and demand, obviously a mistake<sup>56</sup>.

I do not tire of repeating it. These operations done due to the reciprocal meeting of available funds, which are demand, cannot be confused with supply, which are financial assets, and are also money for Keynes. I insist that they must not be confused. Not only are available funds and liquidity not equal, but are somewhat opposite on the market. And that these assets may be easily transformed into money does not avoid the buying and selling operation required so that the transformation is executed.

My insistence, which is not fanaticism, but scientific sincerity, is justified if it is admitted that these almost-liquid assets are found on this enormous and diverse financial market. The importance of this market and these assets on the general economy is known.

I can confirm that the dividing line that marks the monetary osmotic flow between the ordinary and the financial markets is established by easily-liquefiable financial assets. These assets are easily converted into money and money, in turn, is attracted to being converted into these assets. This means that communications between the financial market and the ordinary market are not like arteries, but more like tissues with a different density, permitting the passage of the internal liquids from one side to the other by osmosis. It is clear that the same cannot be said of other financial market assets, which are real assets like lands, building sites, property rights, etc.

## 15.4. PRODUCTIVISM

This section criticises proposals made to justify interest from the cause of the productivity of capital. To Bernácer, this is like saying that supply alone explains prices. Capital productivity for the majority –and this is logical- tells us that a product can be generated at a high volume, thus permitting its owner to obtain marginal profits. If a new technical procedure is introduced, producers will obtain an advantage that, due to being imitated by the competition, will gradually disappear. If the monopoly continues, additional and marginal profits continue as well.

This argument should not lead you to mistake that this is the origin of interest. Here, the man under criticism is the renowned economist Joseph Schumpeter. In 1955 (*A Free Market Economy...* page 159) Bernácer wrote: ‘Professor Schumpeter has tried to avoid the contradiction between the price theory and the productivist theory on interest, making gains from new technical progress the cause of interest; true, this is transitory, but progress is continual, and interest would be a coefficient of the technical advance. According to this ingenious judgement, interest would be the fruit of the relative monopoly enjoyed by capital, permitting owners to enjoy the new inventions...’

The criticism was clean, transparent. On the one hand, capital productivity explains why funds are demanded to acquire this capital and nothing else. If technical advances exist, they will be demanded with good reason, and if technical advances are monopolised, the profit will be greater and the capital will be demanded with greater reason (probably with the larger savings that larger profits have made possible).

Interest, beyond any theory, is a price and what productivist theory explains is the relative enthusiasm of demand. The other side must be analysed, which is supply. Supply is the savings formed, another part, which as explained become insufficient.

Another criticism is implicit from the first argument. Demanding savings means paying a price for it. My reasoning is not hindered by where this savings comes from (explicit or implicit cost). Interest is a cost that one pays to have. I believe this point has been universally admitted since time immemorial.

One cannot say that profits are the origin of interest when this profit is determined arithmetically and conceptually by the difference between income (derived from productivist causation) and costs (where interest is part of this). If interest is part of the cost (one of its components), it cannot be said that profit is the origin of interest, and less when revenue is explained by specific conditions of capital, such as technical advances.

In summary, capital productivity, its *greatest* productivity if you like due to technical advances and its greater capacity due to a monopoly being established, only explains the strength of demand. Since interest is a price, the other side must be explained: supply.

## 15.5. THE INSUFFICIENCY OF SAVINGS

Scarcity and abundance are not absolute terms but relative terms. Malt as a stimulant may be extremely scarce in absolute terms, but if nobody demands it, it becomes abundant. During wartime, blood serum can be supplied in enormous quantities, but if the demand made by doctors to treat wounded soldiers is higher, then the serum is scarce.

Savings is scarce because it has different aims: one, the natural and hygienic one from an economic viewpoint, which is to finance capital goods. The other is the speculative market. However, this still does not explain its insufficiency since if demand is small, it would become relatively abundant again.

Savings do become scarce because they are continually robbed by the anxious tensions of the hands of speculators on the financial market.

They also become scarce because progress continues and this progress increases productivity and reduces costs. Humanity, as a consequence of evolution and progress, demands increasingly more goods. This demand for goods is met by a productive sector equipped with more technological and productive capital. These are good arguments that reinforce the productivist body of thought, but only with respect to the demand for savings to finance capital goods. This greater demand is *one* of the causes explaining the relative scarcity of savings.

But humanity had the providence of a King Midas who came to remedy the frugality of savings. This was the banking system with the capacity to create money. Private banks, as well known by any economist, can create money. Capital goods are formed and financed with money and no one cares, not even the system, if this money is savings or new money created by the system. It can be used to acquire fixed and working capital goods.

It is clear that we shouldn't be concerned about insufficient savings if it is accompanied by a new monetary influx through *new* money created by the banking system. If there is a greater demand for savings by a system eager to acquire capital goods, great, given that there will be new money that can always meet the new requests of investor-capitalists.

If there is a greater demand for savings, there is no reason for interest rates to go up. The banking system is tireless in the fight to subdue interest, because its tenacity to create money is also tireless.



But interest does not drop despite the supply of savings being helped by the provision of new money. And if it doesn't go down, despite the larger supply, it is because something is happening in the economic system.

As established already, there is a specific demand for savings and new money (and why wouldn't it be easier just to speak of money?). Furthermore, savings is aided by the creation of new money, interest persists in surviving and sometimes even goes up, the reason for this strange phenomenon must be considered. It is the same question we would ask if a car's petrol were insufficient to travel a specific route and we also assume that the car is continually provided with new petrol. The answer could only be that there was an escape in the fuel tank. The income tank that is generated on the ordinary market, the true production engine of the economy, is savings or disposable funds. Via spending and investment, it returns to the circuit. But there are maximum disposable funds, or simply disposable funds, which do not return to the ordinary market, but flee from it. Where do they go? They go to the financial market. This is how savings and even new money can partly escape to the financial market, becoming scarce on the ordinary market. This scarcity is measured via a price, interest, that is reluctant to disappear.

In this way, the economic system's zeal to grow and innovate, zeal calibrated by the demand for savings, is calmed by another zeal, that of the financial market to survive. On both markets, economic agents seek monetary profitability. Economists know that the important thing is real or production profits, which are the ordinary market, but not all economic agents are economists and if they were, they wouldn't care, because they simply seek monetary profitability.

I repeat that Bernácer believed that Keynes focused on the wrong problem. Savings is not what is insufficient. It seems like the true concern of Keynes is not this, but liquidity preference. This savings, insufficient or not, can remain liquid or not. If it is liquid, it renounces profitability and if not, it earns profits via placement in financial assets. That was his obsession. Here no, given that the maintenance of another placement of savings into more or less liquid assets is stealing savings from the ordinary market and making them scarce. Interest is born from this scarcity.

Now you know where interest is born. However, after it appeared in Keynes' theory, he did not explain it well. Keeping money totally liquid renounces something, interest, which is already a datum in his problem. The monetary belief of modern macroeconomics developed from the cracks in this obstinate and poorly-founded belief.

There is more. I could even say that interest would disappear or tend towards disappearance, whenever the financial market has a limit. This limit is somewhat conditioned by the ordinary market since it comes from there. Dead wealth, the financial market, was alive at some point and it was alive because it was born. In principle, it was created by the ordinary market. Financial assets involved the channelling of savings to investment and many actual assets involve the creation of national product and generated production income. They are *no longer* living wealth and therefore, their survival has a limit. If this limit exists, there is no reason to put limits on savings on the ordinary market<sup>57</sup>.

Securities created to finance production activities, like shares, debt and even those earmarked to finance working capital in short-term debt, form part of the supply of securities on the market. It is a supply like any other that, whether potatoes or automobiles, is exchanged for money, so that the supply of goods possible due to the issuance of securities is competing inside the same house, that is the financing process.

Out of the goods that are produced; only part remain immobilised outside of the market in fixed capital.

The rest are consumer goods and/or factors of working capital for immediate consumption. Nonetheless, securities or bearer securities or financial assets-liabilities live on. They don't rip and break when they have transferred their natural duty of taking savings to investment, but *continue living as a living material* that needs a blood flow to survive, a flow that is monetary. Thus, this is the way they survive while securities or secondary financial assets remain that are derived from past financing, which are added to those from present financing. Part, and only part, of the goods created are up against this mountain. This fraction is a flow of past national products that live on. They are part of consumer goods and working capital.

This means that *our* financial assets grow, multiply and are distributed, covering the economic world. If they grow, it is because they can and the only way to make this multiplication possible is money. If there were not money, they could not be born or be exchanged and this market would disappear. This money is called savings, or non-capitalised savings  $S$ , which I have called maximum disposable funds, or simply disposable funds ( $S = S_k + D$ ), where  $S$  is total savings,  $S_k$  capitalised savings and  $D$  is disposable funds or non-capitalised savings.

Savings is continually snatched away by the financial market. This financial market grows more quickly than the ordinary market, the reason why scarcity occurs in this market, generating interest. Even if there were not an intense demand for funds for production aims, even then interest would appear. Once again, the productivist body of thought is damaged.

I have yet to explain where so much saving comes from to be able to finance an expansive financial market. The money does not come from savings, or at least not only from savings, that finances this market. Don't forget that the banking system creates money. I have said that the system creates money and that is why interest will tend to drop. However, compared to this generous supply of monetary rivers earmarked for irrigating the gardens of the ordinary market, there is a deviation, inserted into the irrigation channel, which makes part of this money flood the financial market, which is in constant expansion.

The banking system tirelessly creates money and the financial market tirelessly lives on. In the same way that the ordinary market fights to survive, it paradoxically manufactures its own destruction by trying to finance using these financial assets. These financial assets are living cells that make the economic system grow, but that inevitably change into malign cells later, only that the banking system in a certain way generates the bodies that satiate the appetite of these cells, making the survival of life in the economic system possible.

#### 15.5.1. A serious mistake by Germán Bernácer<sup>58</sup>

Scientists who study the inside of plants, the cells, chlorophyll, the mysterious process of photosynthesis, are almost surely unaware of the shape of the tree or the overall forest. If they entered the forest, they may get lost. Bernácer did not get lost, but he did overlook certain matters. One of them is the following.

I am talking about interest. I will strangely enough follow the Bernacerian analysis. I will follow it strictly and conventionally. He wrote that whoever demands goods is really supplying money and whoever is supplying goods is really demanding money. This is purely and simply elementary market mechanics. The same can be said of financial assets. Whoever is supplying them is demanding money and whoever is demanding them is supplying money.

With what money are financial assets demanded? With disposable funds ( $D$ ), which are non-capitalised savings... ( $D = S - S_k$ ). If savings is not capitalised, this means that it has not been spent or invested, which means, as I have said many times herein, that it has been stolen from the ordinary market. Whoever sells financial assets receives these disposable funds and remains without their assets. From the meeting up of the supply of and demand for these assets, the price is determined or the market quote  $V$ . This market price is possible due to the concurrence of the supply and demand of disposable funds when being bought with the income (non-production) they generate, determines the interest rate  $i$ . Up to here, Bernácer and I agree.

The neoclassical statement is also true when they state that a supply and demand for savings exist with the aim of demanding production capital. It exists and it is obvious that it exists because it is the savings that *has not gone* to the financial market ( $S_k$ ). It is savings supplied on the ordinary market. It is this savings that is demanded. You cannot supply what you do not have and what isn't available. The disposable funds have gone to the financial market and, therefore, are no longer available. What is available or the supply is demanded ( $S_k$ ) and savings  $S_k$  is supplied.

Stated differently: there is a sale and purchase of disposable funds that reflect the reciprocal operations of the sale and purchase of *our* financial assets, from which the market price for securities arises, letting financial interest be obtained. From what is left, savings that are not disposable funds  $S_k$ , there is a supply and demand that reciprocally mirrors the demand and supply operations of the capital market. A price emerges from here also, which is also a price of money. It is an interest rate, *ordinary interest or the ordinary market interest rate*. That is my interpretation.

My previous statements fit perfectly with these conclusions, since if the financial market continually grows, the usurpation of funds is constant and, therefore, savings becomes scarce on the ordinary market ( $S_k$  becomes scarce!) and interest goes up. This means that there are no savings to invest but there are savings for speculation.

That savings become scarce and ordinary interest rates rise are different names for the same thing, but it is not the same to call the price of money with the simple name of interest. You must ask what type of money. However, this question is formulated poorly. It must be asked in the following way: From what type of savings? Or, what is being spoken of, disposable funds or non-capitalised savings  $D$  or capitalised savings  $S_k$ ? Because if speaking of the first, it refers to the financial market or the price of disposable funds. But if speaking of the second case, it refers to the ordinary market or the price of capitalised savings.

Bernácer touched upon one issue and the other, the ordinary market and the financial market, capitalised savings  $S_k$  and disposable funds or non-capitalised savings  $D$ , and he studied the ebb and flow of these monetary currents from one market to the other. He even invented a mechanical gadget on paper that is utilised by physicists (remember that Bernácer was a physics professor) to explain the circulation process of these flows of unspent income or savings. However, as strange as it may seem, being how it was, at the edge of the barrier, he did not know how to see the existence of these two types of interest.

Obviously, the botanist, the scientist, does not see the forest for the trees. However, the humble forester writing this book does know the forest a bit. He knows about it because he has sat on the giant's shoulders.

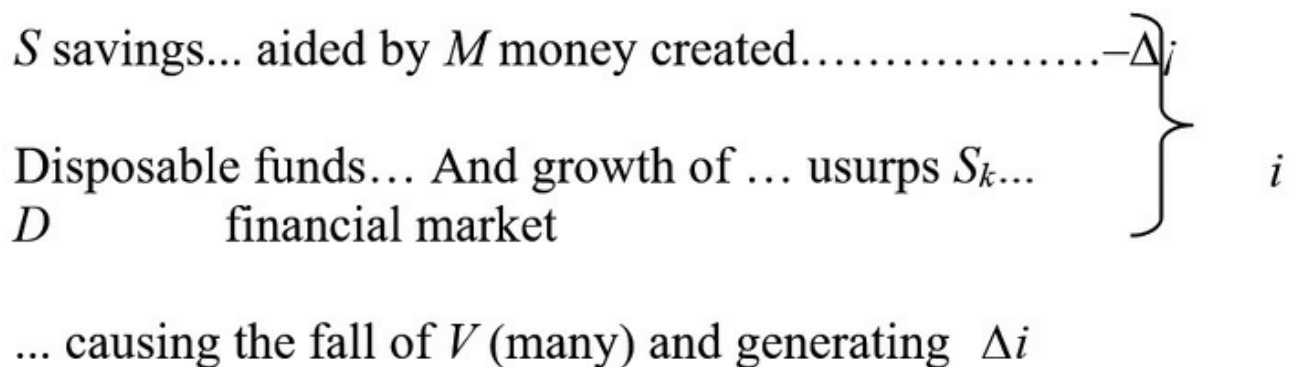
I have written several articles about this particular issue (*A Triple Theory of Interest*, 'ICE Bulletin') developing and appraising Bernácer's macroeconomics. One issue not dealt with is the following. If

disposable funds  $D$  flee to the financial market, making them scarce on the ordinary market, why doesn't interest drop? The next question should be: If interest drops, does it stop being attractive to the financial market?

The answer to the first question is that interest ( $i = R/V$ ) does not decrease because the financial market is continually growing with respect to the number and variety of securities and thus makes the percent profitability change little. Thus, new disposable funds arrive, aided or not by new money, to finance a higher number of securities that are more varied. The variety is conditioned by the perfection and sophistication of financial markets.

The answer to the second question is that interest drops because securities increase in value in relation to the income received (non-production income:  $-\Delta i = R/\Delta V$ ). Nonetheless and according to Bernácer, those placing the funds can alter their psychological condition. Thus, the comfortable financiers placing their savings to accrue an easy income can transform into avid speculators seeking quick returns via increases in security prices. Obviously, they do not care if the interest is high or low if they can triple the value of their financial assets. Keynes the speculator explained this process well, which develops over time. When waters return to the channel, incomes  $R$  oscillate; the same as the value of  $V$  and the percent profitability.

A graphic and synthetic explanation to summarise this situation could be as follows.




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Supply and demand of ...  $D$  (disposable funds) ...  $V$  .....  $i$

Supply and demand of  $S_k$  ( $S_k = S - D$ )... Supply and demand of money ... determines - ? (+)

(+) Not explained by Bernácer, but what doubt is there that it is another interest rate, always monetary, but ordinary.

## 15.6. THE CAUSE OF INTEREST: ERRORS

The genesis of capitalisation entails the genesis of savings. This genesis is complex and includes a series of intermediate actions, such as: savings (causes of...), the accumulation of savings (how, where and how much), investment, an operation representing the financing of new capital equipment, amortisation and the creation of capital equipment and the establishment of actual capital. During these processes, interest plays a large role and the theories that have tried to explain it have committed a series of mistakes: some, because they link the formation of savings with the act of privation or sacrifice. This is the case of Böhm-

Bawerk. Others, like Keynes, relate it to the act of coming from totally-formed, liquid capital. The last group is where Schumpeter and others are found, relating interest to the act of investing this savings in industrial capital that can yield capital gains.

These theories are not totally false, only partially, just as they are partially true. Interest is a price and thus is the result of a bilateral relationship agreed upon by someone who buys or exchanges one thing for another, which is present money against future money, total liquidity for profitable assets, etc. However, from this one cannot conclude that interest will be positive. Just the lack of enough savings is enough to make it become expensive and be a positive price. Borrowers do not know, and do not care, if the lender has undergone calamities or has lost liquidity or not. And the lender does not care whether the borrower will obtain beneficial production profitability in his business.

When liquid capital (a badly-expressed term I know) is lent and generates interest, it is in favour of its owner, but not to those who lend it, the capitalist moneylender. Therefore, it is obvious that capital productivity does not give rise to interest, since this is produced, whether or not there is production investment. Interest does not arise from the special advantages of specific capital (capital is also concrete; there is no abstract capital), but rather from the cession of funds over time. Interest arises *before it is added to industry*. The only thing that industrial productivity explains is the condition that the loan is made and can be returned, nothing more.

Bernácer insisted: 'If capital is borrowed, interest favours the owner, not the user of the actual capital', (*A Free Market Economy*..., page 164, 1945).

Everybody, the marginalists, Keynes and the productivists, start from an error. The mistake is focusing on interest partially from the side of demand. Productivists, heirs of real classical economics, confuse capital as a material instrument and the material as money or, more succinctly, as savings-money. The difference between one and the other is that the first represents a part of the produced production necessary for producing more. The second, liquid, means potential control of the market. Due to meaning savings, it represents the capacity that gravitates over the system to demand real capital. These demands are resources that have avoided consumption and, therefore, are expectant to acquire real capital. The bad thing is that they are also awaiting the acquisition of financial assets.

Confusing real capital and savings with that which is acquired makes the error possible that ends with it, in capital, the cause of interest and we know that even so, considering savings as a cause of interest, the error is born, since the origin of interest rests *outside* of the ordinary market.

### 15.6.1. Keynes' vicious circle

Is there any way to define capital abstractly? Yes, provided that it does not refer to capital but simply to money. Keynes' theory on liquidity preference refers strictly to a monetary theory. To Bernácer, who wrote his theory of disposable funds in 1922 and about interest in 1925, Keynes theory is corrupt, since one cannot see an initial causation in it. On the one hand, he said that the cause of interest is in the liquidity preference, which rests with interest and its future evolution. But when he moved on to explaining interest, he established causation in the liquidity preference. There is another ambiguity in the fact that he established how interest originated in liquidity preference, which indicates how interest depends on the marginal efficiency of capital.

A clarification is required here. Bernácer started directly with the theory explained directly by Keynes and not from the painstaking and lengthy formulation set forth by Keynesians. His followers seem to say that Keynes' interest originates in the money market and establishes a border whose limit is set by the marginal efficiency of capital. If this is so, the last criticism of Bernácer turns out to be unfounded.

### 15.6.2. Equilibrium between productivity and interest<sup>50</sup>

Turgot may have been the economist who originally explained the law of marginal diminishing returns. David Ricardo and his treatise on land rental fall within classical economics, whose economists would give scientific strength to the law of diminishing returns. Bernácer, heir of Turgot as he himself said, repeatedly cites the law of diminishing returns. And like Turgot, he also explained the interest of money. Evidently, Bernácer was not a physiocrat like Turgot and the 150 years of distance separating them made it possible for economists to know more about money.

This preamble is to justify how Bernácer in 1916 and particularly in 1925 explained how reconciliation was produced between the marginal productivity of capital and interest. This is the explanation.

Interest is born outside of production. It is born on the financial market with disposable funds from the ordinary market. Upon establishing interest, potential investors know that they can obtain minimum monetary profits (interest) from their savings. Consequently, savings that are *really* invested obtain productivity provided that they are greater than interest ( $r > i$ ). But the accumulation of capitals makes the capitals that are *successively* added to the system less attractive, due to diminishing returns. They will be less attractive until they reach a zone (not a point) in which the last unit of capital incorporated draws close to interest. The graph below depicts this.

If interest drops, more capitals will be incorporated to industry and even though returns are diminishing, they will still be higher than marginal financial profitability or interest. Interest is a lock that prevents capitals from entering industry. If this lock is tighter, capitals that used to be attractive are no longer attractive. The reverse is also true.

Graph page 213
Disposable funds / financial market

*Note:* This graph is from a numerical explanation formulated by Bernácer, although I made the graph.

This phenomenon can be explained in a different way. Disposable funds that have fled to the financial market, making interest possible, are resources (savings) that would have financed capital goods. The formation of these possibilities thus makes it possible for this capital to become scarce and not be totally applied in industry.

I used the term 'zone', not point, in the graph, because production activity obviously entails a risk that must be compensated with something more than profitability, equal to interest.

The similarity to Keynes is clear. However, it isn't if you look carefully at the phenomenon. For Keynes, interest is born in the liquidity preference. From the light of the present day, this could be restated as being born on the money market as the result of the supply and demand for money. Demand will be formed by the demand for transactions, demand for precaution and speculative demand. After interest is formed, capitalists add it as a datum to calculate the margin of their investments.

However, for Bernácer (in the year 1922), interest is born on the financial market as a result of the supply and demand of disposable funds ( $D = S - S_k$ ), or the meeting of the demand for securities on the financial market. It is born on the financial market and no other market. This means that transactional demand is not present nor *all* the monetary supply, but only a part. The monetary supply of demanders of securities enters and only the demand for money of the suppliers of securities participates. If Keynes and Bernácer are similar in any way, it is that Keynes' elastic part of monetary demand is influenced by the speculative.

After making this clarification and locating interest, the analyses are formally similar, as they compare the marginal productivity of capital (which Keynes called marginal efficiency) with the interest rate.

Robertson participated in these finds in the twenties. It is difficult to believe that he would not have talked of them with the clever speculator Keynes. Both Keynes and Bernácer were now around forty years old, a decade with great creatural force and the beginning of reflection. I believe that Keynes confused the term disposable fund with liquidity, seriously changing not only the concept of what money is, but his reasoning on the market itself and, of course, interest. The qualification of Keynes as a speculator is both positive and ambiguous, as he was an intelligent, intellectual speculator of his ideas and others' ideas, like Wicksell and probably Bernácer. He was also a financial speculator, although he did not realize that one *can only speculate with that part of income that has not been consumed or capitalised, that is disposable funds*.

### 15.6.3. Interest in saving and interest from savings

Several reasons lead us to save. Future security, capital accumulation and financing for industrialists, greater consumption expenses (proportionally to accrued savings), etc. are concerns that push people to save.

A common expression says that thanks to savings we can consume tomorrow. People frequently claim that pensioners live from past work. This is not true. What happens is that the metaphor is confused with reality and the reality is present consumption. When the pensioner gets dressed or takes a taxi, she is using present goods and services and not past ones. Only remotely will she consume the thousands of socks her mother knit her when she was young, to put them on when she was older. I could say the same of her home. Present work in collaboration with present capital goods provides the consumer goods that are consumed in the present.

Yet to be explained is not the bridge of gold that lets savings travel to investment, but the bridge of time that lets the present generation (including pensioners) consume accumulated work. This is more precisely about the part of work earned, which is unconsumed income, which is past savings.

This explanation revalidates another, which is the individual need for savings, which is complemented by the group need.

The person who saves individually does not keep the savings with him, but rather lends it. As a whole, in society, what is saved is capitalised –not all of it as we will see. But individual savers can have it *available* to spend (not disposable fund). Then, if the saved part of income has been capitalised in the system, how is it possible for individual savers to have it available?

These types of disquieting questions, like a swarm of bees, can irritate and rattle economists who think they have learned the lesson well.

Savers can have their savings available, clearly not the capitalised part that has stopped being disposable, but the *new* savings managed in the system.

Savers know little or nothing about the destiny of their savings. Part has gone to industrialists that have applied for loans, either directly or via the bridge of the financial system, where it has been capitalised. New capital goods let the system continue with production. *This is the justification of individual and group savings, that production continues and can be consumed. The efficiency of capital goods makes better and larger consumption possible and if the production level is greater than the previous then savings continue to be justified.*

Savers will require part of this savings: everything they lent and that the system will return to him in liquid directly and illiquid indirectly. Liquid with the savings that are generated day by day. With these monetary resources, goods can be acquired that capitalisation made possible. This is the *expanded* shopping cart. This *expansion* is interest. The *expanded* shopping cart is the illiquid manifestation of savings.

Goods that are consumed with returned savings are present production, as seen, and they have been possible due to the collaboration of present work and present capital goods, but that were built and financed with past savings. This is the financial and temporal bridge of savings.

## 15.7. SAVINGS AND CAPITALISATION

Between savings and investment, there is an operation called borrowing. Borrowing can even take place for a single person. It is called self-financing. It is a trading operation of different money. Money (financiers call it capital sum) at different times is different; these different moneys are the object of trade. Thus, he sells what he lends and buys what he has asked to borrow. Whoever lends sells present money and whoever buys does it with future money. Both must be equivalent financially over time.

The final destination of savings is capitalisation. Thus, this savings takes shape in something concrete, useful and productive. I continue by citing a famous sentence by Bernácer: ‘Savings without capitalisation is fraud for the community.’ If it is true that it is hoarded and is placed onto the financial market, savings is frustrated in these operations. A dissertation starts here about the process of *savings and investment*. *Both operations are different and they are not even equal later.* Since this issue is handled extensively hereinafter, I will only make one comment about this central topic.

It is true that production and national income are equal. But this identity that is so obvious has tricked many economists, including Keynes. Thus, production of consumer goods is confused, which is a flow coming from national product. The confusion for Bernácer was approached as follows: If income and production are equal, what is spent on consumer goods is a demand that acquires the production of consumer goods, which is true, *but not totally true*. One part of this income, what is earmarked for consumer spending, may be equal, higher or less than the production of consumer goods.

However, the part of income that is not consumed and that is saved is vastly more important. For Keynes, and this is a mistake in capital letters, the production of capital goods is absorbed by the part of income that is saved. That is not true. On the one hand, it is obvious that saving is an operation and the production of capital articles is another (not an identity). Unlike what Keynes believed, it is not an initiative to produce capital articles instead of consumer goods, an initiative that is done with system savings (not that are done, but that are planned). Capitalisation is a trade transaction through which, with available savings,



capital articles are acquired and/or help is provided to form them. The question is different. You already know that other trade operations are done with savings, specifically financial ones. But this doesn't bother economists, for whom accounts are forcibly balanced. So, since part of savings is not capitalised, there are unsold products, or inventory investments  $I_u$ . Thus, investments properly speaking are added to the others, the frustrated investments that are mistakenly called inventory investments, giving us the savings in the system. So easy and so wrong.

### 15.7.1. Speculation

There is always the possibility of placing savings –which stop being available- to accrue steady income from it over time<sup>60</sup>. There are two reasons competing for the formation of disposable funds. One is obtaining these earnings and the other is speculation itself, an exploitation of price oscillations. Price oscillations have a double origin. One is found outside of speculative forces and is due to factors normally foreign to the market and the other is those encouraged by the powers of the current of speculation.

Whatever the origin, what is true is that this force rests in the travel of disposable funds that are used for speculation on the speculative market.

The financial market has the ability to draw the same goods into its fold that derive from current production. Thus, people have speculated with cotton, cacao, coffee, etc. People have also speculated with certain goods that seem somewhat similar to capital, like warships and manufacturing facilities. Currency, the British pound earlier and now the dollar, is the object of speculation. The phenomenon requires an understanding of the formation of savings that finances speculative and not production activities. This process requires the incorporation of new masses of savings that avoid being capitalised.

Like foam, speculation rises, but when it goes down the torrent does not return to an economy that has been depressed. This means that when speculation eases, the value of assets drops and interest rises, making investment impossible. What is of interest here is that savings in production activities lets there be equivalence between the real and monetary economy, between savings and investment, between the past and the future, between past and present production. In a social sense, it prevents fraud between generations. In this way, with absolute macroeconomic honesty, those who saved in yesteryear can consume and live from the work of others in the present.

Speculation lets people live from the work of others now and in the future, with them delivering *nothing* by way of capitalisation so that this operation can be executed. In a social sense, speculation cheats production and the future.

Since you can speculate with savings, the speculative market becomes huge, fluid, making diverse risk, security and liquidity margins and structures possible. The financial market makes liquidity preference possible. Thus, the total liquidity preference has its opposite in the non-liquidity preference of speculators, who have already placed their savings and, paradoxically, speculators also oppose the non-liquidity preference of the holders of real assets and investors. The disjunctive between the ordinary market and the financial market will establish the dynamic of the economic system. An explanation of the financial market is next.

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<sup>60</sup> He combined the origin of the flows of disposable funds (*The Theory of Disposable Funds*) and their scarcity, which generates interest or a price that is explained in *The Origin of Interest*, critical book 1, chapter VII, with Turgot's explanatory statement on the economic justification of interest, which he called reserve money. Of enormous interest are pages 84-85 of *The Interest...*, when he stated: 'That the

supply of savings created in order to employ them in industry or in loans, is a growing function of the interest offered... The accrual (of savings) is not enough and it would be even less so if interest were not offered'. Here Bernácer referred to what he considered '...the only rational thing that remains from the theories we have examined and that are essentially all the proposals until now...'

<sup>50</sup>  $a_n \square_i$  = updating or discount factor of a chain of earnings at an interest rate  $i$  in the period  $n$ .  $B$  are profits from a production operation, contrary to speculative ones.

<sup>51</sup> This expression should not lead you to the false conclusion that  $r$  is found by dividing  $K$  by  $B$ . It is the opposite, if the chain of returns was infinite (infinite amortisation),  $r$  would then be calculated by  $B/K$ .

<sup>52</sup> Bernácer admitted that all these theories contain some truth. The common denominator of all of them is the scarcity of money that allows for the existence of interest (Turgot, Marshall, Bohm-Bawerk, etc.). The sense of uncertainty and the compensation of risk owing to investment are two of them. Savings, which could be comfortably devoted to *earning profits* (non-production profits) without risk and without speculation, is invested and it is obvious that not all of it is invested because not everybody subjects themselves to uncertainty. Therefore, savings becomes scarce for this reason. It becomes even scarcer for investments with greater risk since savings (or, if you like, the misnamed capitals) find a greater prize here (those that triumph and don't perish naturally).

In their most scientific and detailed form, these ideas come from Frank Knight, with precedents in J.B. Clark and Hawley, and are explained by Bernácer, who did not quote Knight, who he did not read before 1925 (publication of *The Interest...*, Knight's work published in 1921). It does not matter, given that Bernácer 1) Did not publish a doctrine on risk theory; 2) Only dealt with explaining the scarcity of savings, and 3) The Bernácerian scarcity of savings has another origin, which is the existence of the financial market. Moreover, Bernácer did speak of this in the two pages of the final epilogue of his book *The Interest...* (chapter V, 'Supplies and Prices', page 235-237).

<sup>53</sup> I do not know of an influence of the Swedish School (Wicksell, Ohlin, Lindahl, Myrdal) in Bernácer's thought, owing to the obvious language problems of Bernácer living in a province at the turn of the century. Wicksell's work *Interest and Prices* ('Gelzins und Güterpreise') was published in 1898 and later translated to English (I believe *Lectures in Political Economy* was the synthesis of previous works). Wicksell established the relationship necessary for equilibrium between the two types of interest: one monetary and the other real. In 1916, Bernácer explained the birth of income and the paucity of savings; and its price that is monetary interest, whose formation is missing in the Swede's work, or at least as explained by Bernácer. Bernácer's explanation is stricter than Wicksell with respect to real interest, which according to Swedish prices was very diffuse (Davison, Lindahl...). Keynes was apparently even stricter than Bernácer as he relates in his explanation of real interest (marginal efficiency of investment) the flow of income (profits) to the cost of investment (added capital). But if we remember that production resources take part in the formation of capital goods, where fixed capital is working capital when it is in the hands of entrepreneurs that produce it, then I believe Bernácer's approach to be the most correct.

In any case, the explanation of the accrued movements of income (absence of its stability) owing to the difference between real and monetary interest, is original to Wicksell. It is clear that there is no relationship between the Swedes and Bernácer, although there is between Wicksell and Keynes.

<sup>54</sup> In *The Nature and Necessary of Interest*, Cassel criticised Bohm-Bawerk and believes the existence of interest necessary for accruing the savings that will finance investments in a progressive society. Moreover, interest is needed to calculate the profitability of investments. Bernácer, who seemed to be familiar with the Swede's work, criticised it because it did not explain the nature or origin of interest or, consequently, the cost of opportunity of investments.

To Bernácer, Cassel was wrong, especially when stating that disposable capital leads to interest (because capital is money here) and because it involves waiting. To the Spaniard, disposable funds must be explained, which entails the conceptual creation of the financial market. Neutral financial operations make money-income (non-capitalised savings) remain constantly available and not capitalised (*The Interest of Capital*).

<sup>55</sup> The term 'disposable funds' was used by theoretical and practical economists (Marshall, Cassel; the latter citing Turgot when he said: 'The price for the use of a certain quantity of value for a certain time...'). Seligman (Bernácer's quote) distinguished between the demand and price of money in a general sense and in the Wall Street sense, whose mutual relationship does not seem clear (*The Interest...*, page 79).

Keynes spoke of liquidity preference and Cassel spoke of waiting, which are both psychological concepts that do not satisfactorily explain the origin of interest. It is clear that disposable funds and liquidity are similar, but their natures are different.

<sup>56</sup> In 'Metric Economics' (*Arquímides* page 55, section 'The Swedish Solution', 1955-6) Bernácer knew about the Swedish and Keynesian theories, obvious in the translations already done at that time (Bernácer translated English and Italian and, above all, French). He censured the term ex-ante and ex-post from a methodological viewpoint; derived above all from Myrdal and used to criticise Keynes, who did not know how to differentiate them. Bernácer was interested in facts, which are economic realities. The comparison of ex-ante and ex-post were not useful at all for comparing dreams to reality.

<sup>57</sup> Interest for Keynes was born in liquidity preference or the preference for interest according to Bernácer (*Metric Economics*). If Keynes, as a speculator, knew of the financial market and, furthermore, is the author of speculative demand, the most logical thing would be to explain things from the beginning as follows: 'If the speculative market exists, money becomes scarce because it is there, which explains its lack and price, called interest' (my comment).

<sup>58</sup> José Villacís 'The Error of the Macroeconomic Equation and Quantitative Theory', *Boletín ICE* magazine, March 1987, no. 2059. This article outlined the monetary vacuum of Bernácer that explained the financial market as the supply and demand of disposable funds and their result; the market price of securities and interest and the rest was not developed: the supply and demand of savings that goes to production ( $S - D = S_k$ ). It is clear that here is where interest is determined (another interest) which is ordinary and monetary.

<sup>59</sup> Not all industries or companies (Bernácer sometimes used the two terms equally and improperly) have the same profitability. If there is no technological innovation, the usages of factors make the percent profit shrink. This was Turgot's idea, who created and employed it more precisely: *Reflexions sur la formation et Distribution des Richesses*.

Bernácer took Turgot's ideas directly, as well as David Ricardo's; stating 'English economist David Ricardo set forth the following law for the first time: Rent from the land is determined by the excess of its product, on which the same application of work and capital can obtain a less-

productive use from land. He later added: 'it is not the less-productive land that limits that demands of owners, but the more productive land free from expropriation' (*Society and Happiness*, page 114-5).

There is the belief that Turgot explained interest from a basically *real* viewpoint, in terms of asset productivity, coming before Böhm-Bawerk. These beliefs rest on the criticisms Turgot made of monetary theories by Law, Locke and Montesquieu. Interpreting Bernácer's thought, these ideas are false, since Turgot clearly knew how to see the difference between the two types of interest, real and monetary.

One real interest rate and a class of decreasing marginal returns was the result of Ricardo's study on land, which is applied to other factors of production in a generalised way.

<sup>60</sup> The term perpetual income does not refer to the mathematical-financial term, but to continuity in periodicity and time.

# The financial market

## 16.1. INTRODUCTION

I have spoken of the financial market several times now and have given a rudimentary explanation of what it is. Bernácer called it the income market and the assets traded there income assets. I have called them simply *our* financial assets.

He called them income assets because they are assets that provide earnings or income just by having them. He emphasised the fact that they generate income, which is very important, because it comfortably guarantees savers income due to receiving free payments. As you will see, it is one of the fundamental motivations of savers and buyers of money.

Not all financial assets, even when they are income-yielding assets, belong to the category of *our* financial assets. Belonging to this peculiar breed are those that generate returns, but have fulfilled their mission of transferring savings to investment and currently do not fulfil any production mission, not even productive savings.

Also belonging to the group of *our* financial assets are *certain real* assets that are bought, sold and kept, due to their capacity of generating income, such as property rents. They are characterised by not representing the creation of a new product or the subsequent generation of gainful income. Of course the rental of a house is the payment for a service. A house, unlike a consumer good, is consumed very slowly, with this consumption representing its obvious utilisation. This usage may represent a contribution to national product for whose service rent is paid, which is income. In other words: the value of a house is the updating of a chain of earnings; this chain is the updating of incomes or rent. In this sense, a property does mean a new product, *but the repeated sale and purchase of the same property for a higher value than the original does not mean a new product or new production income*<sup>61</sup>.

The term income used until now on the financial market will mean the simple reception of monetary income deriving from the possession of an asset in our market. This is simply income as a consequence of payment to the production process in the ordinary market.

Bernácer gave different specific names to the financial assets in our market and generically called them 'income-yielding assets'. He called them capital placement articles, country and urban properties<sup>62</sup>, securities that represent existing capitals (shares and obligations from industrial entities), simple symbols of debts contracted and not backed by any individual property, such as public debt securities. He said: 'Such transactions form a considerable volume of a country's financial operations; just look at the sums of stock market and trade operations and real estate mortgages<sup>63</sup> (*A Free Market Economy...*, page 73, 1955). Bernácer wrote in a certain era and a certain country, Spain, in which the financial market was not highly developed and the extraordinary variety of complex operations and assets simply did not exist that characterise modern economies. In the present day, these operations and these assets take on enormous proportions due to their variety and complexity. Just think of the futures market, the commodities market or

the options market. The financial market, dead wealth as Bernácer saw it, does nothing more than unfold in the economy and the variety of operations and assets does not hide its ulterior motive, which is speculative and not productive. Bernácer called them *income assets*. He misnamed them because they are not assets, perhaps they were and perhaps they helped form assets, but not in the periods after production. As to the rest, there is enough reason to call them anti-wealth, in the same way that modern physicists speak of anti-matter.

### *Money against merchandise in the financial market*

The price of merchandise and services is expressed in monetary units and the market price of financial assets as well. The values are securities that give owners a right to a specific sum of money. Loans, advances and bill discounts negotiated are also present currency against future currency. Both terms, although they are past and future, are ready money, along with *papers*, they come together under the broad and ambiguous name of money.

Bernácer, son of a merchant in Alicante, a provincial yet commercial port town, surely was used to certain business practices. John Maynard Keynes had similar experience in his administrative tasks at the British Exchequer and on the stock market, albeit in a much larger and more grandiose setting.

Years later (1955) Bernácer would say that Keynes was very wrong, like the majority of economists. For Keynes, there is a very superficial circumstance that differentiates money from what it is not. This is time. Money is the part of debt that has a term of three months or less. Three-month debts and Treasury promissory notes comprise an important sector of the money market: the discount market. If it intermingles with the money market, you no longer know what is being bought and what is being sold and the problem gets more complex instead of being resolved.

Debts are documented; they are securities with specific legal profiles. The same thing happens with treasury promissory notes and short-term debts. *All of them are bought and sold for money* and therefore have a price. For an operation to take place on the market, the two *opposite* sides must be present: supply and demand. Supply brings what it is offering and demand brings money. In this market in particular, supply entails short-term debt (or long-term, it doesn't matter) and demand brings money. There is an exchange of these financial assets for money, and then if they are exchanged for money, they are not simply money.

Clearly, Keynes confused market terms. Thus, Bernácer said (*A Free Market Economy...*, page 118, 1955): 'If we consider something that requires money for its conveyance as money, we commit a double error, calling something potential demand that is really the opposite'. This means that supply decreases to the same degree that demand artificially increases, *doubly* misplacing these market terms. Supplies of short-term securities, when they become money (wrongly), then become demand, something that does not happen like that.

These short-term assets, or short-term debts, are a part of the extensive range of financial assets in our market. Their citation in this section is obligatory, because therein lies a serious confusion on the market, as explained<sup>64</sup>.

Of course, this range of assets is easily transformed into money, but this does not change market operatives. To convert them into liquid assets or money, they must be sold to someone who buys them in exchange for money. This is inevitable. My arguments do not change at all even for someone who

exchanges them with great facility, speed and security.

It is a different case when these assets are used as money. Then, potential supply decreases and demand increases. But this is another matter. Deceased professor Emilio Figueroa and I worked on this last issue and published several articles about it. Figueroa was a student of Germán Bernácer.

## 16.2. REQUIREMENT OF FINANCIAL OPERATIONS

For financial operations to exist, money, income assets and time must necessarily concur. It is clear that any activity, no matter how quickly it happens, occupies a period of time. This is not the sense I mean. I meant that time directly participates in the operations. Financial activities on the money and capital market (I am using the term capital improperly here in the sense of money-savings) are an exchange between present money against future money. Equal amounts of money become different at different times, which is the basic rule of financial transactions.

A man buying a financial asset buys it with money, can recover this money in the future by selling the financial asset in exchange for money. If he receives more, there will have been speculation. If he receives the same amount of money, his capital will have been different and will be relatively less. The capital he receives may be somewhat more than he delivered, but financially (in terms of mathematical-financial equivalency  $(1 + i)^n$ ) will be equal. Another case is that he does not sell the volume of assets acquired in the future, but keeps them instead to enjoy the income they earn.

In all cases, speculation exists given that present money has been put into play against a hope, either of selling these assets or receiving future hypothetical income. Thus, time will be the distance that separates reality from what is probable. Time is clearly an indispensable faction for the existence of financial operations. The other two are money and financial assets. Let's talk about money.

Money that enters the speculative market is money that is not necessary for the existence of individuals or companies. Consequently, it does not go towards consumption or investment; it is the maximum disposable fund:  $D (S - S_k = D)$ ; where  $S$  is total savings and  $S_k$  is capitalised savings).

Whoever sells financial assets receives a disposable fund from the people buying them. In this way, the volume of disposable funds in the system does not change by this operation *alone*. If *more* disposable funds arrive than *leave or are liquidated* for capitalisation or consumption, then disposable funds *increase*. If the opposite happens, they decrease. I call these operations variations in *net disposable funds*, a matter that is essential to market mechanics and economic cycles.

Sometimes Bernácer's observations are so obvious that I don't notice them at first. One of these observations is: Savings must be formed collectively and be institutionalised. If not, if each person saves at home, even though the sum of all these home savers is equal to what would be formed institutionally at a bank, the financing process of large capitals (factors of production) would be very difficult. Hundreds of thousands of tiny streams do not have the force of one great river.

Savings undergoes an accumulation process before being transferred to capital financing. During this formation period, even when its finality is investment, it is a disposable fund.

The matter would not be important and would only be a question of time if the process did not suffer from the constant attraction of *our* financial assets.

Some companies are self-financing and others are not. Self-financing companies cover the depreciation of capital goods and if something is left over, they acquire new capitals. The first funds, those that cover depreciation, are called sinking funds. Undistributed profits make up a fund that lets a series of activities be executed, like those described earlier. These funds are not gathering dust in the bottom of safes, but are placed via the purchase of specific assets, so that a determined equilibrium is maintained between profitability, security and liquidity. These characteristics, in turn, will depend on the destination of the funds and the proximity of this destination. If its end is investment, either replacement investment or net investment, financial assets will have these characteristics of profitability, etc.

This is a crucial point since it represents the point or osmotic membrane where the real and financial markets communicate. Indeed, undistributed profits are disposable funds that finance the acquisition of these assets. Whoever sells them receives the disposable funds that companies no longer have. If due to adverse market conditions, the financial market becomes highly profitable, companies, seeking monetary profitability above all else, may forget their honest macroeconomic destiny, production, in favour of speculation. This has happened several times.

The process will entail company decapitalisation, since these undistributed profits or disposable funds are not recycled into replacement and net investments, turning to the financial market instead. Then the financial market is capitalised to the same degree as the ordinary market has been decapitalised. The oxygenated blood is corrupted and the system is asphyxiated.

The key to explaining part of economic crises is found in these savings and capitalisation operations done by companies with their sinking funds and reserves.

Financial assets, disposable funds and time all concur in financial operations. But one more thing is still missing: the intention to speculate.

### 16.3. THE MARKET PROTAGONISTS

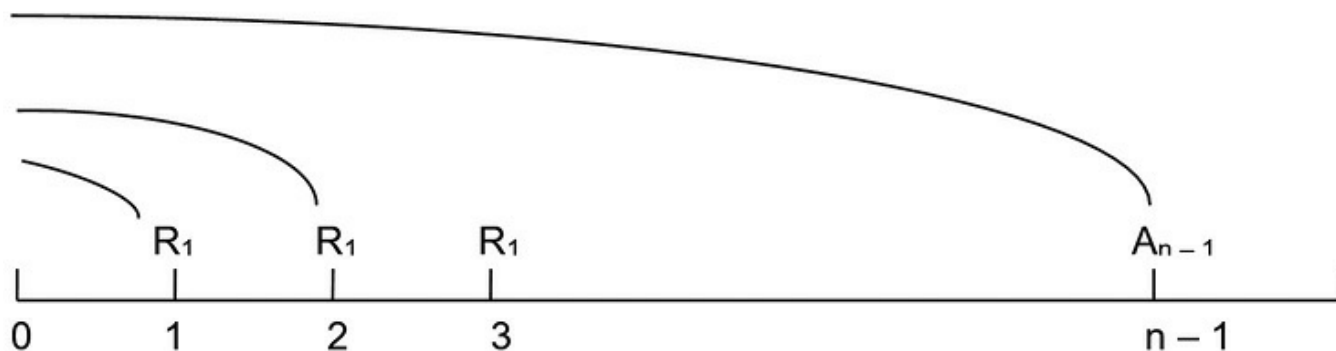
Supplies to the financial market are comprised of all those non-liquid properties and securities owned by holders of income-yielding assets. It is potential supply. Demand is money and the desire to acquire these illiquid securities. This is a constant on all markets. Demand is money and the desire for something, in this case for financial assets or illiquid securities. Demand will be aided by credits or the creation of money by the banking system. Supply, I will say potential given that it is highly likely that its owners will not want to part with some of it.

What has taken place are buying and selling operations executed on the market. It is actual demand and supply. Demand is money given in exchange for what is acquired. They are disposable funds. Supplies are the goods given in exchange. Assets in this market are called income-yielding assets or financial assets. Money, or disposable funds, given in exchange for these assets (properties or illiquid securities) is the price or market quote.

If the price goes up, there are more suppliers who want to sell, guided not only by their desire for profits but also by the fear of market prices dropping. This is a market characterised by the enormous flexibility of market prices, unlike the ordinary goods market and of supplies or factors of production that are rigid and tend to decrease. Demand is reluctant to buy when prices rise, not only because real incomes (real disposable funds would be more correct) are smaller, but also because they don't want to do bad business

in case these high prices fall tomorrow. The task of calculating the value or price of financial assets still lies ahead. On this market, assets, unlike ordinary goods that provide a utility or chain of utilities (consumer goods, permanent consumption and capital), generate a chain of returns (unpaid). They are acquired for the capacity to speculate and/or obtain a profit from their purchase and sale and/or for their capacity to earn.

The market is perfectly informed about this issue, since value can be calculated using a simple business formula. To do so, the updated chain of returns at the present moment is established.



When you buy a financial asset, you are buying all returns updated over time.

The updating or interest rate is different for each asset. Some generate large profits but are subject to great risk. Others, like real estate –a building for example- generate income that is not so high, but their values are quite stable, but other real estate may even generate negative income due to generating expenses higher than income, such as hunting reserves, fun parks, etc. There is no valuation problem, because subjects evaluate the risk-profit ratio, establishing the price of the financial assets.

In principle, a theoretical value of these assets can be established. There are two methods, or rather one method expressed in two ways. It is all a question of percentages. Thus:

- a) The price or yield that one unit of liquid income  $R$  acquires. Stated differently, the percent yield of placed disposable funds. If 100,000 euros of disposable funds are placed, letting you obtain 500 of liquid income  $R$ , the percent yield is  $5000/100,000$  or 5% of income<sup>65</sup>.
  - b) Asking the number of units of liquid income that can be obtained via the placement of 100 monetary units. Let's say there is 5% interest, to equate each euro of actual income, it would be 20. This is calculated by investing 5%:  $100/5$ , which is equal to 20.
- a) and b) mean the same. If interest is high, the lower the price will be for the unit of income. If interest is low, the higher the price will be for the unit of income. In the first case, the quantities of income demanded will be greater and in the second case less. Economic agents will say that if you can earn high income for a low price or few disposable funds, then it is interesting to buy. If prices are high, you have to pay more to obtain the same units of income.

Let's look at potential and actual supply and demand of incomes separately.

### 16.3.1. The demand for income<sup>66</sup>

Potential demand of saver-capitalists is that part of income that is neither consumed nor invested ( $D = S - S_k$ ), plus bank credits or new money created. Let's stop here for a moment at this point in the reasoning



process. New money should make interest decrease and should leave savings free. Savings would be *totally* free if the *new* money flowed towards speculative activities, making market prices rise and causing interest to drop. This does not happen because the financial market also grows in numbers and diversity.

Actual demand records the registered amount of purchases. In this way, if the amount of purchases of financial capitals, properties, etc. is 400 million, this will be the period actual demand. If 20 million in actual income is obtained through this placement, the percentage yield or interest is 5%. One can also say that the price of the unit of income is 20.

If you know the percentage yield or interest, it is possible to find out (as seen) the price of the unit of income and, knowing the disposable funds *spent* or *actual* demand, the *number* of units of income demanded will be precisely known.

The following original chart by Bernácer explains it:

Price of a unit of income	Profitability %	Amount of demand	Units of income demanded
5	20	500	100
10	10	420	42
15	6 2/3	345	23
20	5	300	15
25	4	250	10
30	3 1/3	210	7
35	2 6/7	175	5
40	2 1/2	120	3
45	2 2/9	90	2
50	2	50	1

The figures in the third column show the disposable funds spent (plus the bank loan), the incomes that have been bought or the demand for incomes. Dividing these by the price in the first column, the number of units of income earned is calculated.

The graph below shows the demand for income-yielding assets. The vertical axis shows the price scale per unit of income and the horizontal axes represent the corresponding size of the demand. The first graph represents the total amounts and the second graph, the scale, shows the units of income demanded.

The numeration and form of Bernácer's example has been fully respected. The only difference, *in the margin* of the graph, is the vertical line parallel to the y-axis in graph a), which shows the corresponding interest. The magnitudes follow an inverse order (the interest and the price of income units). This may be confusing. Let me explain. If interest goes up (prices drop) then demand increases, but since interest is upside down on the graph, this means that demand increases when interest increases and decreases when interest decreases.

It seems like things are happening backwards: when interest goes up, demand decreases, as macroeconomic teachings state. This is easily explained if direct demand for units of income or financial assets is separated from the prior demand for money to demand these assets. They are two different operations.

The demand for money decreases when interest rises and increases when interest drops. After you have

this demanded money and disposable funds, you go to the other market (not the money market) and these disposable funds and new money are exchanged for income-yielding assets. Here now, yes the price of these units decreases as the demand increases and vice-versa. Both demands, for money and for income-yielding assets, are normal and orthodox demand curves (descending with respect to price).

Graph page 228
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### 16.3.2. The supply of income

Supply is the value of the assets that are liable to be sold on the market. Since these assets generate income, *potential* supply is found in the units of income contained in sellable securities. With income (non-productive) established, as well as the quantity supplied, the percent profitability or interest rates are also established. Consequently, the price of the unit of income is also determined.

To Bernácer, the quantity of profitable assets is very large. This number is due to various causes. Financial assets are like the children of previous production, which also normally grow. Financial assets helped form investment in previous periods. Real assets constructed in the past continue being exchanged and with this, an endless number of title deeds. Financial markets make complex and varied combinations of documented transactions possible, which are then converted into securities. Keynes considered short-term debts as practically money. However, to Bernácer they are definitely not money, but rather financial assets. Above all, the state is an enormous producer of securities. Bills, cash vouchers, short-term and long-term public debt are just a few examples. Normally, securities or financial assets tend to exceed potential demand. Even if they are all dumped onto the market, even if all the potential is translated into cash, their prices end up being low. This explains, according to Bernácer, that ‘in times of panic or great need of realising assets, the interest of money skyrockets to enormous rates’ (*A Free Market Economy...*, page 123).

If interest is low, the system may find issuing new securities of interest in order to collect financing. Interest being low does not mean that suppliers are necessarily interested in increasing financial assets. The opposite normally happens, or they withdraw. One thing is for entrepreneurs to turn to issuing financial assets stimulated by low interest, and another is the supply of securities from those who already own financial assets. Due to this, Bernácer said, potential supply is elastic in the sense of creating new securities.

Actual supply directly follows prices. It could be added that actual supplies, at each price, will follow an inverse road to that of demand. Actual supply will likewise approach potential supply, or the total securities available for sale. Bernácer said: ‘We can establish it, like demand, by the amount of sales and loans that the holders of liquid assets (disposable funds) want to execute at each price, or by the sum of income or interests that will be received for these quantities’ (*A Free Market Economy...*, page 123). In this line of reasoning dictated in 1955 or possibly earlier, there is nothing that differentiates it from the explanation given about speculation in 1916. The only difference is that Bernácer in 1916 was a provincial teacher and Bernácer in 1955 was a former director of the Research Service of the Bank of Spain who knew the Madrid Stock Exchange much better.

## 16.4. FINANCIAL EQUILIBRIUM OR AGREEMENT

Demand and supply are elastic with respect to interest. This is logical. I believe the difference with Keynes is in supply, about which he is rigid. At the point where the suppliers of securities agree with the price and the quantity (one point) with their buyers, financial agreement takes place. This is the same as saying that equilibrium occurs when the suppliers of disposable funds coincide with the desires of buyers of disposable funds with respect to price and quantity.

With the price established, market interest is determined. At this interest rate, the suppliers of securities are willing to part with them and buyers to acquire them. The first receive disposable funds and the second deliver them. I repeat that the exchange of disposable funds for securities establishes the price of the securities and, from this, interest is determined.

Here is where some questions arise. Where are capital equipment, production, productivity and technological innovation to be found here? Or more simply, should the real economy be sought here?

The response is categorical. Nowhere. Interest is an event that is born outside of production and after it is established, it regulates, maliciously to be sure, the entry of capital into the system. Where is consumers' sacrifice in saving to be found, if they can save without needing to make any sacrifice to feed disposable funds?

Disposable funds do not arise from any specific sacrifice or at least they don't all come from sacrifice. One of the tributaries that carry disposable funds to the great river of total disposable funds is sacrifice. The great river of disposable funds flows into a channel, which is the desire to speculate and/or earn free income from the work of others. As mentioned earlier, the mere fact of receiving income by owning assets is already a speculative game between what is delivered and what will be received in the future via income.

A debate is being left open here. Few things are clearer in economic theory than the concepts of supply and demand. To Bernácer, one of the darkest areas of economic theory was the supply of and demand for money. He was referring to Keynes' idea. In order for supply and demand to have meaning, an exchange ratio must be expressed. Money and shoes for example. Thus, whoever demands shoes supplies money, and whoever is selling the shoes demands money.

The financial market is a money market, but only partly, just like in any ordinary market. I am referring to the intermediate money market that is generated when financial assets are sold and bought (our assets), operations resolved with money.

On the financial market, demands are elastic depending on interest, given that interest is what attracts the disposable funds, which are simply money. Those supplying securities and other income-yielding assets demand money and those demanding these assets supply money. I think this point has been explained clearly. Interest wins over buyers and suppliers to exchange money and securities. Don't confuse this demand with Keynes' speculative demand, no matter how similar they may appear. They are alike in motivation, which is the desire to speculate. For Keynes, economic agents demand money to buy financial assets. This means that they demand to demand. They demand money to demand assets on the financial market. The demand for money operates on the money market, which moreover is neither the ordinary nor the financial markets, clearly.

Monetary supply satisfies this demand for money to speculate on the money market. Interest results from monetary supply and monetary demand. The question is very different from how Bernácer approached it.

Let's look at his criticisms of Keynes. He wrote that monetary supply and demand is an absurd operation if we do not say what these operations are done in exchange for (*Metric Economics*, art. 1955-56). He didn't explain at all when speaking of demanding money what is being offered in exchange and, when speaking of supplying money, he didn't say what was being received in exchange (what is being demanded in exchange). As Bernácer continued, if the buyers of securities supply money in exchange (disposable funds) and suppliers of securities demand money, then it is understood.

Thus explained, it is understood, and Keynes' explanation remains in the darkness, no matter how much and how many wise economists have worked *using and building upon* the Keynesian proposition with mathematical and even conceptual elegance. He needed to search in the origin, in the concept itself of monetary supply and demand. Keynes' mistake was an original error of classical economists who also frequently confused capital either with factors of production or with the monetary means that made the purchase possible.

Maybe Bernácer and I are being unfair to Keynes. Maybe I place too much attention on what modern macroeconomics *says that Keynes said*. I believe this injustice is caused because of modern macroeconomic education that may be poorly assimilated. I say poorly assimilated because there are issues like this, the money market, that I do not understand.

In reality, Keynes focused his attention on interest with respect to liquidity preference. The preference for liquidity means desiring and selecting money over other assets that are not money. Money is preferred due to the quick buying opportunities it provides. And money is preferred less and other assets are preferred more due to the possibility they have of providing interest or profitability. These other assets, financial ones here, are bought with money. This is money we have, otherwise we couldn't buy anything. When purchases are made with money, liquidity is lost and profitability is gained. Having liquidity has its advantages, which is taking advantage of good opportunities, opportunities that are speculative. Although not totally clear to Bernácer, he explained it and his explanation is so simple and clear that many have been dumbfounded.

Liquidity preference hides the old concepts of supply and demand, he stated, just that they are supply and demand on our financial market. The explanation is as follows: whoever renounces liquidity parts with money and acquires something. Except for madmen –and not all of them but a few- *if you have given money to someone, it is because you have bought something*. Renouncing liquidity is to buy or demand. Whoever wants more liquidity or money executes operations for supplying it. This operation is called supply of assets to get money in exchange. This is how the greater or lesser liquidity preference was explained as the supply and demand for assets.

Of course, liquidity preference does not only relate to the greater preference for *ready cash*. It is related to this desire with respect to the interest provided by other financial assets. Therefore, liquidity preference is a greater or lesser desire for money and a greater or lesser demand for money on the speculative market. This clarification is important whenever the liquidity preference *also* increases and decreases due to the supply and demand of goods and services.

In short, speculative supply and demand are direct for Bernácer. In the financial arena, suppliers and buyers of securities and other assets come together. In Keynes' work, the operation is indirect since those demanding securities have first gone to another arena, the monetary one, to demand money, and after they get it, they then go to the financial market.

Liquidity preference entails the operations of buying and selling financial assets to have more or less liquidity, as one wishes. Of course you can lose liquidity by buying a piano and increase it by selling a lamp, but since the financial market is being dealt with here, financial assets are the product in question. So much unnecessary complication for something that was already known, stated Bernácer.

#### 16.4.1. The one and only multifaceted financial market<sup>67</sup>

Financial market assets are characterised by several properties. The first is that they are not new wealth and thus do not generate new income. For example, a plot of land. Secondly, they generate non-productive income  $R$  (different than national income) simply by owning them. This is not a necessary trait of these assets, since there are assets that can generate maintenance costs, taxes, etc., even losses. They are continually exchanged, awaiting speculative earnings through changes in market prices. This can be a material thing or merely a debt instrument or legal value.

Opposite this market is the ordinary market, from which national product comes. This product includes thousands of different products that are *specifically* supplied and demanded. In other words, each one has its market. They are specific markets within the large ordinary market. Specific needs and specific income leads each buyer to request his product.

Why am I repeating such obvious statements about the ordinary market? To better explain the financial market. Very different financial products are offered on this market. Each one has a *specific* range of profitability, risk, liquidity, security, etc. These characteristics shape a clear profile that makes each of these financial assets different from the rest. And clearly, there are suppliers and buyers like on any market. Therefore, there are specific and numerous markets for each financial product within the overall financial market.

Each economic unit wants to keep assets for different reasons and for a mixture of different reasons. Some people want to place their savings simply to speculate and consume more tomorrow; others, like an employee waiting to retire, wants to keep his savings to use them to plan for possible contingencies tomorrow and if he happens to obtain a profit, all the better. Companies place their sinking funds into assets that earn profitability and, in turn, keep some liquidity to cope with production needs tomorrow; others acquire assets from the public sector (passive in this sector) as tax deductions. Other investors wish to place money to hide money from the Treasury; others for land speculation, for example, so that even if they are very profitable and safe, they are quite illiquid; others seek liquidity and subsequent low profitability. The examples multiply, adjusted in each case to investors' needs. What is clear is how difficult it is to separate one motivation from another and even more difficult, if not impossible, to segregate one group of *speculative* investors from another group of *cautious* investors and others who are somewhere in between.

In the same way as there are different needs and therefore different financial investors (although I believe using the word 'investor' here is incorrect), in the same way I repeat, there are financial assets to satisfy all these needs. The ordinary and financial system is particularly prolific to be able to engender an entire series of financial assets. Banks, non-banking financial intermediaries, companies, domestic economies and, above all, the state are continually creating financial assets, each one with a different maturity date, profitability, risk, liquidity level and security.

This variety is necessary to meet the needs of each specific investor. So there are bills, cash vouchers,

promissory notes, bonds, short and long-term public debt, Treasury bills, Treasury bonds, as well as properties, plots of land, buildings and even properties, plots of land and buildings that have never existed. Some are very profitable, some are profitable but are subject to large oscillations in their value, others have quick maturities, others longer, others are used as money, others are comfortably in the bank and in others, the discount is quick but costly, etc.

The fact is, like all demand, the buyer carries a mental plan in his head that aims at satisfying a need (speculative, cautionary, etc.) and, supply that in itself is a plan, which is to demand money. The agreement between supply and demand is realised in each specific market, where the sum of all these markets is the financial market.

Private and governmental financial organisation tends to unify markets and, in turn, tend to specialise them. In this way, every person finds his supplier and every person their buyer. The most organised market is the stock market, a giant exchange on which information and transaction speed gives it crystalline transparency. Indeed, the passage of time has strengthened Bernácer's affirmations. The multiple and diverse financial operations, the multiple assets that appear on the market exhausting financiers' imaginations, the flexibility of the law that makes new varieties of contracts possible... all of this joined to the democratisation of economic information and the humungous capacity of computers have only served to confirm Bernácer's statements.

Opposite the complex psychology of buyers who carry the combination of multiple desires in their plans is the simple and clear desire of suppliers who *want money*. Simply money or, if you like, disposable funds.

There is another difference between the ordinary and financial markets. On the ordinary market, in each one of these markets, each buyer clearly knows what he wants. A car with specific characteristics, a refreshing drink or the services of an employment lawyer, for example.

Not even a fortune teller could understand what a speculative investor has in his head. Nobody could answer (not even the buyer) what the reason is that leads him to buy state securities or shares. Profitability, liquidity, security, etc.? What people can do is find out about general tendencies. Sinking funds require specific financial investments, a speculative fund, another type of investment. But there is no clear and defining separation.

If they are compared, the suppliers on the ordinary and financial markets are both demanding money.

## 16.5. DISPOSABLE FUNDS OR FINANCIAL CAPITAL AND ACTUAL CAPITAL

All explanations seem insufficient to determine Bernácer's outlines at the beginning of the century. The explanation was terminological and conceptual. Let's go back to the idea of capital.

Capital in one of its meanings is a product of work; in the other, it is the product that, above all for classical economists, was money that demanded capital goods. A serious confusion, when the most classical of all classical economists, whom I believe to be David Ricardo, knew what capital was as a factor of production, as well as his marginal student, Carl Marx.

In one of its meanings, capital is the product of labour and, in the other, it is the product of savings. I believe that Bernácer settled the matter when he differentiated capital from savings. With this qualification

it demands and finances the first, an operation that we already know is called investment<sup>68</sup>.

Since we are interested in the interrelation between financial and real markets, I will explain what I understand by the *poorly-named capital market*. This is the market of funds that lets the authentic capital market be financed. These funds are system savings.

The last section finished stating that the ordinary and financial markets are similar in the sense that suppliers from both markets demand money.

Let's see what suppliers on the financial market, or disposable fund market or the misnamed capital market offer in exchange.

1. Stock-market share sellers
2. Property sellers
3. Loan seekers
4. Those who issue securities or financial assets (with their liabilities) to finance their industrial capitals

#### *Dynamic portfolio equilibrium*

Connected to the previous question, we will analyse how disposable funds are placed, with truly diverse origins, among different assets, in accordance with profitability-risk criteria. The explanation Bernácer gave is simple and is related to the theory on portfolio equilibrium presented in modern times by Tobin, although not with the polish and strictness given by this commendable Nobel Prize winner.

Liquidity and profitability are combined in financial assets. It is liquidity preference. Dynamic equilibrium is also sought between profitability and risk. In the great economic game, investor-players bet on securities that will be more profitable, although they are also riskier. Nobody acquires a high-risk security if another can be acquired with less risk and the same profitability. If everything turns out well, they will have obtained large profitability as a prize, otherwise a loss. In securities and shares, the risks are not equal. A new issuance will have greater risk than a guaranteed state issuance. If risks are different, marginal profitability or interest is also different. Thus, fund providers or lenders will receive interest that is not equal, albeit comparable.

An example can be used to better understand this. A moneylender-saver, or fund provider, has two options. One is to buy government bonds and the other is to buy private securities. The first has a yield of 11% and the second of 15%. The saver believes that the 4-point difference (15% - 11 %) is small to *compensate for* the risk. He thinks that he would invest in private funds if they yielded 19% instead of 15%. While this does not happen, he will demand public funds, not very profitable but very safe. This activity will contribute to raising market prices and decreasing *relative interest*. Simultaneously, it will contribute to improving the conditions of private company supply to attract suspicious investors.

Old private securities could be substituted for public funds in this example because their risk is known and have decreased because the market, after working with them for some time, has contributed to maintaining uniform market price levels. If the new conditions of the new securities do become attractive, funds will demand them and the market prices of the old ones will drop.

Fund buyers thus keep a portfolio of financial and real assets (our financial market) with different assets by order of liquidity, risk and profitability. Among these assets is money itself. Opposite this demand, there is a dynamic movement of supply that will continually and obligatorily offer different assets in order

to attract funds. Thus, there will be a tendency towards equilibrium in the sellers' asset portfolios, on the one hand, and suppliers on the other, and the market in general. Here, Bernácer repeated his old argument from 1925 (*The Interest of...*) and in his last book from 1955 (*A Free Market Economy...*).

I think it is somewhat similar to the money market and asset equilibrium explained in modern macroeconomic books, when they refer to the LM curve, whose origin dates back to Hick's work on the Keynesian model (IS-LM curves).

With *new* issuances, which are rivals of old issuances, entrepreneurs collect funds that are savings and acquire capital goods. This means that they invest.

If savings is occupied with acquiring old securities, savings is squandered but does *not* finance new investments. This is a dangerous operation.

The new issuances reward lenders with the profitability obtained from their investments, restating this with more certain words, the last saver is paid with the marginal productivity of capital. What is tragic about this case is that the new emissions have a rival in the old ones, which provide merely monetary profitability and do not generate new production.

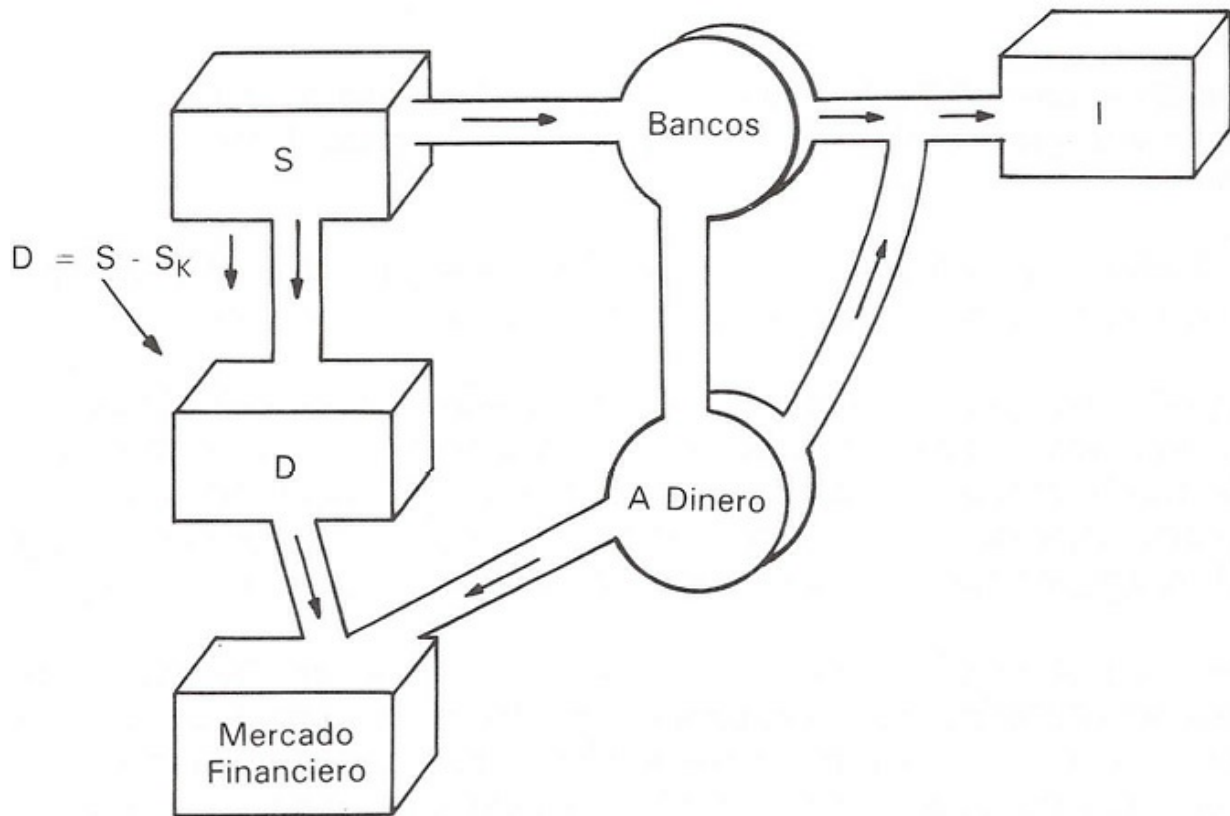
Old issuances live on the financial market. Their life is possible due to the disposable funds that arrive there from non-capitalised savings. Since these old issuances do not generate much interest, although it is free, interest born on the financial market impedes the free transit of savings to investment. New emissions are born on the ordinary market, in the same way that investment and production spring from this market, but since they survive *after* this honest function, they then become old securities.

If the profitability of capital goods was not high nor the profitability paid to lenders who acquire the new issuances, even so, savings will run quietly towards investment, but financial market interest will warn this lender of the foolishness of this activity when, risk free, it can obtain profit from the old securities.

Old securities and other assets reflecting financial market operations are heirs of productive operations on the ordinary market. But they are unnecessary parasites that rob the food (disposable funds) from their parents. To Bernácer they are patricidal sons.

This is why I have stated that the financial market is heir to the ordinary production market. Like the banking system in its transferring task of taking savings to investment, it also *creates* money, and the economic system has an auxiliary power that feeds investment. Nonetheless, the quantitative and varied growth of the financial market means this aid is partly neutralised, partly because a fraction of the money created detours towards speculative demand and partly because the same savings, or investment, is not dumped back into the productive, but the financial market. Thank the lord it is only a part. The following graph tries to depict these words.





Savings  $S$  goes partly to banks  $S_k$ , which transfer it to investment in lending transactions  $I$ . Money is simultaneously created ( $\Delta$  money). Part of this created money goes to investment and part to the financial market. Savings that are not invested are disposable funds ( $S - S_k = D$ ), which also feed the financial market.

The arithmetic formula can be expressed as follows: If the new money created is  $M$ , the part of  $M$  that goes to finance investment will be called  $M_k$  and the part that finances the financial market will be  $M_f$ .

$$M \rightarrow M_k \text{ and } M_f$$

Investment will be equal to:

$$S_k + M_k = I$$

It is the savings that are capitalised  $S_k = (S - D)$  plus the *new* money that finances the investment.

The flow that finances the financial market will be equal to:

$$D + M_f = \text{Flow from the financial market}$$

*Note:* The formula was not explicitly drawn up by Bernácer. And this is my graphic interpretation of his verbal explanation.

## 16.6. THE CAPITAL GOODS MARKET

Capital, like consumer goods, is the fruit of human activity. It is created with the labour factor and other factors of production. Capital aids production in the production task. In market terms, its value like any consumer good is a reflection of its supply and demand. If demand is low, it accrues unsold and forces prices to decrease. They tend to say that interest is paid for scarcity. False. Interest is not paid for capital.

Whoever buys it, buys it for its sales price and nothing more. Another thing is that this calculation is complemented with the chain of estimated returns.

Interest is paid for the liquid asset that is done through a loan to finance capital goods. And interest is paid on all loans, independently of the end for which the loan is intended. Like all prices, interest reflects tension between what is wanted and what there is or, the same, between supply and demand.

Interest is paid for the liquid asset (savings plus new money lent) because it is scarce in some way. If it were abundant, enough to widely attend any request for monetary resources, interest would be null.

This is how certain production activities, which endure greater risk, are undertaken by only a few plucky entrepreneurs, who then receive a higher percent of profits. It is the other back room of the market, what is done with loans that are requested. With the money from these loans, entrepreneurs invest in these scarce activities that are subject to uncertainty. The prize is the profit. I believe this is Knight's theory.

The arguments that tend to be dumped on capital and interest are diverse and colourful. They are apparently so logical that students and researchers alike cruise along them like a well-lit street. They err, because there are two roads. Let's look at an example: They say that interest is paid as recompense for the aid to production that is capital.

The correct argument is: Assistance to production is determined by capital as an intellectual and physical element, the fruit of work and human cleverness. Conversely, interest is the price paid for 'the two moneys' (savings and new money) that has let capital goods be financed.

Since savings and new money detour to the financial market, where they generate interest, interest emanates *outside of production*. As an element that is outside of production tasks, and in some way outside of monetary ones as well, it is wrong to say that it is compensation for capital equipment.

Interest signals the price of money and in this way lets investments be evaluated in terms of the cost of opportunity. This is how capital equipment has the cost of interest behind its back, which the financial market carries on its own back, and not because it is part of its body.

It is very possible that, although the financial market is comprised of few disposable funds (a fraction of savings) and little new money, even then interest is high. The explanation lies precisely in the impetus of a dynamic economy to increase its production capacity. It is ironic that this yearning to grow places limitations on growth, since higher demand for a supply of resources, owing to capital needs, makes interest go up and contain production.

If the opposite happens, the operation also becomes dangerous. If a large quantity of money goes to the financial market, the market price for securities goes up, making interest drop, a drop that is healthy for investment. Nonetheless, there is a disadvantage. Interest has dropped because the financial market has been flooded with money, which has moved out of the ordinary market. However, it is the ordinary market that requires this money to invest, produce and distribute income.

I must repeat this point. The difference between investment and the placement of resources on the financial market is not only that one increases the productive capacity of the economic system and the other does not. The most important difference is that investment returns all money (savings plus new money) to the ordinary market and the second takes it but does not necessarily return it.

#### 16.6.1. Conditions for the existence of zero interest<sup>69</sup>

Here is an intelligent exposition by Bernácer for the understanding of interest and the financial and ordinary markets. The financial market is characterised by its fecundity. It grows by itself and, above all, as mentioned several times, from the production of the ordinary market. Production activity is born there, reclaiming financing sources via the issuance of securities. As time passes, new titles appear, which are added to those that before were new and now are old. Multiple legal relationships are also generated in the system, reflecting documented creditor-debtor relations, documents that are the object of speculation. Real speculative assets are added to this market.

In order for interest to be null or tend towards zero, the condition must be met that given income (non-productive)  $R$ , the corresponding market price for these assets must be infinite.

$$R / \Delta V \rightarrow \Delta i > 0$$

Here, as always,  $V$  is the value of all financial assets and  $i$  interest. Infinity does not exist in economics and even less so on the financial market. No matter how much savings and new money it absorbs, no matter how much security prices drop, the number of securities is always growing, which is at least an intense indigenous growth.  $V$  will never be infinite. However it is at least theoretically possible that profitability of a production activity is equal to zero. And, if interest, born outside of production as we know, is always positive, it *forces* invested capitals to yield positive profitability that is greater than interest. But if industry profitability were reduced, even in the impossible case of null interest ( $i = 0$ ), this does not mean that it isn't socially and economically interesting, since it always shows an increase in production capacity of the economic system.

Returning to the previous argument: an increase in the market price of securities and other financial assets, including real ones, so that the increase is infinite ( $i = 0$ ), this apparently positive dynamic would mean collapse in the ordinary market. The reason is obvious, since a giant leap in market prices of securities is only possible by absorbing humungous quantities of disposable funds, also infinite, which would mean the quick death of the ordinary market, which is where these flows would come from.

For a rigorous explanation of the previous argument, Bernácer carries out the following experiment.

Financial market supplies and demands can be divided into three groups:

1. Fixed asset securities
2. Variable asset securities
3. New securities and loans

The existence of positive interest requires that *at least* one of these placements originally generates income (non-productive).

If new securities and new loans disappear, resources would go to old ones, which used to be new, and that continue to circulate. This would contribute to making market prices rise and interest drop.

You can imagine that the sector or group of variable-income securities stops operating, in which case demand would be channelled towards fixed income and new loans. In this last group, buyers would try to obtain it under the most advantageous conditions, but if they weren't so advantageous, they would demand the old securities, making market prices rise and interest drop. Those requesting loans, companies or investing units, would pay this interest at least if they wanted to compete in attracting loans.

If the variable-income sector were eliminated and the new loan sector suppressed, all funds free of the

market would turn to demanding from the fixed-income security and property market, raising the market price of the income units placed there. Here is the centre of the argument: all disposable funds and new money would demand these old fixed-income securities, making the market price go up, with which the percent return, or interest ( $R/V$ ) would drop. How much would the denominator or security price have to increase so that interest (or fraction) was equal to zero? It would have to increase to infinity, which is unthinkable. More precisely, even if it were somehow to occur, *it could never be negative*.

Lastly, suppose that the fixed income and property market were eliminated. Before continuing, remember that this market is the most important as regards the volume of transactions. Therefore, monetary resources would go to other groups (in prodigious amounts), raising market prices. A speculative process would be started up by agents seeking quick returns. After the process stopped and speculative earnings eliminated, the yield rate (percentage) would be reduced. *New buyers* would be able to obtain loans at lower levels. Companies that were paying back loans at extremely high interest rates would renew their old loans for new ones at lower rates. Likewise, new companies would find their investments were cheaper. What would be the only way to eliminate interest? By suppressing the market that originates them, or the financial market. If for example, the variable income and debt and property (fixed income) sectors were simultaneously eliminated, available savings would have no choice but to go to investments in fixed capitals. This is the same as saying that savings would be dumped into the only market that wasn't cancelled (in this last example), which is the *new* loans market, which is limited. Perhaps the most limited of them all. If all savings moves towards this market, the considerable flood of the supply of savings, before occupied in the now-suppressed markets, would turn to the investment market, making the price of money drop to null.

And interest would tend to move towards zero for the simple reason that new loans documented in securities *would not be negotiable*, still with respect to the example. Savings would not find a free and lucrative placement on the financial market and, therefore, the only possibility would be to move towards whoever requested it. The parties requesting it would be those demanding *new* loans for investments. In this way, savings that exited the ordinary market in the process of creating national product would return to it, via the financial operation entailed by lenders lending to borrowers, moneylenders who are savers and borrowers who are the investors. Savings will now have the inevitable calling towards capitalisation.

If there are no financial assets, there will be no income ( $R$ ) derived from its free possession, nor quotes on securities and therefore it would be absurd to speak of profit percentages of income and assets that do not exist. Interest would no longer exist. If interest stopped existing, there would be no reason for investments to be limited in their free application.

*Note:* I believe that Bernácer did not see the flip side of the issue, which is the existence of a money market on the ordinary market, even if the financial market did not exist. There is a savings supply flow and a demand for savings, thus interest arises, which would be different from financial interest.

In the last example set forth by Bernácer, current savings is aided by savings on the financial market and, upon eliminating this market; it would be added to the ordinary market. Under these conditions, interest would be zero or move towards zero. If just considering current savings, it would be difficult to establish the conditions under which monetary interest from the ordinary market would tend to be zero. A sudden demand for money to carry out new and stimulating production activities could always make loans expensive, making interest rates go up.

My argument –not Bernácer’s- is corroborated by the last statement, saying that savings must finance fixed capital and new money must finance working capital so that the system does not become depressed. This proves that savings is insufficient to develop production activities. If there is not enough savings, it means it is scarce and if it is scarce, proof being that new money is required, there will be a price for it, which is interest.

Therefore, the conclusion is that for interest to be zero, in the absence of the financial market, monetary demand for working capital must be financed with new money.

### 16.6.2. The issue of net disposable funds

One adjective, *net*, is so necessary to explain the financial market that the theory I am going to explain could not be shown without its assistance

A person has placed his disposable funds on the secondary financial market, instead of acquiring new shares that would have entailed the capitalisation of his savings. He has bought, for example, bonds, which represents sales for the person who has them. Then  $D'$  disposable funds will have entered the financial market; an operation that will have no importance if the seller of the bonds takes these disposable funds and buys a car. If this operation took place, nothing important has happened, given that the only thing to happen is that the ordinary market has moved its money from the left pocket to the right. The disposable funds Mr Smith had that were moved from the ordinary to the financial market, return almost instantaneously to the ordinary market when Mr Jones buys his car with the disposable funds received by selling his bonds. Furthermore, the operation is healthy, since the initial disposable funds,  $D'$ , that grew due to the absence of spending –on consumer or capital goods- now represents spending on the ordinary market.

The example is similar to a glass of water, which is *our* financial market. If the glass is full and you add a few more drops of water, the glass will overflow and fall onto the saucer, which is the financial market. The water will be savings and disposable funds. This is the macroeconomic philosophy or point of view. In macroeconomics, the financial system is simply a bridge between savings and investment. Something like the arteries that carry food to the body and in which, the blood cells represent financial assets.

The *net flows* of the input and output of disposable funds are what are important here. This means that if more flows of disposable funds enter the financial market than exit, then the financial market will be abundant with funds. Conversely if more exit than enter, the ordinary market will have unexpected resources even without the creation of new money and the generation of *new* savings. The difference between the disposable funds that enter and those that exit the financial market will be called the flow of *net* disposable funds, which are the most important for explaining crisis.

The entry of disposable funds will be designated as  $\rightarrow D_i$  and the exit of disposable funds as  $\leftarrow D_o$  and *net* disposable funds by  $D_n$ . In the viewpoint of the financial market, the following will take place:

$$|\rightarrow D_i > \leftarrow D_o| > + \text{entry} \dots + \Delta D_n$$

$$|\rightarrow D_i < \leftarrow D_o| < - \text{entry} \dots - \Delta D_n$$

These operations correctly explain not only the circular (or elliptical) flow of income, but provide an element of common sense that will let the processes be analysed that generate economic cycles. The next section of this work deals with cycles and this extremely important economic dynamic will appear again.

Therefore, I must state that the flow and return of these disposable funds entails injections of monetary supply at times and an escape at other times, disorienting to monetary authorities, making them useless when trying to control monetary supply.

It is like a house that is flooded with water without having noticed any leak in the pipes and then, when you turn on the tap at another time, there is no water or it ebbs and flows.

Alternations in liquidity preferences will explain these arrhythmic tides in monetary resources. But I cannot continue with my explanation because the wise Keynes did not see the obvious (perhaps he didn't know how to interpret the blatant messages coming from the illuminating Mediterranean sun) and what is blatant is that the different assets preferred over money cannot be mixed with it, since these assets are on the financial market. These are bought with money and they are sold in exchange for money. They cannot be linked together with the series of money or moneys, which they essentially are not, although they can be converted into money, or liquefiable financial assets. And they cannot be linked because one is outside of the shop display case, the buyer with money, and the other is inside, the seller of financial assets. Thus, the ebb and flow of disposable funds that, like nervous guests, enter and leave the financial market are nothing but reflections of the tensions derived from the liquidity preference.

This is a simple way of seeing things that are uselessly complicated by others.

And net disposable funds will rear their heads again in the explanation of economic crises.

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<sup>61</sup> The oldest financial asset is land. This point merits a detailed explanation since both Robertson and I have been confused about it. Owing to this confusion, Robertson labelled Bernácer's theory as neo-physiocrat, without irony (see Robertson, *Essays on Monetary Theory*, 1940, London). The confusion is the following: Land, when occupied, generates real income that progressively decreases. How can it be called non-productive income and said that its relation to savings (disposable assets or liquid capital) is financial interest? This would be said of land (a mine, a flat in Manhattan, urban building sites, etc.) that has a higher value than what it actually yields. Bernácer's knowledge of Ricardo's theory is impressive and I think he may have even improved it, by making the already-dynamic theory even more dynamic. According to Ricardo and Bernácer, prices are not high because land rental is high, but exactly the opposite. Let's see why. Not all factors of production have the same supply elasticity and something must happen to mobilise them. Income from land is inelastic and it is speculation of vacant lands, without productivity and potentially productive, that make their prices go up, letting this speculation attract producers like a magnet to produce on these wastelands.

<sup>62</sup> In *Society...*, he distinguished between incomes that he called natural (a Ricardian term) and another that is effective, with speculation resulting from the latter (pp. 114-115). Then, one must also distinguish between land appropriation and land operations; when appropriation and exploitation coincide in a dynamic of successive operations, Ricardo's income arises, which Bernácer called natural. However, lands are frequently expropriated awaiting their exploitation owing to humanity's growing needs. Then there is a monopoly position that makes the effective income (what actually appears) higher than the natural, with the speculative appearing. Natural income, which is susceptible to being measured in real terms, is less than effective monetary income.

<sup>63</sup> I stress land rental because conclusions can be extracted from its analysis that can be applied to other real assets like root assets in modern economies. In *A Free Market Economy...* (page 106), he stated that if all lands were free, abundant and fertile, land income would drop and would tend toward zero... provided that there was still vacant land. This does not happen and there is always more demand for land, in order to exploit it, with supply smaller than demand. In this way, more property is appropriated, which are marginal with lower income that provides higher income to old lands. This income is objective and sure and institutions assure they are transmissible. This statement can be amplified to include other real assets. On page 107 of the same book, he said: 'Due to land income, the rent on a premise in the centre of a large city is higher than the same premises in a suburb. Since construction costs are the same, the higher rental price flows back to the property owner...' He later added: 'Given that this income absorbs surplus product of marginal lands, producers do not benefit more than with what is earned on marginal lands and do not benefit more than the price of the marginal buyer'. This means that socially productive producers in terms of a flow of wealth profit only from one part and the owner profits free and speculatively from the rest.

Lastly he stated: 'Territorial income, like the majority of transmissible incomes, holds a special place in the set of distributive incomes. Its effect is to tend to match the liquid profitability of labour and capital in all places, with any more favourable opportunity absorbing the excess, via the property right deed of usufruct...'

<sup>64</sup> I have calculated interest as an income percent, by dividing income  $R$  (non-productive) by the security price. The difference between this calculation applied strictly to financial assets must be pointed out (bonds, obligations, etc.), whose income is supposedly infinite and is equal for all securities in a series (an income or dividend  $X$  is equal for all the thousands of securities in the same series for a specific obligation), and the calculation applied to the income from real assets on our financial market. In the latter, each real asset (flat, plot, country property, mine, forest) has its own rent. According to Ricardo, it depends on the order of appropriation and exploitation. Since each has its own income, it is clear that the same amount of disposable savings will obtain several interest levels, due to calculating quotient of different incomes over a constant portion of savings (non-capitalised).

Example of financial assets: Obligations of perpetual income for 10,000 securities whose income is 1000 per obligation, where the value of each security is 10,000. No matter the order of the series, its income is 1000. Since each saving unit of 10,000 that is placed produces the same income of 1000, the interest is:  $i = R/V$ . Conversely, suppose you have twenty pockets of mines or lands, each one with give a rent of:  $R_1, R_2 \dots R_{20}$  so that  $R_1, R_2 \dots R_{20}$ . And since the market assigns different prices depending on productivity, which will be,  $V_1, V_2 \dots V_{20}$ , profitability will tend to be identical because  $i = R_1/V_1 \dots R_{20}/V_{20}$ . You cannot speak of the same amount of savings allocated to acquiring different assets (in which case interest would be rising) but rather of an amount of savings that is less whenever you have to pay, with this lesser savings, less for real assets that earn less.

<sup>65</sup> If owned land produces income simply by being owned and therefore earns interest (income for placed savings) and this value is known, and it is both objectively and institutionally transmissible due to property rights, one can draw the conclusion as Bernácer did: 'Wealth lent for another's use accrues interest or a profit in favour of its owner, equivalent to what he would obtain by employing it in the purchase of other's lands' (*Society...*, page 139). This was Turgot's principle, but influenced more indirectly by Ricardo. Since Bernácer's work was not totally known by Robertson, this is why Robertson called Bernácer a neo-physiocrat. I believe that this contribution by Bernácer in the physiocratic sense is useful, not due to referring exclusively to land -which lacks importance in Western economies- but because it opens up the enormous sectors of real assets (lands, property sites, mines, flats, etc.) to our understanding. Along with financial assets, they comprise Bernácer's financial market.

<sup>66</sup> Capital has real interest (according to Swedish thought) or its marginal efficiency (according to Keynes), or its industry capitalisation rate, capital profitability or industrial profitability (in Bernácer), provided that they are in operation and are successful on the market, obviously. This is not so for real financial market assets that earn without entering into operation (*Society...*, page 153... *A Free Market Economy...*, page 130).

<sup>67</sup> To both Bernácer and Keynes, income will not only consist of obtaining financial interest, but also speculation. Since the latter in optimal circumstances means an increase in market prices  $\Delta V$ , it will also mean a drop in interest. This decrease is compensated for by capital gains (a bad name, since they really mean speculative financial earnings). It is still worthy of attention that since 1916 in *Society and Happiness*, Bernácer understood this phenomenon. He stated (page 141): 'Total gain of owners over a period of time is indicated by the income obtained in the same  $R$ , plus the price difference between the two times ( $P' - P$ ); However, the last term can only be estimated as a hope, on which probability and speculation is based. He said the same in his last book as in his first.

<sup>68</sup> Bernácer established multiple nuances in his work between actual speculative assets and genuine capital. The following statement expressed it well: 'the two things to exchange are fundamentally different in this case; one is produced, another is not created; one is consumable, the other is amaranthine; value is the nature of one, the other is its utility. The impossibility of reaching equivalency in any case is exactly the origin of interest' (*Society*, page 141). The system paradox is what stands out here that 'what is necessary to produce -capital- and that is created, is frustrated by speculative income of the uncreated -land- and other real assets. Bernácer insisted on the fact that interest compared to the creation of capitals, when real means are more than enough to produce it: labour and other working capital elements. Thus, he stated: 'exactly at those times when the scarcity of capital is greatest is when labour is unemployed and capital articles stack up without buyers in warehouses... What happens is that the installation of fixed capitals determines the scarcity of financial capitals, since the operation's result is to convert disposable savings into industrial funds and wages and payments in general... Conversely, savings not followed by the investment of money it forms increases disposable funds, which contributes to sustaining the market prices of income assets and keeping interest low, which is favourable for stimulating production, but has the serious shortcoming of taking money from the production circuit and decreasing production income, opposite to investment in real capital funds....' (*A Real Market Economy...*, page 130).

<sup>69</sup> Null interest is an enormously complex issue that is outlined in the book *The Interest of Capital*, and studied in detail in the mathematical appendix, section D, 7 'Origin of Interest', pp. 250-1 of the book *A Free Market Economy...* Conditions for the existence of null interest are thoroughly set forth (The existence of positive interest demands that these savings placements are at least an inseparable producer of non-productive income). We could ask Bernácer the following question: If income assets did not exist, would interest exist? In my opinion, the answer would be yes since everything would depend on the relationship between the demand for money and supply, supposing the superiority of the first. Above all, Bernácer did not make use of the relation between working capital and new money created, for the purposes of explaining interest. It could have been stated: the interest rate would be null or not supposing that the demand for money to finance working capital was satisfied by the creation of new money (all the production of consumer and capital goods is, in producers' hands, working capital).

# Part Three

## The cycles



### 17.1. INTRODUCTION<sup>70</sup>

As early as 1916 in his first book *Society and Happiness*, Bernácer had not only developed the idea of an economy of unemployment, but also that the system is subject to expansion and contraction rhythms that are not random. Bernácer's scientific background gave him a fortunate *bias*, I believe, in his way of interpreting economic movements. His university studies were in Physics. He was originally a business teacher, a profession that trained students in accounting. The first faculty of Economic Sciences was not founded in Spain until some 59 years after Bernácer's birth. Bernácer was interested in physics, which he taught, although the course title was strangely convoluted as 'Testing and Evaluation of Commercial Products'.

I say that he imposed his physics studies on his economic reasoning because he continually used sentences about forces, vectors and, above all, concepts of equilibrium and disequilibrium. For Bernácer, there were several types of equilibrium, more or less equivalent to physics concepts of stable or unstable equilibrium.

The economy can be in equilibrium even when there is unemployment and can also be in equilibrium in full employment. While classical economists believed full employment was a constant and critical situation for the system, Bernácer believed this was an extraordinary situation. Dynamic equilibrium would exist in an economy seeking a situation of stability that quickly changed its growth rate either positively or negatively.

He understood classical thought very well. Proofs of this are his sharp and insightful critiques. Price and salary flexibility make the system elastic, so that crises subside alone, with this elasticity preventing the rupture of the system. Price and wage flexibility make it possible for those who want to sell to sell and those who want to work to find jobs. This is an approximation of classical argumentation<sup>71</sup>.

For Bernácer this flexibility does not exist and therefore the system is rigid and able to suffer the shocks and jolts of crises. This is a point, flexibility, in which he did not speak of much, at least not as much as Keynes did. There are other factors for Bernácer that make the system enormously vulnerable to crisis and that are related to international and domestic factors of the payment system. These were the gold standard and government intervention in international trade.

Contrary to the old idea that the gold standard not only internally regulated the economy, but also did so at an international level, this system is a force that contributes to propagating cyclical oscillations on rigid terrains.

All these arguments, price and wage inflexibility, the gold standard and government intervention in domestic economies (with respect to foreign trade), do not explain the cycle. They only determine the suitable institutional framework so that the forces that encourage the cycle are developed. Thus, the origin and the mechanics of those vectors that make the forces of the cycle possible must be determined.

The theory on money, on interest and general market mechanics are arguments that explain said forces.

Readers should have enough knowledge now to understand these oscillatory phenomena.

Bernácer developed an entire theory on economic cycles. Haberler knew this, author of *Prosperity and Depression* and, of course, Robertson also had knowledge of it<sup>72</sup>. This field of economic dynamics was not foreign to Bernácer. On the contrary, it is a theory that uses extraordinarily important analytical tools to construct it (theory on money, on interest, etc.) already constructed by *none other than* Bernácer. It is legitimate then to speak of an economic theory or, rephrased more appropriately, Germán Bernácer's macroeconomic theory. This theory is an enormous building, independent, solidly built, in which each part depends on the rest. One can speak of different rooms, such as monetary, that are connected to other, like interest, and with many others, such as cycles. These rooms in the solid Bernacerian building are designed, in turn, around two *separate but connected* floors: the ordinary market and the financial market.

This building, topped by the theory of cycles, was built over a period of some forty years. He started with *Society and Happiness* (1916) and finished with *A Free Market Economy without Crisis or Unemployment* (1955). Between these two books were dozens of articles and two other books. All of his body of work has absolute and total coherency. There are no ambiguities or fickle winds that blow his scientific boat off course due to new scientific findings or events. He knew, like a doctor knows, that there is blood circulation and this is an unquestionable fact, just as there is oxygenated circulation and another that is contaminated. I refer to the monetary circuit on the ordinary market and circulation on the financial market, which are also facts. This is how his work started and how it would end<sup>73</sup>.

The logical coherence of his body of work from beginning to end is why I believe that Bernácer is one of the greatest contributors to economic science.

## 17.2. THE AETIOLOGY OF CRISIS<sup>74</sup>

The first thing that is already known is that the existence of interest makes the free circulation of savings towards investment impossible. We also know that speculation intensely absorbs system savings, specifically disposable funds, towards the bottomless pit of the financial market. Interest and speculation, which both take place on the financial market, let economic crises be glimpsed.

This affirmation is not enough, given that a depressed economy is a stable economy and does not alone determine the existence of cycles. The dynamic factors of the cycles have yet to be explained.

One of the most interesting aspects of Bernácer's work may be his explanation of the cycles, made independently of the existence and casuistry of the financial market. This *new* argument will be found in the financing of production activities and will also be found in his statement claiming that savings must finance fixed capital and that *new* money will be needed to finance working capital. If this does not happen, the system will inevitably and quickly move towards crisis.

## 17.3. A THEORETICAL OUTLINE OF CRISES

Bernácer's early work –before 1922– displayed exuberant energy in its intellectual execution. Chapters from his book published in 1916 started by explaining income, his criticism of interest and the doctrines that deal with it, money, international trade, etc. He also analysed and explained crisis. As a theory, it was still quite incomplete (in his 1916 book), although it is very useful as a working diagram. He set forth a

series of stages that establish a methodology that he would follow in future works.

You may ask why Bernácer, who so boldly wove his theories on interest and money, did not execute a similar work on crisis. The reason is obvious. To construct a theory on crisis, he needed precise analytical tools in his hands, such as the theory on money and on interest, which would be rigorously set forth in the twenties (1922-25). He also needed highly-skilful hands so that with imagination, skill and exactitude, he could construct a solid and elegant argument. He may not have possessed these conditions as a young scientist of 33 just starting to work.

For the moment, let's take another path. I will start by laying out his initial work on crisis in the book *Society and Happiness* and then move on to the exposition on crisis, but interwoven with the threads of his theories on interest, on money, on savings, on disposable funds, etc. The aim of this section is to show the interrelation existing between several variables, each of which has been explained earlier. Readers are forewarned that old arguments in this book will be repeated. I prefer reading ease and comprehension, even if it may be monotonous, over possible surprise and disorientation.

### 17.3.1. The design of crisis

Undoubtedly, crises are preceded by periods of great commercial activity that last a long time. Later, other phases in the cycle occur that are quite short. In fact, producers quickly find that their products are not selling, loans become expensive and business obligations are not fulfilled. This is the first phase of crisis. One gets the feeling that the system's speed and precipitation to fix things is what pushes society towards crisis. Subsequently, normality is re-established.

There are many factors that slowly accumulate in expansion periods that suddenly explode. This is when the demand for consumer and capital goods declines, while manufacturing production simultaneously continues. The reality becomes clear through overproduction and weakness in demand that, in this case, are exactly the same. We need an explanation from Bernácer about how it is possible that demand drops, when theoretically income does not, because of increased production that in the early days of crisis does not stop.

The study of crisis is divided into four parts:

1. Preparatory phenomena
2. Decisive phenomena
3. Critical phenomena
4. Revival phenomena

#### *Preparatory phenomena*

The symptomatic events of this period develop almost simultaneously. Nonetheless, a frequency will be established in order to help with systematisation.

#### **Drop in the capitalisation rate of 'Assets'**

Bernácer called savings 'assets'. He followed a very typical convention of his education in accounting of calling what remains of revenue after part has been spent 'assets'.

In periods of economic boom, needs continue to increase and are satisfied. Production, which provides

satisfaction for these needs, also increases. Revenues and *assets* increase. Soon these assets are assigned to buying lands and other fixed-income securities. There are reasons that strengthen this action: One of them could be placements in financial assets, which are monetarily profitable; another could be saturating the factors of production that are being used to the limit and that, like lands, are avidly fought for by entrepreneurs, making their market price go up. Land and other profitable assets, which are strongly demanded, are not supplied with the same force, given that there is no reason, in principle. This is how when the prices of fixed-income assets rise, including the earth as the original producer of land, actual income or interest descends. Bernácer said the following: ‘Actual interest accrued for *assets* descends’. He used ‘assets’ referring to savings. It is an accountant’s term.

### **Intensification of industrial activity and speculation**

Speculation feeds itself. Desirous of collecting fast speculative earnings, savings turns more energetically to sterile fixed-income assets, helping them go up and maintain their market price. This ascending market price gathers the energy of *cash assets*, a name Bernácer gave to disposable funds. The word ‘Assets’ is an accounting entry that indicates the difference between revenues and expenses that will go towards financing fixed capital. But not all of it executes this operation, as a part remains that frustrates this capitalisation, which are the *cash assets* and the fund that enlivens the speculative market.

As readers can surely divine, total system savings is the asset, as well as capitalised savings. He called savings earmarked for speculation cash assets, which are our familiar disposable funds.

When the market price of these fixed-income assets goes up (including property and lands), interest drops, favouring industrial activity. This encourages reluctant and marginal companies to invest. Companies bravely produce; hiring more employees and current employees working overtime, which entails more production income for the system.

However, an event will interrupt this productive glee. In the frenzy of both production and demand, everything is produced and everything is demanded, including ghost, bad and useless businesses. And even bold and dangerous speculation is carried out. Speculation, besides feeding assets, resorts to credit. What would Bernácer, who remembered the speculative crisis of 1907, have thought about the speculation preceding 1929, during which swamplands were sold, as well as other non-existing ones.

### **Elevation of prices**

Money that is liquid, which is increasingly larger, either goes to the speculative market or to attend to new expenses. Let me clarify something. What Bernácer called ‘cash assets’ are liquid savings in this state, capable of being used for any end, either productive or speculative. They are disposable funds, without doubt, only that in Bernácer’s work starting in the twenties, disposable funds are the part of savings that are not capitalised, and as such, only have one path: the speculative market.

I said that prices of goods go up; this encourages greater production to be generated, which is employees’ income. It has a similar effect, he said, to introducing larger amounts of money. This means that there can be larger production incomes without needing to create new money. In Bernácer, we see an *income-based* theory, as he called it, compared to a merely quantitative one, that determines a different rhythm in economic theory, as Keynes would demonstrate later in 1936.

Entrepreneurs, stimulated by profits, increase their production activities, for which they hire new employees. This mass of workers, upon receiving increasingly higher wages, will demand more basic

commodities, which will contribute to these products' prices going up. Logically, there will also be speculation with these essential products.

### **Shortage of basic supplies**

The rise in prices of basic commodities should stimulate their production, but agricultural production and construction require a long time to increase, so that there is a gap between supply and demand. Furthermore, there is some tension between demand and the desire to keep the market in scarcity. In the end, prices go up but not production or consumption. The high price of living restricts the demand for manufactured products, exactly those products that were stimulated during the industrial boom.

### **Lack of outlets and shortage of available assets**

Industrial overproduction becomes dormant in the system. Entrepreneurs tend to increase production seeking higher returns. If more is produced, there are better *scales*, stated Bernácer lucidly: 'Manufacturers who double production can do so without their expenses doubling.' These economies of scale in production are achieved by large businesses that have large concentrations of capital (and savings as well naturally). These large companies elbow out small businesses while simultaneously inciting other large businesses to do the same. This small journey through the *real* economy, out of Bernácer's few adventures, concludes with the statement that production grows excessively.

If, as he always stated, costs simply represent the production income of a production agent, greater production will indicate greater production than income or demand. This seemingly logical statement is very necessary, given that the young Bernácer would have to be told that lesser income, next to greater production, means more products per unit of income, provided that prices are flexible.

I believe Bernácer was referring to the issue that employees centre on demanding basic commodities like clothing, food, etc., which causes tension in the market. Proof of this are his subsequent words: '... everything would be resolved by the appearance of *new needs* that incite the production of *new* goods, deviating production resources towards this production, as well as towards this increased demand.

The opposite happens, as the consumption of basic commodities entails large expenditures of money, distracting them from the demand for manufactured products. The prices of these goods drop and stop being gainful. Then the entrepreneurs' difficulties start as they try to get rid of their products, either by providing instalment plans for long payment periods, stockpiling them waiting for better times, etc. Cash assets or disposable funds that used to go to industry seeking profitability now flee fearfully from it. However, the seeker of savings or cash assets, in short the entrepreneur, seeks more resources that let him survive, bearing in mind his lack of ability to self-finance. The strain now moves to the capital market (misnamed capital market, given that it is money or rather savings or, employing the primitive terminology of Bernácer, cash assets). Greater demand than supply entails an increase in the price of money, or interest. One of the differences that makes Bernácer so different from others is precisely the moment when the crisis starts. For some, when the prices of products supplied fall, the demand for entrepreneurs' savings decreases, since it no longer makes sense to put money into a ruined business. For Bernácer, it is the law of survival that stops the entrepreneur from dying, motivating them to continue requesting monetary resources. With respect to this point, the demand from money, far from decreasing, actually increases and becomes more desperate. The following comment is worth examining carefully.

The phenomenon starts, he said, from the shortage of money. He then added –and this clarification is the

most important- that it is not the money that becomes scarce, but '...the *ratification of available assets*'. He was clearly referring to the system's capacity to generate savings. In my opinion and Bernácer's, what is disposable and not spent is loaned. Savings are logically the thing that is lent. This is why he said that it is not money that becomes scarce, since that does not make sense. His words are: 'Money is not scarcer, there is no reason it would be,' (*Society and Happiness*, page 247). The monetary mass is the same as before, but an increasingly greater part represents wages of employees and other participants in production, and these higher payments almost totally go to expenses, with increasingly less savings being formed. In short, *savings are not developed in the same proportion as before, but in a lesser proportion*. The high price of living and speculation in basic commodities imposes greater consumption and less saving. Due to the freezing of capitals, due to the lack of outlet for products and the difficulties of meeting loan payments, the *assets that were employed in industry are not replaced* with the same ease.

The money market is nothing more than the overall market of cash assets, liquid savings or disposable funds. If the system has little ability to generate savings, even though the total amount of money is the same, savings becomes scarce, making interest rise and making production difficult. This is an early and solid Bernácerian argument, different from the classical one and even more different from the Keynesian argument that would appear 20 years later (1936).

Everything is prepared for crisis to explode.

#### *Decisive phenomena*

With the seed of crisis planted, any fortuitous event can make it erupt. Some economists believe, mistakenly, that the overall source of crises is a chance event. In the speculation of a basic commodity or another product, such as copper that was the object of intense speculation in 1907, the change of custom's tariffs, etc. are events that act as detonators to precipitate crisis. To Bernácer, the most general cause that encourages crisis is the lack of food or basic products<sup>75</sup>.

In this state of price increases and scarcity of basic commodities, any disturbance to this market brings along absolute insufficiency. Producers and profiteers are interested in price increases, much more interested naturally than in greater production to meet human needs.

Good or bad crop harvests are a further ingredient that aids explanations about crisis, but only complementarily. For example, poor crops during the preparatory period (1<sup>st</sup>) could aid in the eruption of crisis. Assisting his work are the explanations of W.S. Jevons in the late 1800s about the influence of sunspots on crops and crops on businesses. This demonstrates that they were issues of great interest for economists a long time ago. They must also take place in a period during which the causes of crisis are strengthened and tense.

It is clear that within the determining causes (2<sup>nd</sup>) that tip the balance towards crisis, there can be circumstances that must really take place in the preparatory period. I will restate this. Given a preparatory period that generates the causes of crisis that will break out in the determining period, this latter period can also contain originating causes that are not only the detonators I mentioned that make the crisis explode. Thus, if there is a period of intense prosperity during which the omens of crisis slyly multiply, after it has passed, another cause may arrive that makes it explode. One example of this is cotton speculation after the American Civil War, the aforementioned copper speculation, of gold, etc. whose speculation encouraged resources to be placed (before not profitable) into operations and even new ones

to be sought.

As can be seen, the profitability of the last ones will be low and of the first ones high. But when speculation stops, prices drop and operations stop being profitable that were profitable in the speculation period. Many businesses go bankrupt, many workers are unemployed just like the business owners, capitals cannot be amortised and a decapitalisation process is generated in the system.

There is no remedy but to travel into Bernácer's thoughts, although this excursion means a slight detour from analysing crisis. It will be worth it.

Bernácer's work contained work done by Ricardo. One of them is when he spoke of land and mining exploitations throughout his work, or simply low-quality or unusual businesses. Here is where the idea arose of the rental of land or mining deposits of the best quality, second best, etc. These arguments stated that price increases caused by speculation is what made people cultivate and work low-quality lands. And this speculation is what makes incomes appear where they didn't exist before. This is similar to David Ricardo when Ricardo stated that 'income from the land is a cause and not a consequence of price'.

Bernácer surely took Ricardo's ideas and related them to Turgot's monetary ideas. Bernácer had a lucid and intelligent ability to relate ideas, making the birth of macroeconomics possible.

### 17.3.2. Critical period

This is a short and violent period. Time is dense with events that are quick and harmful. 'Cash assets' – liquid savings- become scarce and interest goes up, so that these assets don't reach industry, industry that is on the brink of crisis. Some obtain expensive loans that they cannot repay, others don't even apply for loans and some request loans that are turned down. Factories close, employees are fired and central banks increase the discount rate, *although the amount of ready cash is not scarce*. Bernácer made constant reference to the 1907 crisis during which even large banks suspended payments and the US had to import 600 million dollars of gold from Europe (which had a lot of money). *Bernácer did not say that when banks go bankrupt, the bridge between savings and investment is broken, making the movement of now-scarce savings to investment even more precarious.*

Many credit operations were carried out during the period of prosperity and there will not be money to pay them back. There is a desperate need for the concession of new loans, but unfortunately this does not happen. Then the young accountant made a prodigious comment foreboding any modern explanation of crisis. He said that in this sharp phase, there is logically an increase in the amount of lands and credits that need to be sold. Assets should be read as financial assets (I repeat that this explanation was from 1916). But as there are few cash assets or savings, there are large supplies and little demand for these assets, which contributes to interest or capitalisation rates dropping. Two points to remember: firstly, at this time Bernácer had already explained interest as the percent profit of the 'assets' placed in fixed-income assets. It is also the marginal or percentage return. Secondly, these assets are acquired with what remains *after* having demanded consumer and capital goods. In other words, with the part of savings that were not capitalised. And total savings, as mentioned, is scarce, so that there is nothing left for capitalisation or speculation.

Bernácer clearly stated that the vertiginous drop of the speculative market occurs. At the risk of being repetitive, these words from 1916 were prophetic, anticipating the famous Black Tuesday from that fateful

October in 1929 on Wall Street that was the start of ten years of extraordinarily serious economic crisis.

### *Period of revival*

The paralysing of industry, he said, is a powerful remedy to cure the evils caused by its overexcitement. Crisis firstly affected the end sellers, or merchants. Then it affected producers. During this period, merchants liquidated their products with difficulty and slowly started to recover the cash assets placed into them. These partly-recovered savings are not immediately returned via the purchase of new products, since demand is not requesting them. If before the 'assets' (savings) were intensely applied to industry in favour of low interest and then in favour of large demand, now those barely recovered by sales are not replaced. And they are not replaced because part of savings is materialised in merchandise and the other part resulting from sales is not destined for the acquisition of new products (merchants) but to pay back former loans. This is how the merchant sector, the first to suffer the risks of crisis, is the first to pull out of crisis.

The industrial crisis is the last to recover since, as stated, merchants' liquid assets are not allocated to demanding the products that were so tough to sell. However, disposable funds or liquid assets continue to be gestated due to merchant sales. And these disposable funds allow channelling towards investment.

The same prosperity that made basic commodities go up brings crisis with it and this entails a drop in prices, making these basic commodities also decrease in price and becoming affordable for the population in need.

The interest rate, which had gone up, like the discount rate, blocks the free 'assets' left, which are normally replaced by the normal functioning of production. Then the assets return to industry via loans and are also allocated to demanding lands and other income assets, thus re-establishing their price.

The activity of this available 'asset' is double, since when some goes to loans to be lent, the means that merchant and industrial activities are attractive and also means that interest is low. But, in order for interest to be low, the increase of income-asset prices must reduce the interest on the financial market. With the production engine running again, idle hands will once again be occupied and economic activity will be revived.

Everything returns to the initial state, but Bernácer was not only pessimistic, he also believed in the fate of economic cycles. 'Prosperity seems to come again, but deceitfully, since it hides preparations for favourable circumstances of the next crisis...' (*Society and Happiness*, page 253). Next is the theme of war as a forceful engine feeding the economic system with its energy. This issue would return at the end of his life, after the world had read Keynes' tax policy and after the Second World War. When Bernácer published *Society and Happiness*, the First World War had already been unleashed. It is logical that such an important event utilising so much energy would be handled by a macroeconomist who speaks of the pressures of real and monetary economies, etc.

Wars, he wrote, prevent the crises that were threatening to erupt. They make excess arms and mouths disappear. He did not explain if this disappearance is due to the productive employment of the system that provides them with work and food or simply because war kills people. War eliminates surplus economic energies, which are those that speed up crisis due to the lack of free expansion. War creates an intense demand for industrial products, so that instead of 'assets' being applied to capital to increase production, they are used to demand products with a secure outlet, as they are bought by the government. Bernácer's



last statement is not that consistent. The following phrase is the end of a very odd reasoning process:

‘This does not prove that war is advantageous, but that our social state is worse than war: its effects are more disastrous’ (*Society...*, page 253).

This was Bernácer’s pioneering explanation about crisis. Its design was created six years before his monetary theory and nine years before his theory on interest. It suffers from a certain vagueness and lack of scientific exactitude in its expression, but it is very useful as a frame of reference. His ‘modern’ analysis of crisis will be presented hereafter. His works on money and interest from the twenties played an important role.

## 17.4. EQUILIBRIUM

Basically, economic equilibrium is a dynamic equilibrium, even though the starting point is a simple idea: considering production income and production as flows that run through the economic body. And also due to the continual creation and destruction of wealth, the latter through consumption and the death by instalment of capital goods via functional depreciation. And lastly due to the appearance of opposing generating and destructing movements of wealth on the ordinary and financial markets respectively.

According to the body of thought set forth until now, equilibrium exists simultaneously with the following partial equilibriums:

1. There must be microeconomic equilibrium derived from the partial equilibrium of each product on the market. As a result of previous equilibrium, there will be overall equilibrium in the overall supply and demand for national product.

Since the demand for goods is a supply of money and the supply of goods is a demand for money, previous equilibrium will involve equilibrium between the supply and demand of money.

2. Wages and payments in different professions must be in proportion to their effort and risk. In general, this will occur with the profits of businesses that share opportunity, labour and risk in satisfying social needs; this occupation is a pretext for the satisfaction of suppliers' needs.
3. Closely related to point 2. Interest rates in the different markets must be proportional to the yields and forecasts of financiers (which will entail maintaining proportion according to the assumed risk). If this does not happen, disequilibrium will be imposed via dynamic movement of the placement of savings, judged unfavourable in pursuit of more lucrative ones (I will now use the term savings again and not ‘assets’).

These movements in the system also put a mechanism into action that, after disequilibrium occurs, make it return to equilibrium, which Bernácer called automatic regulators. Even though this name is used by Public Finance and the Treasury Dept., here it has a slightly different meaning.

### *The rise and fall of prices and costs*

If demand increases more than production, prices will increase. Demand, in turn, can only increase if the circulatory medium or money does so. If prices increase more quickly than circulation costs, profits increase. Since costs are production agent incomes, lesser proportional demand is produced (not absolute) for consumer goods towards others, where the others are the recipients of non-fixed income, that is the

capitalists who have seen profits increase.

$$\left. \begin{array}{l} P + AP > C + AC \\ P > C \\ AP > AC \end{array} \right\} \begin{array}{l} AC \rightarrow A \text{ Consumption demand} \\ AP \rightarrow A \text{ Profits} \rightarrow \text{Must go to investment} \\ \text{First condition} \end{array}$$

where  $C$  is cost increase,  $P$  is price increase and  $B$  is profit increase.

So that the market does not end up in disequilibrium, variable incomes must be *saved* and reinvested in production activities. This is the only way that lesser demand for proportional consumption is compensated by larger investment. Bernácer stated, in my opinion mistakenly, 'that *lower* demand for consumption should be balanced out'. It is not a *lower* demand for consumption in reality, but rather a lesser growth rate of the demand for consumption, below the profit growth rate.

Bernácer demands a second requirement. This requirement, set forth hereafter, is vitally important and its simple explanation does not hide its enormous complexity. He said that depressive effects in the economy will come both due to not investing obtained profits (which I already explained) and due to investing them in working capital. I apologise if I repeat myself. The statement that all investment in working capital is depressive in itself is a constant in Bernácer's work (speaking of investment and not of disinvestment).

Remember (and I repeat) that Bernácer wrote: '...equilibrium is only possible when an increase (or decrease) in working capital corresponds to an equivalent variation in the amount of circulating currency'; a result that, in its simplicity, has great importance in interpreting economic events. There is no doubt about the solid logical structure of Bernácer's thought<sup>76</sup>.

I will briefly explain this statement. The act of investing in working capital, an operation done in this case via savings, means acquiring working capital assets that are removed from the market and *return immediately after the production period*. This is the most important statement in this work, the reason why I want to repeat it in other words. Investment in working capital is depressive because it entails adding *new* production to the system that is not accompanied by *new* income or, thus, demand, given that savings, that helped this operation, represented an absence of demand at that time. Conversely, investment in real capital means removing a capital good from the market, relieving the first and helping production. This is because the entrepreneur buys it with his savings, removing it from supply and taking it to his production facilities<sup>77</sup>.

If savings is invested in working capital, it is definitely not demanding fixed capital, with it remaining as supply gravitating over the market, while new product is being added to overall supply: product from production activity possible due to the application of working capital.

The creation of money remains as the only solution. How much? As much as the amount of working capital.

If savings is invested into fixed capital, owing to the greater profits considered, production activity detours proportionally towards the production industries of capital goods (proportionally less in consumer goods), with the result that no crisis will be generated.

*Raw production materials*

There is not equal production elasticity between finished products and the raw materials used to create them. End goods have a relatively short production period compared to raw materials, whose period is longer. And it is also true that the demand for raw materials is conditioned by demand for end products.

For this reason, booms or crises in the demand for end products quickly cause tensions in the demand for raw materials. Food products, land, raw materials and minerals require a long development period, at least much longer than the products that are created with them.

Primary and end product markets are united and complementary brothers and a boom in one will entail a boom in the other, the same thing that occurs during crisis. It is possible that during booms, since the reaction of raw materials is less elastic, their short-term demand will be greater than their supply, thus generating the seeds of prosperity, since prices will increase faster than costs, helping in the self-financing of new production activities.

#### 17.4.1. Demand and the price of land

Land is an asset, indeed the oldest one, and it generates income. However, this income is a differential income. It is Ricardo's income. How does it come about? There comes a time when income tends to decrease for unproductive, occupied lands. If you want to occupy plots of land that are not very productive or marginal, product prices must be raised so that these marginal lands earn income. In turn, these higher prices will make the rent go up on older lands already producing income. Thus, the high price of agricultural products is the cause of the generation of incomes and not the opposite. This means that land rents are not guilty for the high price of agricultural products. And along with land, one can speak of other natural elements like mines, fishing, etc. This will make people exploit mines located in places that are difficult to access and fish in far off places. The cause is the higher prices that make high differential margins be generated, which provokes exploitation of formerly marginal activities. If this increase is caused by speculation, when it finishes these marginal activities will be outside of the market.

### 17.5. LAND

If all lands were equal in quantity and quality, even if they were private property, landowners could not charge rent for them (an income). The reason is that competition between lands would reduce the rents charged until they were insignificant. However, since all lands are not equal, neither their quantity nor their location nor their quality, the landowner of the best ones obviously will have a relative monopoly on his lands, obtaining higher income margins than the landowner of lands in a worse location, for example. The work and capital applied to them will obtain higher returns on the better land than on the worse land; a proposition that can be combined with the Law of Diminishing Returns set forth by Turgot and by Ricardo with different examples and different styles.

Business premises with a specific construction will yield more in the centre of a large city than in the suburbs. If the construction cost is equal, the higher rent will go to the landowner of the plot of land occupied. What part goes to the landowner and what part goes to the producer? The first benefits from the difference between the yield of his land and the yields of the land of lower quality. This is differential or Ricardian income. The producer ends up with the yield of the lower quality land.

'Land incomes', stated Bernácer in a *Free Market Economy...* page 107, 'hold a very special place

among all distributive incomes; its effect tends to equalise the liquid profitability of labour and capital everywhere, absorbing the surplus of more favourable opportunities by way of the property right of which the landowner has usufruct.’

Caution is required at this point since if the land effectively generates *free* income for its owners, land, like plots, urban properties in city centres, etc. also produce a product. In the case of land, agricultural products; in flats, housing services or business operations, etc.

Let’s think about this point. Since the beginning, Bernácer always said that given that ‘assets’ (or savings) are susceptible to being placed so that free income is generated, that is where they will be placed. The ratio of income  $R$  to the market price of assets (land, properties, etc.), which is  $V$ , determines the interest rate  $i = R/V$  (where  $R$  is non-production income). Then interest is born *outside* of production activity. But if productive land and properties are also considered, which is an undeniable reality, given that macroeconomics correctly devotes an important chapter to property investment; Bernácer’s statement was unfounded with respect to actual assets on the financial market.

Far from placing these assets on the financial market, they should be placed on the ordinary market and, furthermore, elbow-to-elbow with capital goods. And in the same way that I have spoken of the marginal profitability and productivity of capital, profitability can also be correctly spoken of with respect to the lands occupied by businesses, properties and houses, which is also diminishing. Bernácer though was right about a very important issue. These assets are susceptible to speculation, occupying a monetary mass much greater than the value of the property or actual asset for these means. This monetary mass is savings that is taken away from production.

*Note:* This section may have been more appropriate in the chapter on interest. However, in the framework of the theory on crisis, it acquires great importance and this is due to the relationship existing between marginal returns and price increases, making these returns increase. Macroeconomics tells us that when the real profit rate is calculated for shares and assets, generally the dividends (and incomes) are calculated plus the capital gains and then they are related to the purchase price. The inflation rate is subtracted from this figure with the aim of estimating the real yield of said investment. Capital gains are the increases in the value of assets.

$$\text{Real yield rate} = \frac{\text{Dividend} + \text{Capital gains}}{\text{Purchase price}} - \text{Inflation rate}$$

This formula was not set forth by Bernácer, but is rather from a modern macroeconomics text. If we only consider dividends, we find financial interest that Bernácer did not think was financial. But if looking at capital gains (increase in asset values), then it is indeed financial interest. Given that I am dealing jointly with mere income easily earned in capital gains or speculative gains due to the risk factor, I believe that Bernácer’s idea is justified, if it is assumed that capital gains would be the surplus obtained above the updated value of the production process services.

Given that these speculative earnings have involved actual marginal assets (land, houses, etc.), a drop in these *earnings will not mean only the evaporation of these earnings but, like an avalanche, will drag a multitude of marginal companies with it, a cause pushing towards crisis*<sup>28</sup>.

## 17.6. UNEMPLOYMENT

Unemployment is the most unpleasant human and social manifestation accompanying crisis. It basically represents the absence of production income in the working population and, secondarily, the absence of purchasing power.

The job market is regulated, like any merchandise, by its supply and demand, but unlike the normal or current market, the supply of jobs is the most intense supply, since employees need them to survive. It is also true that it is regulated by union actions that make job wages inflexible downwards.

Bernácer proposed freedom in the job market as a regulatory mechanism, absent from state regulators and inflexible unions. He said that true equilibrium is produced when everyone who wants work is free to find it at the wages they feel are suitable. If those who want to work cannot find a post due to state or union regulators, there cannot be social peace or equilibrium. There will not be peace given that misery is the breeding ground of conflicts and equilibrium will not occur because the misery of the working class means impoverished demand that accumulates forces towards disequilibrium.

Bernácer seriously criticised Keynes when he wrote: 'Keynes introduced the notion of equilibrium with forced unemployment in economic theory; a notion that contradicts common sense because the existence of unemployment is the most pronounced symptom of disequilibrium...' (*A Free Market Economy...*, page 108).

### 17.6.1. Underconsumption and unemployment

Work is always necessary. People work to produce consumer goods and also capital goods. The latter is the true social duty of society. Capital is nothing but accumulated work. If this statement is clear, why is it difficult to explain the origin of unemployment, since it is also a frequent and common event?

Bernácer referred to Malthus in 1955 in *A Free Market Economy*, referring to his first book from 1916. Lack of natural resources prevents people from working and being able to stock up on the means necessary for survival. They uselessly offer to work for this reason. Referring to Malthus, Bernácer then said that the solution to the problem is not found anywhere and, naturally, not in charity. Then he put forth his eternal argument about the weakness of actual demand. Before continuing, I will say that the young Bernácer (33 years old in 1916) glimpsed effective demand in Malthus' work. However, he did not discover such an important concept in the Englishman's work. This honour belongs to Keynes who, like Malthus, worked at Cambridge.

What happens, he said, is that there are no buyers. Reduced demand prevents wastelands from being worked and prevents other survival goods from being produced. What is called overproduction is nothing but underconsumption. If needs exist, even more than the actual means to satisfy them, what is needed are the monetary means willing to placate them. Logically, this is not a *natural* impediment as classical economists believed, but artificial.

If the impediments were natural, the issue would be resolved by applying more work for the production of end consumer goods.

Above all, misery would be overcome by applying more energy and intelligence to the production of capital goods and in technological innovation. However, this investment activity (*actual* investment)

requires monetary means that it does not find, leading to the paradox that the work required for its production is superfluous when it is most needed.

### 17.6.2. Progress and misery

Progress is directly related to technical progress. It must also be connected to increased needs of humanity that are increasingly more evolved. Bernácer said that technical progress for some has reduced the time needed for the work of manufacturing the product. This opinion is supported, he said, by the consideration of workers as a separate class that will supply goods to the *rest* of society. The technical or mechanical progress in question will make such a volume of *slaves* unnecessary, like mechanical traction made oxen and horses unnecessary.

In reality, one works for oneself, to satisfy personal needs. Two things can happen: one is that needs expand indefinitely, in which case man will have to work indefinitely the more technical progress there is. If, conversely, needs are not unlimited, man will make a *change* consisting of swapping work for free time.

He then made an analytical comparison that was common in his work between the non-monetary and monetary economy. A primitive man in a non-monetary economy who knows he doesn't need to work more to cover his needs, but less, can do two things: work more or work less. In the latter case, he will do so by producing production goods or instruments that let him work even less in the future. This is logical and the opposite would be absurd.

The introduction of money, which is the second example, will not make the absurd logical. If production efficiency takes place so that production increases, companies will react in two possible ways: One would be to obtain the same production level with less work and the other would be to achieve more production with the same amount of labour.

In the first case, some workers will end up unemployed, which will generate supply pressure on the job market, with wages consequently dropping. Salary costs decrease and business profits increase and, with this initial prosperity, the reinvestment of undistributed profits will be stimulated. In the end, the fired workers will be replaced. At this point, a new situation is outlined. Consumers may like the lower production level and may also enjoy consuming the greater production volume that production efficiency has made possible.

In the first case, the products will not have an outlet and will stack up on shop shelves. Using current macroeconomic terminology that Bernácer rejected, there will be an unplanned inventory investment. Production will be reduced and the least efficient or marginal companies will be expelled from the market.

The crux of the argument is the following: if consumers really want to spend less, where will they allocate their excess (production) income? The destination may have greater profitability than if they allocated it to consumption, the cause of its reduction, or maybe they simply want to consume less. It doesn't matter. If they employ this greater savings owing to less consumption to the formation of actual capital, employees in consumption industries will pass it to those in the capital industry and unemployment will not increase and there will be no reason for the start of crisis.

But if consumers do not want to invest (them or others) or consume more, it doesn't make since that they will continue wanting to earn the same. What is rational is that they will work less to then earn less income

and thus combine lower consumption and less capitalisation with more leisure time. The opposite would be irrational. It would have no psychological or economic or mathematical explanation.

The result that should take place consists of the reduction of the work week, which does not happen. Conversely, higher unemployment happens. This explanation of unemployment is what I wanted to set forth, which will contribute to detangling the knot of the issue.

## 17.7. THE EXPLANATION

If prices drop, company profits will drop, and companies on the edge of profitability just above interest will close and employees will be unemployed. Unemployment is not explained if wages drop more quickly than costs, since profits would increase and with them the hiring of new employees.

In Marxist economics and especially before that in classical economics, the existence of a surplus value of prices over wages is eliminated on the free market.

Thus, disequilibrium can be caused by these differences in the growth rates of salaries and prices. There are three possibilities of differences:

1. The prices of end products and costs are maintained in the same proportion:

$$(+)|\Delta P| = |\Delta C| \quad |-\Delta P| = |-\Delta C|$$

2. Prices of end products go up more or down less than costs:

$$|\Delta P| < |\Delta C| \text{ or } |-\Delta P| > |-\Delta C| \quad (+)P = \text{prices}$$

3. The prices of the end products go up less or down more than costs:

$$|\Delta P| > |\Delta C| \text{ or } |-\Delta P| < |-\Delta C|$$

In the first case, the situation does not change. Remember that Bernácer always thought in relative terms. Like in physics, our kingdom is the kingdom of relativity. Bernácer the physicist thought in relative prices. Prices relative to what? The end goods related to the supplies. This is another way of analysing reality via macroeconomics. Prices are partly entrepreneurs' income and costs are income from supplies. Seen in this way, Bernácer was interested in the relation between specific income and random income.

I said that in the first case, nothing changes. It is true that money is worth less in the first and is worth more in the second case, but in both cases it is *neutral money* like classical money.

In the second case, industrial activity is more advantageous as profits will generate a boom that is recycled, but only temporarily, owing to the fact that working class income decreases. The economy will have a natural restraint, as mentioned, due to lower consumption levels of the working class. The only way that the boom is maintained is for the recipients of random income, entrepreneurs, to *reinvest their profits* in actual capitalisations. In this way, undesired inventory investments owing to less consumption that initially generated unemployment will be balanced through higher demands for capital goods that will reabsorb this unemployment.

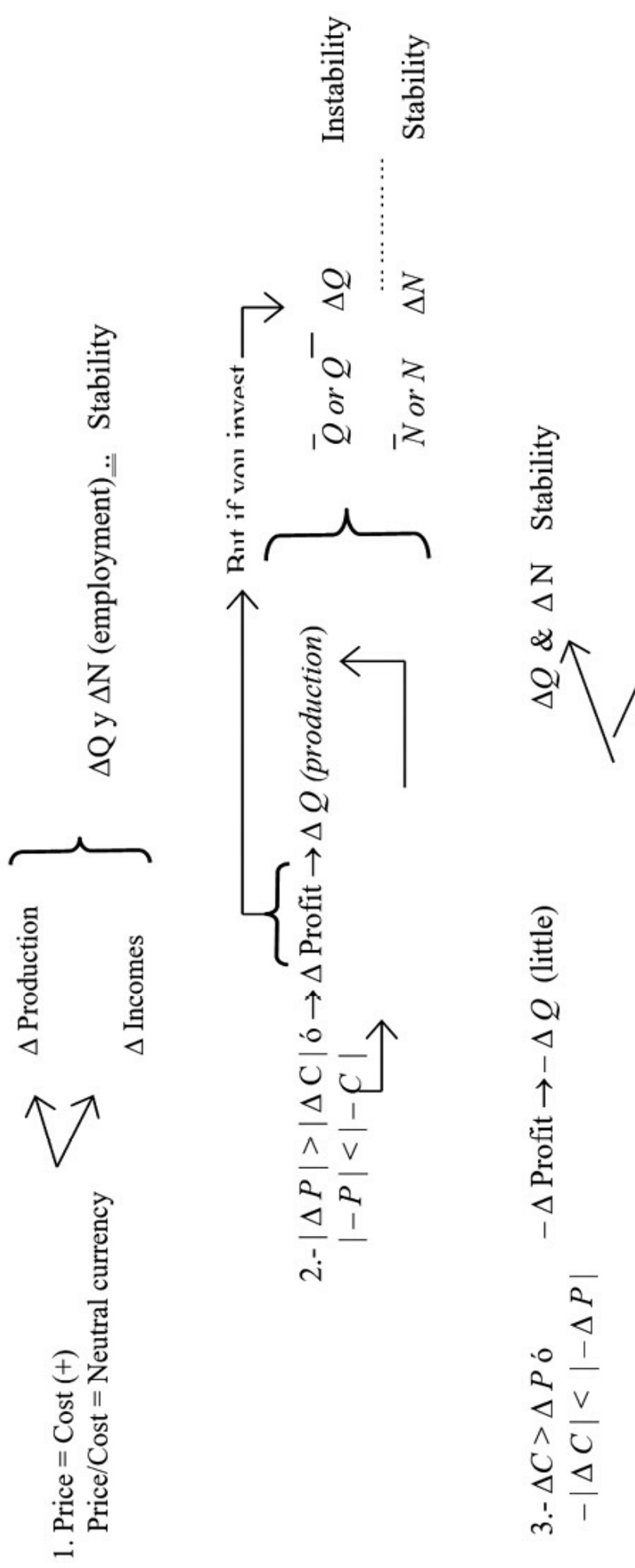
Equilibrium will come when entrepreneurs do not reinvest surplus earnings and place them into speculative activities. In this case, impoverished demand will become even more impoverished, bringing decreased profits for these same entrepreneurs.

In the third case, industry becomes less attractive to entrepreneurs and their profits tend to decrease.

Nonetheless, in principle there is no reason for this situation to continue. Don't forget that salary costs are incomes that are reinvested into demand. Moreover, the free play of supply and demand on the job market brings a decrease in wages with it, making it more attractive to hire workers. From this argument, one concludes that profits will not drop quickly and costs will not tend to go up indefinitely. Thus, if the market *is flexible*, equilibrium will be re-established. If workers increase their purchasing power in the first phase of the situation, they can also save at the same time as they increase consumption. Equilibrium will be re-established if this savings is channelled towards investment.



## Initial mechanism of cycles based in Income Analysis



Very important

(+) I use the term  $P$  at times to represent production and at times to represent prices. It is prices in this example.

## 17.8. THE END OF SAVING AND UNEMPLOYMENT

Savings of either employees or entrepreneurs represents unspent earnings. If it is savings from the first group, the entrepreneurs have stopped earning, since they haven't sold their products; and if the savings is from the latter group, it means that employees have spent a lot. It is not logical to state that a lot must be saved, given that if the majority is consuming more, it means greater savings for the entrepreneurs. All of this argument is the first act of the function.

When savings is spent on buying capital goods, monetary flows return to the system and let wages and fixed labour incomes and random expenses remain and be preserved from extinction. If system savings leaves and does not return, the entire system remains with an amount of money. Therefore, it is increasingly less possible to generate income, both fixed and contingent. The only solution is that there is infinite flexibility in the economic system that permits infinite price and wage flexibility. If flexibility is infinite, it is possible to achieve equilibrium in full employment with a lesser amount of money. He stated that this phenomenon is possible for classical economists.

But this circumstance is not possible in Germán Bernácer's economic world. Flexibility, especially with respect to wages, is not great but actually more rigid, owing to the existence of state and union intervention, which contributes to the fact that those who want to work at a specific salary don't find work, even though it exists. It is unemployment.

The destination of savings that doesn't return to investment has yet to be explained. This destination can technically be hoarding. This act, real and monetarily sterile, represents income withdrawing from permanent consumption. It is an aesthetically accrued disposable fund that does not demand anything.

Is hoarding possible even without inflation? It is possible but not logical. The reason is found in Bernácer's well-known argument that states that given that there is an income market or speculative market or financial market; it is always possible to leave savings parked, so that in the worst case income is earned. The percent yield of each unit deposited in this market is interest. Given that it is possible to earn interest by buying a share or a bond and not leaving money under the mattress, hoarding turns into an irrational operation. Financial speculation, conversely, being irrational *actually* and from a macroeconomic perspective, is not irrational individually and monetarily.

What is most important about this preliminary analysis, the sketch of a crisis, consists of the argument that makes it possible for flows of savings born in the system to escape from it. In classical economics, equilibrium will be re-established at each stage owing to the infinite flexibility of prices and wages. However, in Bernácer's economics this is not so, since the rigidity of the labour market structure makes it impossible for the market to cause a return to equilibrium by itself.

An additional argument could be added. This aspect is not well-defined in Bernácer's macroeconomics, although he did hint at it. This fractioned and obscure presentation can be seen clearly by someone who has analysed the whole of his work.

I am referring to the absence of investment not due to hoarding or the financial market (axis of his argument) or price mobility.

In times of pre-crisis and during this period, the amount of money tends to not decrease, but despite this, savings does not take the road towards investment. I believe this is possible because it has happened frequently in the economic history of towns. When there is no monetary regulation, periods of economic

panic are soon generated, alarm spreads and soon savers go to banks to withdraw their funds. Paradoxically, this is when the system most needs deposits to not be withdrawn, given that in this way monetary supply will not decrease and interest will not increase. This fund withdrawal entails very serious problems that end up pushing crisis along its road. The consequences will be:

1. Essentially, the bridge between savings and investment will be broken, so that there will be savings but no road to take it to investment.
2. Actual and not possible monetary supply will decrease. One issue to debate is that then everything would be dumped into consumption, which does not happen. Here the explanation is interrupted.
3. The possibility of banks creating money will be frustrated.

All three points can be explained, although the second less than the rest. Let's develop point three.

According to the basic Bernácerian argument in the theory of disposable funds, in order for equilibrium to exist, working capital must be financed with new money and savings must be free to finance investment in fixed capital<sup>29</sup>.

If savings demands working capital, it will have the advantage of adding new production to the market, but it will remain unsold and fixed capitals will be manufactured. New supply produced by the investment in working capitals will require new demand financed with *new* money. When savings finances fixed capital, it has the enormous advantage that some volume is removed from the market, lightening it; the opposite of working capital, which adds it.

But the economic system, stated Bernácer, is unreachable in the task of creating money; a task that is executed by banks. During crisis, companies are fearful of acquiring fixed capitals that represent permanence in the production system and that crisis itself prevents. For a well-founded reason, accounting calls them immobilised (*inmovilizado* in Spanish). The most comfortable action is to invest in working capital and the most logical in macroeconomic terms would be to create money.

But if banks go bankrupt, this new money is not created. It is during this period when crisis starts to be seen, when the banks most need to create money and they don't create it because they are starting to disappear. The result is that the crisis receives the damaging force of a lack of money.

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<sup>29</sup> Bernácer not only outlined the problem of cycles, but did it from the mechanics of the creation and distribution of income. This represented an innovation in 1916 and is very close to the Swedish School (Wicksell, Lindahl, etc.) although; I do not tire of repeating, with a different theory that is more an heir to Turgot. Bernácer's explanation involves knowledge of the money market, the metabolism of disposable funds and exact knowledge of interest.

<sup>21</sup> *Society and Happiness* (1916); in this book, he clearly set forth his criticism of theories that explain interest, key to understanding the cycles, as well. Chapters IV and V entitled 'Theories on Interest' and 'The Law of Interest' handle interest. Explaining cycles and crisis is book III 'Social Problems', chapters VII and VIII entitled 'Symptoms of Crisis' and 'Explanation of Crises'. Oddly, he set forth his first ideas about state intervention (voluntary and involuntary) to solve crises through war (see chapters XIII and XIV 'Wartime Economic Pretexts' and 'The Causes of War').

<sup>22</sup> In *Prosperity and Depression* by Haberler (published in Spanish by Fondo de Cultura Económica, Mexico), the author acknowledged Bernácer's merit in the prologue with regard to economic cycles. However, I do not know if Haberler knew of Bernácer's disposable funds.

<sup>23</sup> It is not true that economists were as classical or neoclassical as believed before the thirties (all classical to Keynes). Robertson, as proved, said that if economists had read Bernácer, they would have abandoned the idea that earlier economists strictly believed in full employment (*Essays on Monetary Theory*, D.H. Robertson, last page).

<sup>24</sup> As you know, Bernácer's explanation on cycles basically rests on the income determination model, in which interest plays a fundamental role. In any case, there is an explanation of crisis that doesn't necessarily take the money market and interest into account (*Society...*, pp. 234-254). After monetary theory was created in *The Theory of Disposable Funds* (1992) and *The Theory of Interest* (1925), he was enabled to explain the origin and distribution of production income and, therefore, their oscillations. These oscillations occur due to flows of disposable funds ( $S - S_k = D$ ) to and from the financial and ordinary markets. This traffic is due to the difference between interest and industrial

profitability. It is thus understandable that a good explanation of economic cycles would appear in 1926 in his article entitled 'The Economic Cycles' (*Revista Nacional de Economía*, Madrid, Barcelona).

<sup>25</sup> Although Bernácer studied Malthus and showed this in chapters IX and X (entitled respectively 'Malthus Theory according to Facts' and 'Malthus Theory according to Theories' in the book *Society...*), he did not, as far as I know, infer the theory of actual demand like Keynes did in Malthus. I find this odd since Bernácer's central hypothesis is precisely the *lack of actual demand*.

<sup>26</sup> The statement that working capital must be financed with new money is a basic mainstay in monetary theory and is confirmed with precision when explaining crisis, which is why it will appear later. However, in my judgement, he did not highlight this in the theory on interest, especially with respect to the insufficiency of savings. I believe savings is even more lacking than Bernácer depicted it.

<sup>27</sup> The concept of macroeconomic equilibrium via the analogy and difference between supply and demand, potential and actual, is found in *The Theory of Disposable Funds* (1922). There is no doubt of its importance given that unsuitability and cycles are expressed in the equilibrium formula. In *Society...* (6 years before *The Theory...*) in chapter VII 'The Wealth Dynamic', the first law: 'Total prices of the product mass (amount of changes executed in two equal production periods, added to the respective amount of working assets at the period end, have equal totals'... 'This analysis technique, so basic, compares the value of what was with the current value and their difference to the variations of what is called working or disposable assets (money in pockets), measuring variations in demand. Demand variations measure the value of what was bought. He later reformulated this law, in light of currency monetisation, its immigration or emigration, etc. 'Total prices allocated to two successive productions, added to the amount of working assets in each period, plus minted currency or less demonetised currency in the intermediate space, have equal sums'. He repeated the formulation in the epilogue of *The Interest on Capital* (1925) Section IX of said epilogue, p. 243 'Mathematical Equivalence between Product and Disposable Savings'. Like *The Theory of Disposable Funds*, it entailed an advance in monetary theory, its formulation does not alter but is more complicated. Works appeared like those of the Swedes and, especially, Keynes, with all the post-Keynesian works improved by Keynes, including Myrdal with his ex-antes and ex-post analysis. All of this converges in the identity of savings = investment. Bernácer criticised it and said: 1. They forgot that *new* production of fixed capital in the hands of entrepreneurs is working capital that required *new* money. 2. Period savings will help acquire production from past capital, a process called investment (savings comes from previous production). 3. In some way, unsold production can be called capital or inventory investment. Bernácer's equilibrium formulation then appeared in part I of *The Functional Doctrine* and chapters IV and V of *A Free Market Economy...* above all in Appendix 1, section a) entitled 'The Value of Currency'.

<sup>28</sup> The enormous multiplying power of employment, production and construction employment is widely known. Likewise, when this sector drops, the contractive effects tend to be intense and explain crisis. Current investment in homes is considered from several aspects. One says that it is demand that depends on the way of placing wealth, which also depends on the yield of the home as an asset and its comparison with the earning of other assets like financial ones. At an extreme, it is one of the causes that explains liquidity preference.

<sup>29</sup> Remember the formula  $\Delta A + \Delta c = \Delta E + \Delta c$  and since  $\Delta A + \Delta c = \Delta M$  and  $\Delta E + \Delta c = \Delta K$ , where  $\Delta M$  is the total increase in money and  $\Delta K$  is the increase in working capital.

# The dynamic of crisis in the theory of disposable funds

## 18.1. INTRODUCTION

At this point, I have presented Bernácer's thought on crises at two points. The first was his early outline of crisis (*An Aetiology of Crisis*) prior to his theory on disposable funds and interest. The second part was done years later, although he did not go into great detail, but rather executed an institutional analysis.

The present chapter will provide an overall explanation of crisis, in the context of the Bernácer's total analysis. If his works from the early twenties are added to his work from 1916, you will have a very comprehensive understanding of cycles. Later, these ideas would be combined and, more importantly, incorporated into an overall explanation of the market. This synthesis would be set forth in *Analysis of Demand and Synthesis of the Market* (1933), *The Theory of the Financial Market* (1935), *Currency and the Economic Cycle* (1935), *Monetary Theory and Market Equation* (1941), *The Fundamental Expression of the Value of Money* (1942), etc.

The present chapter about the dynamic of crisis can supersede the reading of the previous ones. I will assume that by this point that readers have a decent understanding of the concepts of savings, investment, disposable funds, interest, consumption, etc. The advantage of this exposition consists of reaching an understanding of the true dynamic of monetary circulation. This is similar to how human beings came to understand blood circulation and the role of the heart after Servet's explanation. This idea of circulation was a well-known fact in classical and Keynesian and present-day economics. *They knew it via their own mistakes* that there was a single circulation and only one valve in the heart. The ordinary market is the heart and blood-production or money-income-production is blood circulation. I know and believe with reasonable security that in light of scientific advances, there are actually two different circulation routes: one that takes oxygenated blood to the cells and the other that carries polluted blood to be discharged by the lungs. These flows are driven by two valves in the heart. This is how income is distributed: *one* on the ordinary market, making the growth and energy of the economic body possible and the *other* that is occupied by the financial body, trading in dead wealth. These impulses are generated by the differences in two forces: the profitability of the ordinary market and the profitability of the financial market, which are the two valves.

## 18.2. CYCLES AND THE SYSTEM

The suspicion about the existence of cycles, even formulated by heterodox economists, was not studied by economic scientists as an analytical focal point. We will look at the extensive panorama of classical economics. The chronic insistence of these events has forced economists to study it in depth.

For Bernácer, cycles were not an evil inherent to the liberal system, as Charles Marx would have said for

example, but rather to the institutional system. The real existence of economic activities made possible by this system make economic equilibrium irreconcilable. Bernácer said: ‘After these elements move away, the system of economic freedom, which has been proven to be the most efficient in stimulating production and wellbeing, will also be the best way to introduce stability and, with it, distributive justice.

### 18.3. THE FALL

Bernácer’s crisis is exclusively explained by monetary motives. Whatever the state of the economy, income flows from production and it must return to production via demand. If it does not, the causes must be sought.

In principle, we know for sure that consumption temporarily returns income to the market and that savings removes it from the market temporarily. So the trail of savings must be followed in consumption and production units. Part of this savings is allocated to reserves; at companies these are undistributed earnings. The other part is transported to investment through the banking system. Another part is used for other business, such as financial speculation. In the case of companies, these undistributed earnings are kept in different forms in order to carry out replacement investment. These are sinking funds. In all these cases, operations are sometimes done directly, via net investments and replacement investments, and other times done indirectly. This is the case of entrepreneurs that accrue sinking funds comprised of financial investments (badly called investments) to maintain the desired equilibrium between liquidity and profitability. Several things can happen during its journey that can cause the water collected in the pitcher to be lost.

These comments explain the different destinations of savings. These aims or destinations are the following<sup>80</sup>:

1. Hoarding of most savings, which are fully disposable funds of savers
2. Disposable funds spent (no longer disposable funds) in financial market operations. Bernácer called these operations realisations (in the classification of neutral operations). Savings is earmarked here to financial market transactions. System disposable funds as a whole do not lose their status; they simply change hands.
3. Individuals and the state, with the former receiving higher incomes (wages) and the latter receiving higher taxes (higher taxes for higher incomes), pay back past loans to banks. Total credits decrease, as well as circulatory mass and bank reserves increase, *ceteribus paribus*.
4. Financing of working capital. This operation is as follows: by companies applying their undistributed earnings to increase period production, by replacing funds that were used to repay bank loans in past periods or, lastly, by collecting savings occupied in the money market –floating savings- issuing securities<sup>81</sup>.

These activities will be divided into two groups. The first group is made up of points 1, 2 and 3 and the second group is 4. What happens with operations in the first group? When they flee to the financial market, savings has decreased the actual demand for current articles and the amount of money remains constant in the *total* system, just like disposable funds remain constant. I said that actual demand has decreased, but potential supply and demand increase (to the same degree that actual demand decreases). Potential supply

includes articles to be sold whose output was impossible due to the escape of savings and potential demand (born from production) are the disposable funds that change hands in financial market operations<sup>82</sup>.

Savings is a part of income from production that must return to demand current products (consumer and capital goods). This operation is often aided by documented loans, financial assets (shares, bonds, etc.). But if this savings is hoarded, like in the first case, it means there has been a hole punched in the pipeline of monetary circulation, an operation that is not at all in vain for savers. In the second case, savings has fled to the financial market, causing serious disequilibrium in the system, since this is also the market where interest arises. In the third case, it is not a dangerous long-term operation. Repaying loans to banks does not in itself represent anything harmful, since their aim is to lend savings. Banking is more than a transmission belt in the economy's engine, making the force of savings return to the engine of the ordinary market. I say that it is more than a transmission belt because banks create money with the deposits they receive. Far from being harmful, as Bernácer confirmed, it is benign, since the more loans that the state and individuals return to banks, the more deposits the banks receive and the more money they will be able to subsequently lend again<sup>83</sup>. If bank reserves were to increase *indefinitely*, then monetary collapse would be immediate. But it would have to be shown that bank reserves, and not deposits, increased; which is only explicable by a highly-unlikely decision taken by private banks or legal regulations. Let's look at the last case (second group), which is a very original Bernacerian version of crisis. As I have repeated many times, this is an explanation of crisis owing precisely to great demand. This demand is for working capital, or investment in all meanings of the word. It represents a purchase and a sale of working capital, which also directly generates an increase in national product. If it is an investment, it therefore entails income in the economic system and, despite everything, it is harmful. I repeat the argument using a very simple example of a tailor.

I will devote a section to setting forth the dynamic derived from the investment of savings in working capital. Group two, point four is included in the issue of 'the fall'. Let's look at the example.

'A consumer who abstains from buying a suit due to thrift leaves the fabric in question in the warehouse and leaves the tailor without work who would have created the suit, but she keeps the money in her pocket that would have been spent on the suit.' This statement corresponds to the first three points in group one. Money that is in her pocket or could be in the financial market (Why not?) is potential demand and the unsold suit is potential supply. Let's continue with the example. 'Whereas the tailor, who has saved fifty euros from his profits, refraining from buying, for example, tools of the trade, and employs this money in making a suit to sell, not only has left those tools in the stock of the industrialist that produces them, but has furthermore created a new product for the market. The fifty euros that has returned to circulation could buy the suit or the tools, *but not both* (the emphasis is mine). And increasing the stocks of suits that are for sale is not an incentive to buy, so that more are made up.' Reformulating this example in more technical terms: When company savings buy working capital, an operation called investment in working capital, and place them in the factory, a fraction of national product is created (the suit). Furthermore, it injects or determines income measured by the investment made. However, this operation means that they have stopped demanding consumer goods (clearly), especially fixed capital. If fixed capital were demanded, income would have been added to the system and removed from market supply. The tailor didn't buy tools and instead made a suit. What will inevitably happen on the market is that either the suit or the tailor's tools will not be sold. If it is the latter, following Bernácer's example, he has bought fabric, thread, electricity,

etc. to make a new suit with the application of this working capital. The suit, already made and while unsold, continues to be working capital and this is possible because savings has financed it, resulting in an injection of income into the system, which can then buy the suit or the tools, but not both.

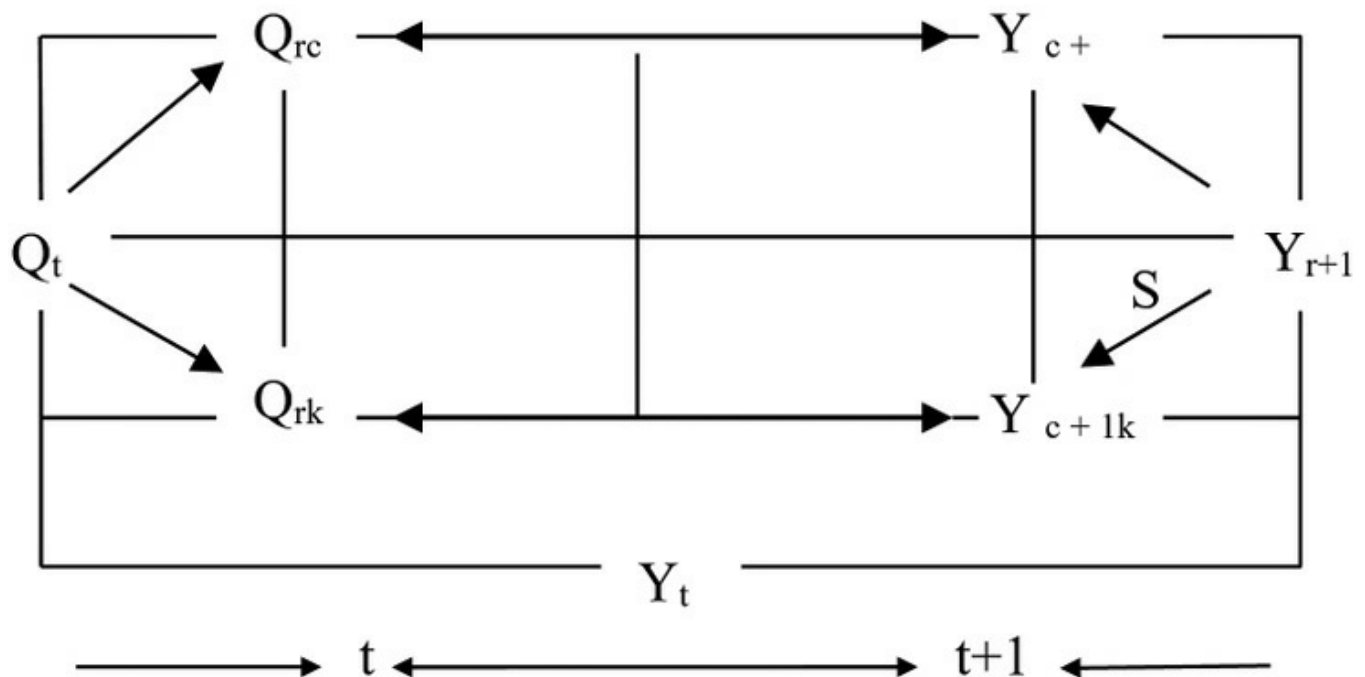
Is there a solution to this depressive vicious circle? Yes, and the answer is to create new money to finance working capital. If this happens, savings can easily demand fixed capital and thus guarantee economic growth and monetary equilibrium.

Does it happen? Yes, due to a benign casuistry in the system and the good practice of banks creating money. Moreover, the operation is good because when banks transfer savings to investment (savings that buys fixed capital), they simultaneously create money (which finances working capital). This may explain why crises are not more frequent.

## 18.4. THE GRAPHIC REPRESENTATION OF THE FLOW OF SAVINGS

Production,  $Q$ , generates income with a value  $y$  (production), where part of this income is allocated for consumption,  $y_c$ , and the other part to savings,  $y_s$ . If it is allocated for demanding fixed capital, it will be  $y_k$ , and if it demands working capital, it will be  $y_{cc}$ . Unsold production or inventory investment is called  $I_u$ . I created a series of graphs hereafter that will explain each of the previous cases (mine but representing Bernácer's explanation). The first will express a theoretical situation of equilibrium and the rest depict disequilibrium. Each of the previous symbols will in turn have a sub-index that expresses the time or period in which the phenomena occur:

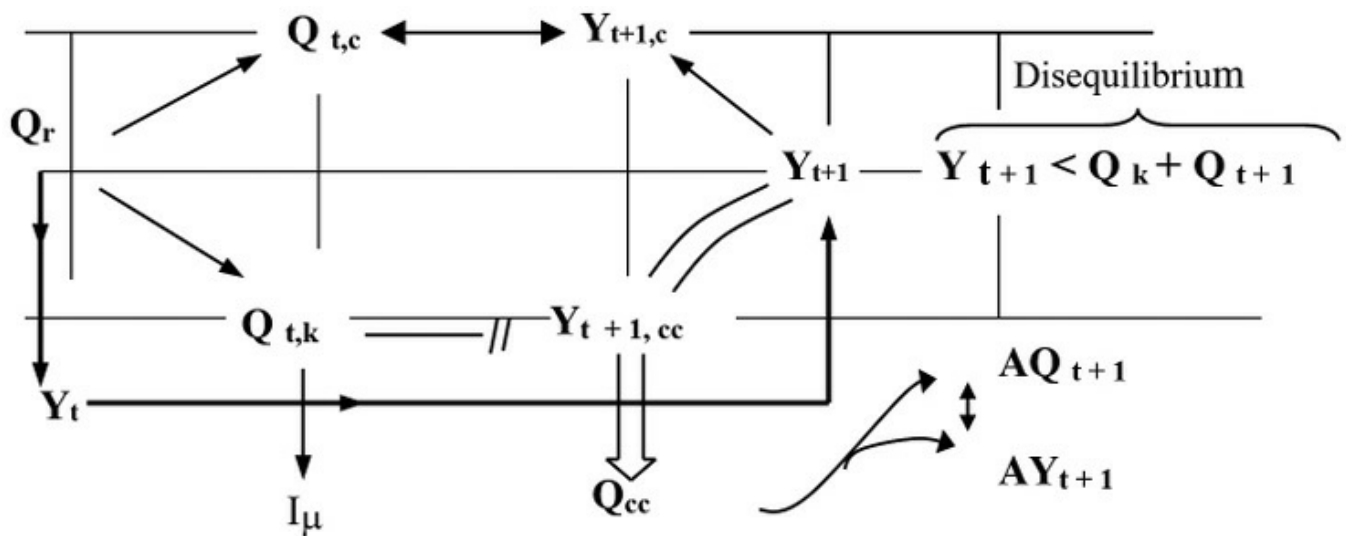
*Equilibrium:*



Production  $Q$  is executed in the period  $t$  giving rise to an income of  $y_t$ . Production  $Q_t$  is divided into two productions:  $Q_{t.c}$  which are consumer goods and  $Q_{t.k}$  which are capital goods. Period income  $t + 1$  is spent and splits into two parts, one that demands consumer goods  $y_{c+1,c}$  and the other, saved, demands



capital goods, or  $y_{t+1,k}$ . Equilibrium is assured in this way. But not the economic growth required to increase working capital (capital goods in the production process are also working capital); new money is also needed<sup>84</sup>.



This graph expresses investment in working capital using period savings, which as we know is a cause of depression. With period production  $Q_t$ , income has been generated of  $Y_t$ . Part of it in the following period  $t + 1$  has demanded consumer goods, which are  $Y_{t+1,c}$  and the other part has *not* demanded capital goods (part of this income, specifically  $Y_{t+1} - Y_{t+1,c}$  sprang from the production of capital goods). Since it hasn't been demanded, there is an unwanted inventory investment  $I_u$ . With the income not spent on consumer goods  $Y_{t+1,cc}$  ( $Y_{t+1,cc} = Y_{t+1} - Y_{t+1,c}$ ) working capital has been demanded  $Q_{t+1,cc}$  (therefore  $Y_{t+1,cc} = Q_{t+1,cc}$ ) giving rise to new production, which is supplied and gravitates over the market,  $Q_{t+1}$  and new income  $Y_{t+1}$ . System income can demand, if it likes, either  $Q_{t+1}$  or  $Q_{t,k}$ , but obviously *not both at the same time or even one after the other*, because what happens simply is that  $Y_{t+1} < Q_{t,k} + Q_{t+1}$ .

As mentioned, the market will be balanced if new money finances working capital.

$$\text{If } Q_{t+1} = M$$

$$Y_{t+1} + M = Q_{t,k} + Q_{t+1} \text{ Equilibrium}$$

If working capital were financed with new money  $M$  ( $M = Q_{t+1,cc} = Q_{t+1}$ ) savings could withdraw totally to the production of capital goods ( $Q_{t,k} = I_u$ ) and, due to being unsold, they would accrue as inventory investment. Since I want to make sure this point is clear, so insistently repeated herein and so fragmented in Bernácer's work, despite holding a central axis in his work, I will repeat his comments made in a strategic article for the complete understanding of this part of his thought. The article is entitled 'The Financial System and Crisis' (1956)<sup>85</sup>.

In this article, he confirmed that all income is born from previous production. The authorities and common sense dictate that income equal to the value of the merchandise produced is born from production. It is obvious that if disequilibrium is generated –always by demand– it is because demand is distracted to another task. Financial speculation is one of them. Income that does not immediately demand consumer goods is savings and the *real* investment act of savings is called *capitalisation*. Capitalisation consists of paying for labour that creates capitals, which can be working or fixed. Bernácer stated that the majority of economists do not insist on this distinction, even though it is so important.

Savings represents the temporary absence of buying and, therefore, represents a volume of unsold products. If income is born from equivalent production, the act of consumer spending means *withdrawal* of production from the market. Market supply has been lightened to this degree. There is obviously still an unsold production volume, which will be equal to the value of savings made. If savings demands fixed capital, there will be no problem. If, conversely, this savings removes a production volume that is monetarily equal, lightening supply, then investment means the transfer of fixed capital from production warehouses to company workshops.

But if working capital is financed; if raw materials, wages, energy and other collaborations are bought, more merchandise will be produced that is subsequently for sale. Thus, the money invested in it becomes monetary income of factors of production, and new products equalling the value of this investment will appear on the market at the end of this production period. This paragraph ends by saying: ‘...so that we have two groups of merchandise for sale: what stopped being sold, due to carrying out savings operations and the new product made at the expense of invested savings, but only a single purchasing power. The market will be in disequilibrium; so that, supposing that all the money that buyers will have received in wages will be spent on purchases, there will still be a sum of merchandise that is unsold equal to the savings invested in financing working capital.’ This is from the article *The Financial System and Crisis*. Another comment appears in the appendix of *A Free Market Economy*...

‘What happens in the case of consumption, as readers know, is that due to the purchase of consumer articles, at the same time as producers' funds are replaced, quantities are eliminated from the market equal to the value of the purchasing power in the hands of consumers and merchandise in possession of the producers, so that they remain enabled to produce and sell new quantities equivalent to those sold before. There is no reason whatsoever for the contraction of production or the contraction of workers...’

This book continues by stating that the same phenomenon described will occur when investment is made; but not when it is invested in working capital. Let's look at what he wrote in later paragraphs.

‘Since what is saved and what is capitalised is not the same, if *working capital* is employed (my emphasis), products are not eliminated from the market, but rather new ones are provided. The execution of savings leaves the equivalency in merchandise unsold; its investment will give rise to the same quantity of new products and savings will disappear to become new income, which can acquire the new product or the old one, but not both, so that the market will be imbalanced in favour of supply...’ (page 305).

The graph below shows the depressive operation derived from financial market speculation.

... then....	Graph page 285	Financial market
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From the income born from production in the following period  $t + 1$ , one part goes to consumer spending  $Y_{t+1,C}$  and another part demands capital  $Q_{t,k}$  and the other part is disposable income  $Y_{t+1,D}$ , which goes to the financial market or to trade assets on this market. Owing to this, actual demand of both consumer goods and capital goods decreases; with these goods remaining in inventory investments  $I_u$  and that, in equilibrium with unemployment, will be equal to the amount that flows to demand financial assets. Two arrows can be seen; one downwards that goes towards the financial market and another upwards, with the first representing the disposable funds that are born on the ordinary market and go to the financial market, while the others take the inverse path. The quantity on the financial market is *net* disposable funds. The ebb and flow, travelling from the ordinary to financial market, causes tensions between interest and capitalisation, giving rise to the economic cycles. This traffic also originates due to alterations in liquidity

preferences of economic agents.

Given the enormous importance of this issue, I do not want to leave it without definitively settling another aspect, which although already explained, is worth expanding upon. I am talking about *net disposable funds*. Without explaining net disposable funds on the financial market would be like stating that, if the economic system were an economic agent, the movement of non-capitalised savings ( $S - S_k = D$ ) to the financial market would mean nothing but moving the saved money from your left pocket to your right. If someone buys secondary financial assets, part of this savings will be given to the seller, who could buy a machine with this amount. My argument would go up in smoke, as the savings in the left pocket and then moved to the right would be understood as going from the latter to capitalisation. Why this does not happen is the explanation of *net disposable funds*<sup>86</sup>.

The financial market is where income assets (Bernácer's name) are traded, financial assets and actual secondary financial assets (lands, credit rights, plots, etc.); non-capitalised savings enter and others leave. If those that enter are greater than those that exist, net disposable funds increase, but if more leave than enter, they decrease.

Income assets have great fecundity. Firstly, they are born from the same savings transfer operations and even from production activities. One example is shares and bonds and another is buildings. The oldest and most genuine is land. This task of financial procreation is helped by the herculean task from the public sector of creating public debt and similar securities. Thus, financial operations continually devour disposable funds to be able to sustain market prices.

Like the banking system, in its task of channelling savings towards investment, it is highly possible that the financial market also swallows the new money created.

There are also savings or disposable funds placed on the financial market with future aims of capitalisation that are temporarily speculative. These are company sinking funds and reserves or the non-distributed savings of production units. Therefore, there are continual sales operations of these assets on this market to obtain money with which to execute replacement investment operations. Individuals also participate in these operations who simply want to spend the savings placed on the financial market. They are operations of the output of disposable funds to the ordinary market. They are benign operations for the system. How else can net disposable funds be explained? Well, by explaining the economic operations that occupy money; it is obvious that they do not demand current production. Stated more simply: If income is born from previous production and this production is not demanded, production is frustrated. And if production is not demanded, it is because other things are demanded that entail profitability. Thus, Bernácer said:

‘How many monetary operations are done whose direct objective is not the purchase of current labour products!...’

Classical and neoclassical economists respond that, since money is not destroyed by these types of operations, it will continue circulating in the system and consequently, continues being suitable for buying what its owners want. Pay very close attention to this line of reasoning of the classical and neoclassical economists and to the answer given by Bernácer the physicist.

Bernácer said that this argument is engendered by a sophism and that all sophisms arise from leaving out reality. If reality is not taken into account, nothing real can be concluded. Reality is time and space,

coordinates where human and physical operations take place.

Thus, disposable funds, the financial market, etc. take place in time and space. Let's see the importance of this statement. How many times have analogies of economic events using physics formulas turned out to be wrong and how many times have they turned out to be right? This is a case where they were totally right. Let's see why:

Time, he said, is characterised by specific inseparable qualities (at least for Newton). These are: duration, continuity, irreversibility. There is another, he went on to say:

'It has no defined name that I know of, but is similar to the impenetrability of bodies. Two bodies cannot exist in the same space. Likewise, two actions cannot be done at the same time by the same body. This incompatibility of actions in time prevents money, which is employed in buying a house, from buying another house at the same time...' <sup>87</sup>

Effectively, if money is executing transactions on the financial market, money that is a net disposable fund, it is obvious that it cannot be trading in consumer and capital goods. This is more than clear. It can also be explained as follows: if net disposable funds are on the financial market, then they are not on the ordinary market at the same time. Of course, funds leaving the financial market to go to the ordinary market can buy goods on the latter market, of course, *but always after*. And the ordinary market can be depressed if, *during this later period*, bits of savings are broken off to go the financial market.

The help of *net disposable funds* is great because they indicate the quantity of disposable funds that are on the financial market at a given time, as an overall result of their inflow and outflow.

While it does not disappear due to paying a bank (and the bank doesn't give it back) or lost in a shipwreck or burned in a fire, it is certain that money is in the hands of someone, he stated. But he concluded by saying that 'whoever buys a house tomorrow can buy a car on *another day* or a debt instrument or make a sumptuary payment.' He went on that *ability does not mean action*, and we must distinguish between *potential* and *actual*. Thus, if money is used to buy shares on the stock market, an equivalent amount of merchandise will remain unsold, ( $I_u$ ), and continues weighing on the market, later causing a drop in prices. The only solution consists of the speculator *later* selling his security and buying unsold merchandise; or that *now*, when our subject speculates, someone does the opposite operation, selling securities and buying assets with this money. But these comments are only potential operations, a laboratory hypothesis that confronts the past act, which is the speculative operation done at time  $t$  (now) that left unsold merchandise (also now).

If a billiard ball at time  $t$  hits two other balls, both move, but that does not mean two different actions for our purposes, but rather one single action.

Bernácer, who was never an economics professor (and didn't even have a degree in economics), was trained in accounting, which enabled him to deal with macroeconomics from where income is born, at companies. Bernácer gave physics and chemistry classes at the Business Studies School, as mentioned earlier. According to his students, he loved experimenting. He used everything in the mechanics of economic operations. I believe that one of his ideas was the amount of movement or the conservation of energy, except that in economics, production and money are created and destroyed. Specifically, money has a tendency to perpetuate itself; it is the multiplier of income. Let's look at what Bernácer had to say about this point.

Bernácer stated that Keynes' multiplier, formulated by Kahn, could be stopped and lose its impact, owing to the existence of leakages. For Bernácer, these must have been hoarding and financial speculation. This phenomenon is explained hereafter: If income expands and multiplies, new waves of income reach each sector, which are less than previous waves due to saving. If income tends to multiply and monetary flows escape to the financial market with each increment, obviously, sooner or later, this expansion will stop.

I will comment on the following graph that explains hoarding now.

The reasoning is the same as always. Income is born from previous production  $Q_t$ , and if part of this income is hoarded (not saved), it remains outside of the circular flow of income forever. I give little relevance to this event because it goes against Bernácer's central argument that states: 'it is not reasonable for a person to hoard (or even invests) if he can obtain easy profitability on the financial market, earning at least interest'. The income originated is  $Y_t$  and after hoarding is  $Y_{t+1}$ . It will obviously be less than the initial amount ( $Y_{t+1} < Y_t$ ). If the production from which income was born was  $Q_t = Y_t$ , obviously this income will be incapable of removing production from the market, giving rise to inventory investments or stock. Then:

... or also...	Graph page 289	Hoarded money
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## Summary

I will continue from section 18.2 'Cycles and the System', corresponding to the typical handling of cycles in the context of the theory of disposable funds. Since for Bernácer, cycles are explained by the destinations given to savings or, if you like, the destination given to income born from previous production, this is why I will have four sections here that each explains a specific destination of savings. These destinations separately explain crisis.

After each destination is explained in the four following sections, he gave an economic version, accompanied by a graph, of their circulatory process. The cycle will be explained in this order: Depression, recovery, the road to prosperity and the inevitable fall.

## *Depression*

The causes of depression must be sought in disposable funds and the savings from which they were born. Enough savings must be generated for net investment and replacement investment to be financed. The savings that makes this financing possible comes partly from companies and partly from individuals. Company savings is called reserves and sinking funds (although reserves have different statutory purposes and different theories). Individual savings is the part of income not spent on consumer goods. Both savings will finance investment, although this operation has the following drawback:

The first is that companies obtain fewer profits because prices go up less than costs. This aspect, already looked at in section 17.7 The Explanation, part 3, explains how companies try to lower prices to sell their products. The normal thing in a system of economic freedom is that unemployed resources, especially labour, compete for placement, making wages drop. But lack of economic freedom prevents it, with this translating into wages decreasing but at a slower pace than prices.

The consequence is that profits drop, as well as the possibility of self-financing in investment. This line of reasoning gives us the framework within which depression operates, although it is not thorough or sufficient. Other elements help to explain it.

Job market rigidity, given a level of business resources, makes many workers remain unemployed. It can also be explained by saying that higher salaries of employed workers (higher in relative, not absolute, terms) are possible because others are unemployed. Total demand in the system decreases, which contributes to entrepreneurs' earnings decreasing as well. Profits  $B$ , obtained from earnings minus costs, are diminished since earnings are dropping more quickly than costs.

Many marginal companies are left out of the market and go bankrupt, dragging their employees into unemployment, another factor helping depression. I will leave the main argument for the end. Bernácer said:

'It is not the size of savings that is the cause of depression and its persistence, but rather that capitalisation drops more. And this cannot disappear as long as production is not profitable...'

There can be sufficient savings and it can even, in my judgment, be aided by the creation of money, but as long as capitalisation (real investment) is less, crisis starts or, if it has already started, gets worse. If capitalisation is less than savings, then where is savings? This non-capitalised savings that I have called disposable funds is on the financial market, which also generates profits just like the ordinary market. The difference, and a very important one, is that on the financial market, profits are monetary and are real on the ordinary market.

The phenomenon of depression has different origins, but these origins are co-causal. Let me explain myself. Profits drop because earnings decrease more than costs. Earnings decrease partly due to the same initial unemployment but also partly because the financial market becomes comparatively more attractive than the ordinary one and system savings turn to that market instead of staying on the ordinary market. The situation intensifies because, on the one hand, savings is less than capitalisation, but moreover and due to this fleeing of income, savings becomes increasingly less. This savings, declining more every day, if transferred to speculation, deepens crisis more. The system becomes devoid of monetary resources, which brings with it a decrease in company earnings.

In Bernácer's theory, interest is outside of production, even outside the market, and is due to the existence of the financial market, decreased profits mean that the marginal profitability of capital, or simply of the business, decreases. This is how companies drown that were not marginal before, but now are, simply because the marginal profitability of business drops below the interest rate. If interest drops, these companies will survive. Bernácer knew that financial speculation, fed by the flow of disposable funds, made the market price of securities go up, making interest drop ( $-\Delta i = R / \Delta V$ ). But this process does not drive people to abandon financial activities, because another movement is simultaneously started. In effect, financial investors are not concerned about the percentage profitability or interest rate when speculative fever is taking place. Any speculator knows that the vertiginous rise of financial assets will be fully balanced out by the interest accrued in many years. This means that even if interest drops, disposable funds will not stop being injected into the financial market for this reason. These funds are the same ones that are not being employed in company capitalisation.

And if company profitability drops, this descent is helped by the fleeing of disposable funds that prevent capitalisation. The consequence is that profitability drops and financial market profitability drops (interest) although, despite everything, the second is greater than the first. The end result is that marginal companies that were not so before will disappear from the market.

Of course, monetary authorities can make interest decrease by creating abundant amounts of money. Nonetheless, the situation will change, as the motivation of economic agents is the key to the problem and the key to the solution. These agents simply seek monetary profitability and they find it on the financial market and not on the ordinary one. Thus, with this state of things, the creation of new money will quickly run to the financial market.

This last statement follows the sentence, already a cliché among economists, that ‘you can lead the horse to water but you can’t make it drink’ referring to investments that are inflexible to investment variations. It isn’t that investment is rigid, but that the other investment, wrongly called speculative investment, is extremely elastic.

The paradox of all this is that humanity stands thirsty around the fountain, as this period is when there is the greatest abundance of idle resources, equal to the idle monetary resources remaining. But they are not being hoarded; they are being used in speculation. This money must return to demanding consumer goods or capital goods (investment). Bernácer finished by saying: ‘...humankind suffers misery simply due to the paralysis of the circulatory mechanism...’ (*A Free Market Economy*, page 135).

### *Recovery*

Profits can only increase after prices increase above the cost increase. If the economy is depressed, increased demand can only come from atypical expenses that force the collectivity to spend due to any outside event. The most frequent causes are wars, revolutions and calamities. Here Bernácer leant towards public sector intervention as an exceptional measure to end crisis. While he did not specifically propose public sector intervention, he did state that wars are the solution to crisis empirically and historically.

His words hereafter are very revealing. He said:

‘The only effective solution is to spend generously; the least important is whether this spending is useful or useless. What is important is that it is something where profitability is not measured, for example, on war and on weapons, where people spend without thinking about it, because it is a matter of life or death or national honour. Public works also fulfil the condition of distributing new income and their products are not on the market, although unfortunately the securities that have been used to finance them are...’

Let me clarify his comments, so that Bernácer does not seem like a Keynesian interventionist. The public sector is the largest treasury in the country, which is why state deficit causes an intense increase in demand that makes prices go up. Many economists state with naïve belief that unemployment will be resolved by the occurrence of deficit. The only thing that really happens is that prices increase, wherever spending is going: weapons, subsidies, public works, etc. This is the cause through which recovery is paradoxically linked to huge catastrophes like war, calamities such as crop losses, etc.

Another measure is outlined to resolve crisis, which is cost reduction. These can be connected to improvements in workplace organisation and also technical improvements. With respect to technical improvements, there is a problem which is that they require the concurrence of savings, which when applied, translate into new system income. However, by definition, if the country is in depression, these savings will be on the financial market.

Nonetheless, it could happen that huge prospects in savings of vehicle construction have stimulated the skills of technicians, geniuses and industrialists, leading them to take efforts to remove resources from the financial market and take it to capitalisation. They are inventions induced by two types of need: one, the

need of industrialists to get out of crisis and two, the needs of a more demanding population. There could also be spontaneous technological discoveries that spread excitement to others. This is what public finances explains (not Bernácer) as economies external to production.

Now, these events would explain recovery if they were fatal and inevitable and natural derivations of economic circulation. But this is not true, since they are incidental and sporadic, the reason why depressions are irregular with regard to their duration.

For Bernácer, the two causes of recovery are on the one hand, intensive public sector spending, which stimulates demand and price increases. On the other hand, cost decreases due to the discovery of new technological innovations. Both are fortuitous. If both are mere chance, especially the first, this means that fiscal policy does not exist. Fiscal policy, sacred to Keynes, consists of deliberate action by the public sector, which manages taxes, expenses and public debt, to obtain the desired aims. An economic act is not politically necessary if not previously planned, and what is planned and what is chance (wars and calamities) are incompatible.

If Bernácer knew that public spending either on war or on subsidies or on public works, which is financed with new money, resolves situations of depression, then why wasn't he a supporter of expansive fiscal policy? And it is not explained if remembering his idea that a drop in interest rates does not necessarily incite investment. Bernácer's and Keynes' macroeconomic theories are similar in some aspects that can be summarised in a single point. Crisis is determined by a drop in investment. Since the system is helpless to increase it, as Bernácer stated, then there is no solution other than expansive fiscal policy. Monetary policy is not effective and neither is fiscal policy. What solution did he propose then? Well, the absence of the financial market. A utopia.

Bernácer, deep down –and almost contradictorily- believed in the advantages of the free market. He defended this freedom by warning against the dangers of Keynesian interventionist theory. I will repeat his criticism, obviously stated after 1936:

‘Policies praised by Keynesian supporters would lead to monetary turmoil and if private capitalisation were replaced by public, which would establish a strong inclination of the state towards capitalism, that is a regime like Russian communism (words from his last book, *A Free Market Economy...*, page 308...).

### *The road to prosperity*

Both the road from depression to prosperity and the road from prosperity to depression requires the concurrence of two facts. One will be the difference in growth or decrease rates between prices and costs and the other will be the movement of disposable funds from the ordinary market to the financial market and vice-versa. One pushes the other, but which one is first?

I would say that whether the state promotes demand or there is an invention or technological innovation, as soon as demand exceeds production, it will tend to stimulate it. Prices will tend to increase, except in those productions where prices have dropped so much that it is possible to increase production without costs and prices increasing. If, on the other hand, production during depression has decreased greatly, then it is possible to produce a lot, taking into account the quantity of unoccupied factors. It seems like Bernácer explained issues similar to the elasticity of production. It is even possible that monopolistic institutions are overwhelmed by factors of supplying, including labour, and prices of factors that translate into costs do not experience increases.



Greater profits, owing to the increase in prices over costs, make profitability from production activities increase. Here Bernácer did not blindly fantasise about the profitability of capital and preferred to speak of the profitability of general economic activity. This profitability can exceed that from the financial market and usurp it, where the disposable funds are legitimate that, in the end, have come from there.

Let's stop for a moment to analyse two probable events during depression. According to Bernácer's explanations, crises demand that the financial market experiences a significant boom. What happens then? Two events can take place as mentioned, but not explained. One is that speculative activity deflates fleetingly and quickly. This fall means the instant disappearance of disposable funds. The other is that this doesn't happen. But which event is more likely?

Let's suppose that speculation only stops and that the financial market does not collapse. There are no expectations here about the increase in security market prices (which can be called capital gains). Nonetheless, security market prices have increased, which is equivalent to a decrease in interest rates. Then, even without prices increasing significantly and costs dropping on the ordinary market, previously marginal companies are no longer marginal and savings invested in production activity are better compensated for than in the speculative market. If supposing that prices increase more than costs under these circumstances (public sector spending and technological innovations), recovery will be faster because the difference between interest and capital profitability or, better even to say general production activity, becomes more pronounced.

If the financial market collapses, the following will happen: I have said that two events can happen on the financial market that respond to static or dynamic expectations of speculators. If speculation is not strong or doesn't exist, then the interest rate for savings is the attraction. If speculation is intense and endures, then capital gains are what attract savings, even more than interest. In the first case, interest tends to remain constant and, in the second, it tends to drop. Despite this, the allure of the financial market is powerful<sup>88</sup>.

Let's see why. If the market collapses or simply stops falling, it is losses (called capital losses) that make speculators fearful, who then remove savings from this market and place it into production activities. The drop in market prices will cause an increase in financial market interest, but this increase will obviously be completely neutralised by the fear of speculators watching their savings go up in smoke. Moreover, the movement of savings –disposable funds- from the financial market to the ordinary one to finance investment will cause ascending price increases that will contribute to increasing production activity profitability.

Bernácer said that accumulative phenomena that lead to prosperity or to depression have held no mystery for economists for some time.

He stated: '...Mystery is found on the road from depression to prosperity and, above all, from prosperity to depression'.

In my opinion, this mystery would be clarified much more quickly if economists -including Bernácer- had concerned themselves more with analysing the cycles in the financial market and not so much in the ordinary market. Specifically, great efforts should be spent on analysing financial market scarcity or saturation, which would be explained by the relation between the growth of financial assets and disposable funds.

Before continuing, I will summarise the ideas of yields or interest from speculation in the two situations: one is static without intense and continued security price increases and the other is quick with continuous increases.

*Static:*  $R/\Delta V = -\Delta i$ ... Disposable funds exit towards the ordinary market and profitability on the ordinary market increases. Recovery starts.

*Dynamic:*  $R/V + (V - V')$ ...  $V - V'$  rapid increase in security market prices. Interest drops, but speculative earnings  $(V - V')$  attract more disposable funds than the ordinary market. Depression starts.

*Static:*  $R/V = i$ , interest increases and disposable funds are attracted to the financial market. Depression could start.

*Dynamic:*  $R/V = - (V - V')$ ...  $(V - V')$ , negative sign or speculative losses. Disposable funds exit quickly towards the ordinary market, causing the collapse of the financial market and encouraging the recovery of the ordinary one.

There are many limitations to this statement. Indeed, if income multiplies, it would be interesting to know the proportions of income that go to both markets. If income dwindles, the proportion it contracts on both markets must be known.

What is most important of all is to find out why, when the financial market collapses, it also drags the ordinary market with it. Let me explain. The financial market, like any other, owes the rise of security market prices to the fact that there is always a monetary mass behind them. If these considerable disposable funds stop being exchanged for income-yielding assets or just financial assets, the market prices of these securities collapse and interest goes up. This is logical. But the explanation that is missing in Bernácer's work and Keynes' work and macroeconomics in general is about where these enormous masses of disposable funds have gone. Here it seems like what is logical is not true. It would be logical to say: 'fleeing from the financial market after its collapse, they go to the ordinary market via investment.' However, reality has proven that when the financial market crashes, these disposable funds, the net ones that have increased, go nowhere, with the consequence that the crisis deteriorates. One could always argue that these disposable funds can go to hoarding. But I doubt such anomalous behaviour from rational beings who can obtain profitability on the financial market. One could propose that after the financial market has crashed, these disposable funds are spent on consumer goods, but this event would involve the recovery of the ordinary market, which we know does not happen.

This is my explanation.

### *The inevitable fall*

Prosperity would continue provided that disposable funds are capitalised, as well as the income arising from this capitalisation. Real idle resources are demanded with unspent monetary resources, a procedure I will call actual investment. This investment is new demand that feeds the market, entailing the creation of new income, which will be divided between greater consumption and greater savings.

Higher profitability of production activity attracts disposable funds from the financial market, causing a void that depresses market prices and makes interest rates rise.

Crises have been accompanied by (before or right after?) an increase in interest rates, often reaching unheard-of levels. The same thing happens with discount rates. The moment of crisis has arrived. There is

a great thirst felt for disposable funds or, if you like, liquidity. Why? Because recourses have been excessively immobilised during times of prosperity, some of which are from self-financing and others that are external. Commitments acquired cannot be fulfilled because they were taken on during a period of prosperity. There is a time when people lack money, although there may even be excess money as a whole. The same prosperity has tried to recycle itself and this is when many resources have been reinvested, not only the absolute value but in greater proportions even than in times of normality. Furthermore, present treasury excesses (sinking funds and reserves) have been placed in financial assets.

Liquidity is missing and everybody wants liquidity. The thirst is calmed in the springs of the financial market, cashing in their securities, which fall, making interest rates rise<sup>89</sup>. These grotesque falls are the most dramatic manifestation of crisis and are also at its epicentre.

Modern banking institutions have been organised to remedy this situation. On the one hand, the remedy is to prevent banking crises by supplying funds to banks that need them. With new money, banks will also acquire financial assets that will prevent security prices from falling. Crises are aided in their fall by an endless number of anonymous volunteers, where the most important are bank crises that helped lead savings to investment and also created money, and the rising interest induced by the fall of market prices.

In times of prosperity, there is more demand than supply. Owing to this same excess in demand, enormous profits have occurred, which have stimulated companies to increase working capital and buy new facilities which in turn make income and savings both increase. But a time arrives when the products resulting from these investments are placed on the market and the opposite phenomenon occurs. This is when supply dominates demand. The depressive nature of investment in working capital is joined to the distraction of profits not distributed in income-yielding activities; activities that involve decreased demand.

## 18.5. THE PHYSIOLOGY OF CRISIS<sup>90</sup>

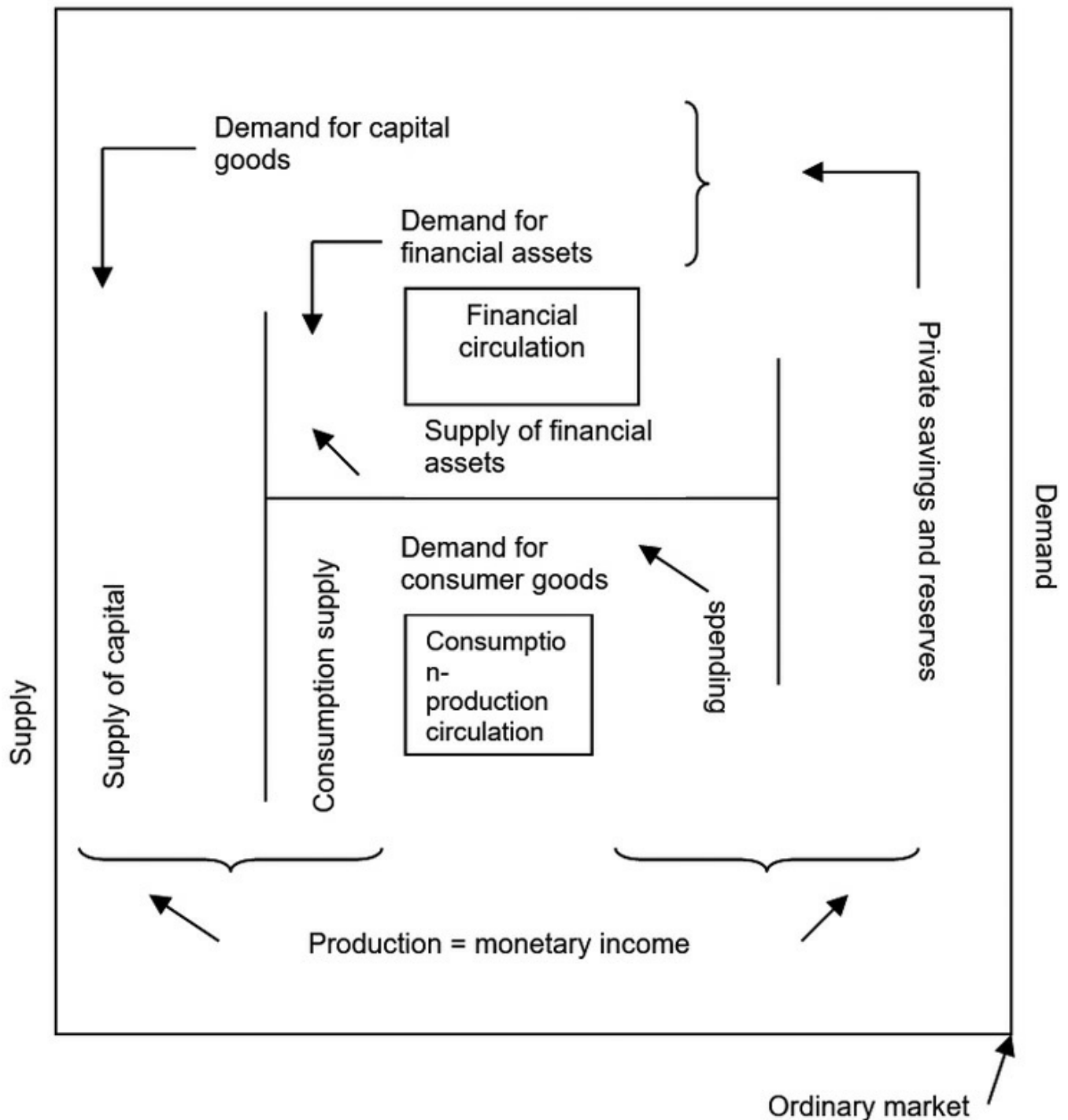
For Bernácer, monetary circulation is different than the explanation given in economics manuals.

These economists tend to explain it as a monetary current opposite the circulation of goods and services, where financial institutions are inside the system, being used as a mere bridge between savings and investment. This is so deeply rooted that they don't even add drawings in elementary textbooks. In these texts, financial institutions hold a position like an invisible osmotic membrane, which makes a liquid flow of money move through this membrane from one place to another.

The matter was very different for Bernácer. There are two monetary circulations. One is the monetary circulation derived from current production and from distributing production incomes, which return via consumption and investment. The other circulation is financial. Here nothing is produced or distributed. It is an aberrant and poisonous circulation that carries blood without oxygen. Disposable funds, which are the part of savings that don't return to the ordinary market, go to the financial market, being exchanged for financial assets. Each asset generates profitability. The percentage profitability of the disposable funds placed in each asset is called interest.

There are thus two monetary circulations driven by two valves. One, the ordinary market, is productivity or marginal profitability of capital, and the other is interest. The trajectory of monetary blood can be invested with meaning due to the *relative* broadness or narrowness of the two valves. This investment

explains the physiology of the cycles I am going to explain.



Income is born from production; this is the explanation given by Say. To understand the breach of this rule, you first have to understand how it works. Two currents are born from the bottom base. One is the production that goes up the left-hand column, which in turn splits into two sub-columns. One is the production of consumer goods and the other is the production of capital goods. Both *should* find two demands that absorb them (that they should does not mean that this actually happens).

Income is also born from the base that goes to the right-hand side, rising along the column. This income is spent, where the expense is demand. Demand is an exchange between money and goods. The right-hand column, where income rises, splits into two sub-columns. One –the inside column– is spending on consumer goods and the other is company and individual savings. Here is where a fateful subdivision

takes place. Total savings should logically be absorbed by the production where it was born. Savings should be used to finance investment. But this does not happen, as a part of savings demands financial assets. Consequently, demand ends up being weakened.

According to my explanations, derived from analysing Bernácer's graph, the so-called *net* disposable funds would occupy the internal circuit at the top of the graph (demand for financial assets = supply of financial assets).

In the outside left-hand column, the demand for capital articles absorbs the capital supply. In the inside right-hand column, the demand for consumer goods absorbs consumer goods<sup>21</sup>.

If, as mentioned, the demand for capital equipment is not enough to have split into two on the financial market, market depression will occur. This depression can be balanced out by a greater demand for consumer goods. Another possibility is that even though a large part of savings enters into financial circulation, part of the disposable funds leaves the disposable funds on the financial market to demand capital and/or consumer goods on the ordinary market. This explanation demands the participation of the net disposable funds that I already explained.

Thus, movements that are not necessarily cyclical but are disturbing can be explained. This is the case for demand that alternates demanding *more* consumer goods than capital goods or vice-versa. All operations that represent production being greater than demand will help in the formation of crisis. In this situation, the left-hand column of the graph would collapse, as in the case of savings that helps form working capital. Let's look at what happens in this case. New production will rise in the form of supply on the left-hand side and a new current of income will ascend the right-hand column. The left-hand column is found awaiting a demand for capital goods. Thus, the current of spending on the right that was previously saved can now demand capital goods, in which case the new production from which it came will stop being demanded. It can also demand this new production (from which it was born), but in this case the capital goods would be unsold.

Crisis also starts when excessive investment on the ordinary market takes time to be recovered monetarily. Stated differently, excessive investment entailed greater demand than supply, but until new production, the fruit of this investment, recovers it, it is greater as supply than as demand, with the market thus collapsing, although only temporarily.

I compared the mechanism of monetary circulation to blood circulation pumped by two valves. Bernácer, as a physician, used the example of a hydraulic ram. He said: 'In it (referring to the ram), when a current of water has a broad outlet, it starts acquiring speed and flows back forcefully, raising part of the water to a greater height, until the drive received ends; then the drainage valve opens naturally, the water flows out and acquires enough speed to determine a new hit from the ram...' (*A Free Market Economy...* page 143). Bernácer had a hydraulic ram in his physics labs at the Business School, which he obtained after making many requests to academic authorities.

He continued:

'In the event of the mechanism that we studied, what acted as a closure valve represents the financial market. When there is a spontaneous movement of growth in demand, the current of funds towards demand speeds up on its own and, after acquiring a certain speed, the emptying of disposable funds in the financial market plugs up the exit, making funds flow back towards this last market, with which product demand is

deserted, which weakens until there is a new hit from the hydraulic ram.'

### 18.5.1. Boom and crisis

Prosperity and depression are different concepts than boom and crisis. In my understanding, these latter are temporary episodes within any general cyclical wave. Let's look at what Bernácer said:

'Boom is a sporadic accident of prosperity, like crisis relates to depression, although both can be left out or happen abortively: the first in a phase of depression and the second in a phase of prosperity, greater depending on the capitalisation process initiated under the stimulation of the rising movement. It often obtains *a fortiori* in the adverse situation due to contracts and commitments acquired earlier. This can cause the appearance of specific resurgence symptoms, to then later fall into the deepest stagnation...' (*A Free Market Economy...*, page 143).

It seems like movement towards depression starts before crisis. It is not necessarily the inflection point between prosperity and depression. Crisis is a situation that involves the breaking of 'something' as the result of forces that were gestating. 'Crises, like booms, are the result of discordant and poorly-regulated movements. If this discordance, with its effects accruing, ends up causing such large disequilibrium that the system's elasticity is exceeded –despite the means in place to prevent its explosion- fissures appear here and there, until crisis is precipitated in the end' (*A Free Market Economy...*, page 144). Booms and crises are thus periods that register accumulated situations of tension and whose explosion leads to movements towards prosperity or depression.

He added the mechanics of his financial market to these concepts. Thus he stated that the periods preceding crisis are characterised by the notable boom of the securities market, especially the most speculative ones: industrial securities, farmlands, plots and urban properties. These are words from 1955, 26 years after the Great Depression of 1929, which was marked by its significant speculative fever. These sentences were also stated in his first book from 1916, which referred to crises before that year obviously. The causes of this process are double: prosperity makes the prospects for these securities go up and makes it possible to obtain large profits. These profits do not derive from production activity, but from purely speculative and monetary actions. These greater profits are enormously attractive to floating savings and disposable funds (before potentially going to capitalisation). The other cause is that abundant earnings have encouraged the creation of abundant savings that travel towards the speculative market, attracted by the chance of obtaining big profits.

Savings, that increases, does not move towards the investment that demands it, but rather results in the creation of tensions of crisis and the road towards depression.

In the diagram of the genealogical tree of the History of Economic Thought, I would place Bernácer on the fertile monetary branch. His theory of disposable funds and its ramifications are also monetary. The outline of booms and crises has always existed. There are signs of its existence in ancient Egypt, Greece and Rome. What is a clear fact is that the invention of paper money, registered shares and fiduciary instruments has all fed cyclical processes. The maximum effect that money has on depression and prosperity are the phenomena of oscillatory movements and in reality when these movements have occurred, they have done so violently. As you will see, Bernácer thought that the gold standard was a golden pendulum causing cyclical movements instead of being a metal stabiliser that regulates the trajectory of the economy.

### 18.5.2. Gold

The physics professor at the Business Studies School knew that waves are propagated in certain mediums. If they are seismic, they will not propagate in a rigid medium (my example) and fractures occur. After the system is broken, there is innate flexibility in the system upwards towards prosperity or downwards towards depression.

He said: ‘One of the most rigid currency systems that has been invented is the gold standard, which ties currency to a specific value in monetary metal and maintains circulation with respect to the gold reserves it has (*A Free Market Economy*... page 14). The monetary problem referring to the metal standard established was handled by Bernácer in his first scientific articles (*Currency and Social Issues*, 1919; *The Monetary Problem*, 1921; *Two Present Matters: The Laws of Banking and Customs Duties*, 1921, *Discourse on Changes*, 1924, published in the *Revista Nacional de Economía*, Madrid), revealing his concern about this essential problem<sup>22</sup>.

During those years, John Maynard Keynes had already gone into great depth on this issue. His book *A Tract on Monetary Reform* set forth his disagreement to the gold standard and showed him as a supporter of purely fiduciary currency. In 1913, he had already published a systematic study on the gold standard-exchange as a corollary of his experience at the India office from 1906-1908. I duplicate his famous sentence from this book: ‘In reality, the gold standard is already a barbaric reliquary...’, a sentence that was scandalous and explanatory. He would participate in the Bretton Woods conference that would give rise to the International Monetary Fund, with its participants involved in great preparation on international monetary themes, especially Keynes. Keynes’ project was defeated and with it the monetary stability of the world. I have no reference about Bernácer’s comments on that project, but I believe that he surely would have supported it. Keynes was firm about this issue.

I said that the physicist Bernácer placed cycles and system flexibility as opposing forces, and the gold standard is an excessively rigid monetary system. The gold standard is a very rigid technique and therefore pro-cyclical<sup>23</sup>.

### 18.5.3. The gold standard and cycles

In addition to the institutional definition of the gold standard known by all, it is also characterised by two further qualities. Gold is a payment method on the one hand and on the other, this same payment method is in turn merchandise. As a payment method and a quantity, it is related to the general price level. As a commodity, it is liable to be kept and intensely supplied, competing with others in the general supply of products. This comment made, let’s see how different situations are related to each other. Hoarding of gold commodity causes monetary contraction and de-hoarding it causes monetary expansion. Both movements escape from monetary authorities and favour cycles. Let’s see how.

In principle, the gold standard system proves advantageous due to containing great value in little volume and under these conditions; it is possible to establish the value of currencies with respect to gold. Convertibility is an operation that makes the conversion of gold into current currency and vice-versa possible at a fixed rate. If gold becomes scarce with respect to currencies, the latter loses relative value and, if it becomes abundant again, they increase their value.

Due to this quality of the gold standard system, of convertibility, gold is the *commodity that best lends*

*itself to hoarding*. Furthermore, if there are liquid capitals that find no profitable occupation, owing to depression for example, their best placement can be found in gold. The purchase of gold with liquid capital for hoarding is a much more attractive operation than the hoarding of current legal tender<sup>94</sup>.

Gold hoarding entails altering the current gold-currency ratio in favour of the first. Even though the quantity of currency in circulation does not change, it will abound more than gold. If gold is wanted, like any other commodity, due to being scarce and currency *relatively* abundant, the price of gold will tend to go up dramatically. And it is obvious that, since gold is a payment method whose value establishes the value of currency, the *relative* abundance of the latter with respect to the first causes a decrease in the currency value. Since gold is a commodity (I will repeat the same argument differently), its supplying is annulled, which makes its price increase and decrease in monetary terms according to demand, established by currency in circulation in the pockets of buyers<sup>95</sup>.

Since convertibility is done via a fixed or fixed rate ratio, as the gold price goes up due to its relative scarcity above all other commodities, this means the prices of the others will descend. General price decreases are imposed in the system, reducing the profitability of production activities. This is how the gold standard, or the basic quality of gold as the ideal element claimed by the system for its implementation, translates into danger. If depression didn't exist, it can cause it and, if it already started, it can make it worsen. Gold causes the appearance of crisis.

And, what happens if individuals do not employ their liquid capitals and deposit them in banks, that is, if they don't buy gold and don't hoard it? The same thing happens. These liquid capitals are deposited in the bank, which when not finding clients or borrowers, like what happens in depression, they dispatch it to the central bank. Then the central bank has to reduce or increase circulation by buying gold that, besides commercial loans, is the only asset admitted. The *relative* or absolute increase of reserves produces the same effects as hoarding by individuals.

The immediate consequence is that currency devaluation is set into motion. And how is the public protected from currency devaluation? Well, by hoarding the gold still in the system. As you can see, the process is acquiring symptoms of depression. These are the consequences derived from the existence of the gold standard during depression or at the beginning of depression. Let's see what happens during boom periods.

When large expenses are generated and the situation is on the rise, gold is un-hoarded and supplied on domestic and international markets and its *price as a commodity drops*. This drop means that the currency in circulation becomes relatively scarce with respect to gold, which becomes abundant, which hence means that the currency is worth more in terms of gold. In other words, the same quantity of currency can buy a larger quantity of gold commodity. Or one more time, since gold is more abundant than in previous periods, due to its de-hoarding (to finance greater boom-time expenses), its price drops with respect to other commodities, which means the prices of these other commodities increase. This is how the gold standard accentuates boom.

If the gold standard were established internationally, the rigidity of the monetary system would be internationalised, also favouring the worldwide propagation of cycles. To Bernácer, a large part of the continuity of the crisis in the 1930s and 40s arose from the gold standard and as the moorings were released from gold, the economy could climb out of depression.



## 18.6. THE JOURNEY OF CYCLES

Seismic waves flow from the epicentre outwards to the rest of the system. The ease of transmission is a function of the flexibility and permeability of the medium. Since each economic system has its own elasticity coefficient, the journey of cycles undergoes a wide range of different durations and intensities. Since sometimes there is a somewhat common state of rigidity in systems, like the gold standard, it is clear that cycles can have the same epicentre that sends waves out, minimally having the same propagating facility. This minimum will be given by the gold standard. On the other hand, international trade freedom is a common level of flexibility in the system, in the same way that lack of freedom indicates a level of rigidity that facilitates the propagation of cycles<sup>26</sup>.

Trade is the *natural* vehicle for cycle propagation. International trade thus propagates them among different countries. This line of reasoning is supported by two institutions: one is the monetary mechanism that gives rise to payments between two countries with different currencies and the other are institutions like customs and trade freedom. For example, the gold standard represents the most suitable instrument for the propagation of cycles.

Imagine that crisis starts in a country with relations with another country that is in a phase of prosperity. The country in crisis suffers a weakening in internal demand that has an impact both on the supply of domestic products as well as supply from foreign countries. Domestic suppliers try to sell unsold production at any cost. As a consequence of this effort, prices drop more than costs in the country in crisis, with business profits therefore suffering. But part of this supply is also released abroad at low prices and the prosperous country ignores part of its own demand to import products from the country in crisis. However, the prosperous country cannot sell its production to the country in crisis as it would like, due to the weakness of demand. The end result is that the prosperous country has supplies that have increased as much as imports on the one hand and on the other, because demand has left to buy cheaper products from the weak country.

The country in crisis received gold as payment for its exports and gold has left the prosperous country to pay for the imports. This is the argument given on the stabilising effects of the gold standard. However, several different things can happen during this process.

For example, the gold detainers in countries in crisis that have exported can hoard the gold, the same as the exporting country starts to have a scarcity of gold, which excites hoarding. In the first, hoarding can be attractive because domestic demand is weak and, as profitability of production activities decreases, emerging savings are dumped into getting and hoarding gold. Another possibility is that both countries seek recovery. One through exporting and the other because it tries to continue along the path of prosperity with the same intensity as before. Then, for this growth to continue, more gold lubricant is needed than what exists in the system. There is a war generated for the booty of gold through production weapons in international trade. It is a dirty or underhanded war that alters the real exchange relations in different ways. These means will be customs barriers, the existence of importation limits, monetary devaluations, etc.

I said that it was an underhanded war because no production efficiency is seen here, which are the legitimate weapons of competition. For example, a product is produced in which sophisticated technology has been applied, employees have worked earnestly, the best raw materials have been imported... resulting

in laudable quality at a low price. However, trade shackles make it into an expensive product lacking interest. Competitive devaluations, high import taxes, which are the techniques for demanding gold -in modern days these will be foreign currencies- alter the normal and natural relationship of prices and, therefore, of the economic discourse. In the end, gold and foreign currencies have the same meaning as money, since they are money, and this meaning is buying or demand. In trade wars, countries see their chances to sell their products crippled, which means that the same international traffic in money is paralysed. It is clear that this paralysis provoked in the heart of the money market with trade aims will feed itself when end monetary stagnation takes place.

Countries accrue stock that they cannot sell; unemployment increases and, along with the tendency to export unsold products, there is also a tendency to export unemployment.

In this way, Bernácer tried to explain how a fixed exchange system, like the gold standard, is a suitable means for the international propagation of cycles. Along with gold, trade interventionism is an institutional means that easily and quickly drives the waves of the cycles in all directions.

Bernácer is an energetic defender of the free market, both in domestic and international economies. Thus, he said: 'The most effective means for defending oneself would be to adopt independent circulation with variable exchanges, which would be an automatic compensator for drops in external prices, because the exchange fluctuations balance out price fluctuations'. Next, he attacked the patriotic superstition about supposedly unfit devaluation. He said: '... But there is a prevailing mythology about monetary depreciation as the most dangerous and threatening event to the domestic economy. And they have preferred to endure tough crises before suspending the gold standard and letting the exchange rate fall, or taking on serious debts and turning to all imaginable means to block trade, although these means turn out to be inefficient. When there is no other option, they have turned to state intervention for exchange rates, the most damaging choice for trade and the economy...' These words show that Bernácer believed in free market economy of goods both domestically and internationally and, naturally, for money. Devaluation is a consequence of this monetary free market. The final sentence empirically shows his feeling about the issue: 'And, nonetheless, it is a true fact that currencies without fixed exchange rates have proven to fluctuate less in their internal value than those subjected to this oppression' (Bernácer's quotes in this section are from *A Free Market Economy...*, pages 147-8).

## 18.7. PESSIMISM

There is no symmetry in cycles, as depression is vocational in the economy, while prosperity is sporadic. This was Bernácer's field of thought about cycles. Depression can be long and deep. And, although depressed economies don't sink any more, it is true that they can easily remain in an initial state of prostration. States of prosperity are events that are more sporadic and soon burst to make the system fall into a state of depression. Bernácer from 1955 did not clarify if this economy that he called depressed is *significantly* below full employment. If this is not achieved, the economy will not be depressed for this reason. Like illnesses, economic fluctuations are characterised by their difference with respect to full employment. A small stagnation is not the same as a depression like the one in the thirties.

Bernácer in 1955 revived specific philosophical-political ideas that appeared first in 1916, when he stated that wars place demand in a vigorous situation that is more than enough to obtain full employment.

To him, humanity has wanted to rise out of misery through technical advances, but this effort has been futile, as these advances are applied to evil. He was talking about war. When peace returns, he said, the brakes on production activity are put into action. This purely pessimistic statement is useless scientifically and, moreover, it is wrong. Inventions made during peacetime are useful for creation and even more so due to their applications. After wars, a diverse series of technical advances are implemented that arise from wartime needs and emergencies. The fact is that these advances, wherever they were born, let the marginal efficiency of capital or the marginal rate of profits in production activity increase significantly, thus flooding the dam, with interest resisting the free circulation of savings.

Bernácer could see how after war in Western countries, there was important and *real* growth. Technology applied to production activities, which led to consumption of greater quality and quantity, made an increase possible of national incomes in real terms. Maybe this phenomenon could not be appreciated in an isolated Spain after a civil war, but it could in other countries like England, Germany and, above all, the United States. An educated man like Bernácer had to have known this.

There were also other important issues that conditioned cycles and their limitations. Along with technical advances was the distribution of incomes, an issue that Bernácer did not emphasise much. Reality and macroeconomic theory itself would have advised making his opinion more optimistic, which I believe should be as follows:

'The economy is subjected to forces that distance it from full employment, even though it is still possible to achieve an economy that grows in waves in real terms, along a path that makes the increase of real incomes possible.'

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<sup>80</sup> *A Free Market Economy...* page 183, chapter XII, sections 2 and 3.

<sup>81</sup> In essential pages *A Free Market Economy...*, Bernácer details the conditions for suitable monetary regulation and, therefore, for economic stability (chapter XII, section VIII: 'What would Monetary Regulation Consist of?', page 190).

<sup>82</sup> A key article for understanding Bernácer's explanation of crisis is: 'The Financial System and Crisis' (*Anales de Economía* magazine, volume XIII-XV, 1953-55 no. 49-60), where he set forth the suitable requirements for the monetary regulation of equilibrium (final pages 147-48). He expressed the causes of crisis by two routes: 1.a.- Due to the existence of the financial market and interest; 2.a.- Due to financing fixed capital with savings, a basically depressive operation.

<sup>83</sup> Monetary multipliers relate reserves and deposits to cash-deposits to explain the expansion of monetary supply.

<sup>84</sup> The issue of financing working capital with new money and fixed capital with savings, as a requirement for equilibrium, is difficult to extract from Bernácer's extensive body of work and try to summarise. It appears in *Society...* and in *The Functional Doctrine...* (and of course in the 1926 article 'The Cycles'). The example of the tailor explains the origin of crisis with enormous simplicity (*A Free Market Economy...*, page 133); and a similar argument is repeated in the article 'The Financial System...', page 134, chapter III, 'Spending and Saving'.

<sup>85</sup> The appearance of inventory investments is analysed in an article I published in the ICE Bulletin (*Información Comercial Española del Ministerio de Economía y Hacienda*, no. 2151, week 3-9 October 1988), José Villacís González 'Genealogy of Inventory Investment' (section *Revista de Economía*).

<sup>86</sup> The term *net*, applied to disposable funds is my term and is used to clarify Bernácer's ideas a bit, as readers may think that they lack permanent existence on the financial market and are nothing but a temporary refuge on the road to spending. On the one hand, financial market neutral operations make us think (he did express this clearly) that disposable funds do not change their condition (*The Theory of...* and *The Functional Doctrine*). On the other hand, the state of disposable funds can be analysed that *remain* in the financial market as the result of the inputs and outputs there. These are the *net* disposable funds.

<sup>87</sup> *The Financial System and Crisis*

<sup>88</sup> Capital gains are the surpluses generated in financial assets speculatively. Bernácer rejected the term *capital* in this context. Capital will only be production installations or fixed capital.

<sup>89</sup> Note that they are situations that entail balancing a confrontation of some against others in order to balance out. Whoever wants liquidity sells assets to those who don't want liquidity. They are opposite operations. Whoever is satisfied with their liquidity level, it is because he has sold to the person buying assets. This operation means buying and selling money.

<sup>90</sup> Jesús Prados: *Treatise on Political Economics* (published by the Universidad Complutense de Madrid), study on 'Economic Cycles'. He made an inventory of theories related to economic cycles, stressing Bernácer's. Prados did not use it to relate them to another aspect of

Bernácer's financial market, actual secondary assets, which he did study in his work on Chilean limited companies: *Inflation and Economic Development*, Edit. Aguilar, Madrid, 1956.

<sup>91</sup> Bernácer's most-extensive explanation on crises is found in chapter IX of part three of the book *A Free Market Economy*...

<sup>92</sup> The term dead wealth or illusions of wealth was coined by Prados Arrarte, who defined the real and financial assets on Bernácer's financial market in this way with great precision (from 'Treatise on Political Economics' and 'The Economic Cycles').

<sup>93</sup> About the pernicious effects of the gold standard: *A Free Market Economy*..., chapter IX, section 10. The following section 11 of the same book, 'The Propagation of Cycles', deals with criticism of fixed exchange rates, as a propagating element of cycles. Obviously, since the gold standard is a fixed or semi-fixed rate, it is destabilising.

<sup>94</sup> The article published in *El Trimestre Económico* (Mexico, April-June 1948) entitled 'Bimetallism: Review of its Cause' is of great interest with respect to the gold standard. Sections VIII and IX are very revealing, entitled 'Monetary Anarchy' and 'The Gold Exchange System', respectively (page 16-21).

<sup>95</sup> 'Chronic Inflation in Social War' (*Anales de Economía* magazine, volume XX, April 1962, no. 70) chapter VII, page 308, which reads: 'the establishment of the value of money in a single commodity doesn't even have the virtue of stabilising the purchasing power of money in real merchandise.'

<sup>96</sup> The central illustrative mechanism of cycles is in section 8 of chapter IX of *A Free Market Economy* entitled 'Outline of the Mechanism of Crises', page 141. Bernácer gives an example of a hydraulic ram in which the speed of the flow of water closes the output valve. He actually had a ram at the Business Studies School, which he used for physics experiments in his Testing and Assessment of Commercial Products class.

## Part Four

### Analogies & differences with other theories

## Analogies & differences

### 19.1. INTRODUCTION

The docility of convenience and, paradoxically, the quickness of thought of scholars, will lead them to establish analogies between Keynes' concepts and present-day macroeconomics and Bernácer's ideas and concepts. These thoughts are conditioned by repeated teachings, by the catechisms of professors and by readings. Economists' enthusiasm for mathematics and the pleasure of sunny philosophising about the truth casts the truth of macroeconomics outside all suspicion. Thus, readers will find similarities between one scientific field and another, with a simple message lying behind the unwieldy words of this book: 'Bernácer was somewhat ahead of Keynes and nothing more'.

But this is not true. Modern macroeconomics is the child or perhaps grandchild of Keynes' ideas. This was proven in *The General Theory*..., which was knocked down, built up, criticised, reformed, etc. From the quarry of his initial ideology, conceptual blocks were carried here and there that mathematical architects have started moving to build the building of macroeconomics. I insist that the sunlight of proof made it possible. But not even mathematicians, no matter how astute, create concepts and when you look straight at the sun, it doesn't illuminate but blind. And moreover, didn't mathematicians calculate that the blinding sun took 24 hours to circle the earth and that the sun and the planet they walked upon were already blatant?

In this chapter, I establish the differences between concepts that seem analogous, such as disposable funds and liquidity, or disposable funds and hoarding; savings and investment; financial investment and liquidity preference; monetary interest and financial interest. There are other concepts that may now seem obvious but were not for Bernácer, such as the origin of interest, the primary realisation between interest and liquidity preference and, above all, the basic equation of macroeconomics.

I believe that this chapter will cast greater clarity on previous ones, on the precise explanation of the Bernacerian doctrine.

I will begin by establishing analogies and differences between different scientists (Keynes, Hawtrey, etc.), starting with the scientific genealogy of Bernácer's work, so that it can be better used to establish the lineage of his science, which is also pure. Subsequently, the analogies and differences of the concepts will be established directly. And in this task of separating fruits from others that are different in the macroeconomic grove, the question of the originality of Keynes and Bernácer floats above it all<sup>27</sup>.

### 19.2. THE ESSENTIAL KEYNES AND THE TRANSCENDENT IN BERNÁCER

#### 19.2.1. Introduction<sup>28</sup>

The whole of the theory, exclusively monetary, was set forth systematically and in detail in *The Functional Doctrine of Money* in 1945. In this same year, the scientific laboratories of the world, mainly

England and the United States, were forging and shaping Keynes's work. There was a lot of fanaticism, or perhaps fascination, lent to the task. I repeat that his monetary theory took root in 1916 in *Society and Happiness* and in Bernácer's words<sup>99</sup> contained:

1. A doctrine on interest that was very different than what was in vogue at the time, although not original, as I have found out<sup>100</sup>
2. A theory of economic equilibrium that was quite original at the time, although today it would not be so original
3. An explanation of economic fluctuations

Bernácer didn't give himself enough credit, as I believe he was much more original than he stated, above all in section 2 about equilibrium. He said that where  $R$  are production payments (don't confuse this with non-production income so oft-cited above) born from production  $P$ , and  $R = P$  is fulfilled (don't confuse  $P$  for prices with the  $P$  used here and throughout this section that refers to period production).  $d$  is actual demand expressed in monetary figures, which measures consumer and capitalisation demand (don't confuse with the  $D$  for disposable funds)<sup>101</sup>. Disposable funds at the beginning and end of the period are  $A$  and  $A'$  respectively, which are the part of income not spent either on consumer or capital goods (remember *The Theory of Disposable Funds*, chapter 11). Thus

$$R + A = d + A' \text{ and since } P = R$$

$$d = R + (A - A') = P + (A - A')$$

and this equation responds to the definition of demand in the following way: demand will be total income plus the disposable funds from the previous period that continue growing in the period in question ( $R + A$ ) minus the part of unspent income at period end, which is  $A'$ . Stated differently, I could say that<sup>102</sup>:

$d$  (demand) = Potential demand  $R + A$  – what hasn't been spent at the end  $A'$

These ideas were formally expressed in 1922 (article: *Theory of...*). In 1925, the book *The Interest of Capital* was published, in which he introduced a new area of analysis. The novelty consisted of including stock variations along with production  $P$ . Before, he had expressed  $A$  and  $A'$  as the disposable funds or unspent income at period beginning and end. Now they were replaced by  $E$  and  $E'$ , which are stock or merchandise available at period beginning and end. If incomes are not spent and are therefore disposable funds, this necessarily implies the existence of disposable funds. From this statement, one concludes that this replacement does not distort the first statement, but says that they are numerically equal.

There is an initial situation of equilibrium when demand  $d$  equals supply  $O$  ( $d = O$ ). If equilibrium is fulfilled, without the need of full employment, then unspent income entails an increase in disposable funds  $(\Delta)A$  and the part of unsold production will involve an increase in stock  $(\Delta)E$ . Obviously, the increase in disposable funds will have generated an increase in stock or unsold production. Consequently, in equilibrium:  $\Delta A = \Delta E$ . In itself, this identity does not exist without a series of restrictive hypotheses, which would be developed the year after the book's publication in 1925. This article from 1926 entitled *The Economic Cycle* explained the six basic propositions from which Say's Law would be destroyed. The propositions were:

1. All payments originally proceed from material production<sup>103</sup>.
2. All changes in value of sellable items are resolved through payment.

3. The general sum of all of them is necessarily equal to the total value of production.
4. Demand is a function of all payments made.
5. All demand causes the extinction of the payment (equivalent disposable fund).
6. All payments subtracted from demand entail an equal value in unsold products.

In this work, he explained double monetary circulation and, therefore, distinguished between productive circulation and speculative or financial circulation.

At the root of these propositions is a common contention that went against Say. Say stated that merchandise was exchanged for merchandise, while Bernácer said that supply of merchandise is not demanded by anything but money.

### 19.2.2. The explanation

Keynes, in Bernácer's words (1945), did not provide a theory inspired by income-based thought (or non-quantitative) until 1930, the year in which *Treatise on Money* was published. The Keynes of before, a student of Marshall and Pigou, followed the footsteps of quantitative theory that would set him apart from Fisher's theory. He concentrated, no longer on simple operations or business lines, but on something more transcendental. This was the amount of money in possession of economic agents as a result of having a specific purchasing power. This early Keynes is the one who published *A Tract on Monetary Reform* in 1924 (a year given by Bernácer). This neo-quantitative body of work laid the foundation for his future explanation of the demand for money. For Bernácer, there were many common points between Keynes' book and his book written in 1936 (his glorious and renowned *General Theory*...). To Bernácer, this last book was – a return to the classical points of view! But it is an especially astute return, since it is dressed in new terminology. In essence, the issue that concerns me here is seeking the cause for surprise.

*The Treatise*... establishes the difference between three classes of money, which were extended upon due to trying to separate industrial and productive circulation from speculative / financial circulation which, we know, was a permanent feature in Bernácerian doctrine. Similarity asserts itself once again, although it is a perverse resemblance because the structure is different although the scientific profiles are similar. Keynes did not take advantage, as Bernácer did, of the extremely important consequences of monetary circulation between these two areas: the productive and speculative areas. These two analogies will be handled separately. First, Keynes' production and Bernácer's demand will be investigated and then monetary circulation.

*Keynes' production and Bernácer's demand:* Bernácer sent his publications to several different economists. And it is definitely known that he sent his *Theory of Disposable Funds* to at least Robertson at Cambridge. Bernácer would be dumbfounded when he later discovered his theory reflected in Keynes' work from 1930. His words, mild due to his insurmountable shyness, were: 'The theory developed by Keynes in 1930 offers so many similarities to those I developed seven or eight years earlier (he was referring to 1922), that it could not but catch my attention and I must state this fact, as I only just had the chance to read *Treatise on Money* in a financial magazine from Barcelona. *Anales de Economía* (number 1, March 1941, *La Teoría Monetaria y la Ecuación de Mercado*) set forth this analogy *in extenso*, of which here I will only give a summary.' (*The Functional Doctrine of Money*, page 221)

These words written in 1945, when at least 30 years had passed since his first publication and the



theoretical structure of his thought had been consolidated, are not bold. Neither is my journey a scientific hazard when I am playing with the mirrors of similarities between the two economists, above all when there are so many that they are frankly overwhelming. The most important similarities were stated by Bernácer in these words by Keynes:

We had agreed that Fisher's quantitative theory experienced a healthy change from the Cambridge economists, a change that rested on replacing the volume of transactions by the volume and value of production. Production volume is represented by  $O$  and its price by  $\pi$ , and therefore the value is  $\pi O$ . Thus, the value of national product would be  $\pi O$ . This value will be equal to the value of income generated  $E$ , plus excess investments subtracted by savings  $I - S$ . This surplus is nothing but the difference between that which was spent on investment or the decrease in available income and savings or unspent income. Keynes wrote his formula<sup>104</sup>:

$$\pi O = E + (I - S)$$

$O$  = total value of production

$E$  = incomes (do not confuse Keynes'  $E$  with Bernácer's representing stock)

$I$  = investment

$S$  = savings

$I - S$  surplus investments over saving

Stated in other words, income plus what was spent (and what was spent on investments made minus savings or unspent income) is equal to the value of production<sup>105</sup>.

Bernácer stated that this formulation was identical to his about demand set forth in 1922.

For Bernácer, actual demand is equal to the value of income plus what was spent; the same as Keynes. What was spent is the difference between two disposable funds at the period beginning and end.  $R$  is production income for Bernácer, and what was spent is measured by the variations in disposable funds, measured by the differences  $A - A'$ .

In principle, Bernácer and Keynes only coincide in the terms they use on the right side of the equality. The difference would be in production and demand. Production is important to Keynes and demand to Bernácer. It may seem like  $\pi O \neq d$ . Why not think that in equilibrium  $\pi O$  production is equal to demand  $d$ ? If Bernácer's expression is:

$$d = R + (A - A')$$

and Keynes' is

$$\pi O = E + (I - S)$$

Bernácer said that these two equations are equal because: ' $R$  and  $E$  represent the same in their respective equations: the amount of income.  $I - S$  and  $A - A'$  also represent the same thing, as the first expression indicates the surplus of investment over savings; thus, the sum by which capitalist investments have exceeded savings, while  $A - A'$  is the decrease in disposable funds that occurred in the interval in question. If taking into account that investment surplus can only take place using the disposable funds or idle resources there were at the beginning of the period, and that they have disappeared as capitalist disposable funds, *there is no doubt that both differences result in a similar concept* (the italics are mine). A formal

explanation can be given.  $S_a$  and  $I_a$  are the savings and capitalisation at the beginning of the period in question and  $S_b$  and  $I_b$  are the same items at the period end:

$$S_a - I_a = A$$

$$S_b - I_b = A'$$

representing non-invested savings at the respective times, so that

$$S_a - S_b = S \text{ and } I_b - I_a = I$$

are the savings and capitalisations made in the period in question. Then,

$$A - A' = (S_a - I_a) - (S_b - I_b) = S_a - I_a - S_b + I_b = (I_b - I_a) - (S_b - S_a) = I - S$$

(*The Doctrine...*, page 222-3)<sup>106</sup>.

I believe that the right-hand side of the two equations has been proven both intuitively and formally, for Keynes  $E + (I - S)$  and for Bernácer  $R + (A - A')$ . Now, we have the second, which for the Englishman was production and for Bernácer was sales already made. This means that the similarity is more perceived than real, like what happens with almost all of Keynes' and Bernácer's ideas. One gets the impression that Keynes is a student who hastily and slyly copied another classmate's exam answers (just an impression and nothing more). All together, the formal similarity is absolutely enormous.

In my judgment (and for the purpose of my suspicions), economists and scientists in general start with an idea that they feel is obvious and elementary, building prodigious analytical constructions and, however and paradoxically, forgetting to provide their original idea with content. Keynes and Bernácer started with the idea of equilibrium, and equilibrium is nothing more but equality between supply and demand, which for them did not have to be in a situation of full employment (their novelty consisted of this negation). Proof of absence of full employment for Keynes is  $(I - S)$  and for Bernácer  $(A - A')$ ; that is, that there is a flow of income that is not spent, thus weakening actual demand.

Why do I believe that both started from income in equilibrium? For the simple reason that, if we subtract both members from Keynes' first equation from Bernácer's first equation or, in other words,  $(\pi O - d)$ , it equals zero! Nothing but this could happen because Keynes speaks of supply and Bernácer of demand and, if both are right, demand equals supply in equilibrium. Thus:

Keynes:	$\pi O = E + \underbrace{(I - S)}$
Subtracting:	$\begin{array}{c} \updownarrow \\ \updownarrow \\ \updownarrow \end{array}$
Bernácer:	$d/\text{zero} = R + \underbrace{(A - A')}$

It doesn't matter if the economy has unemployment; the equality between supply and demand establishes equilibrium.

I repeat that both separately may have been thinking in equilibrium, but they did not formulate it a priori<sup>107</sup>.

*Classes of money and circulation in Keynes and in Bernácer, the analogy:* Three classes of money distinguish Bernácer and Keynes. In banking slang, they are called by Keynes: 1) income deposits, 2) business deposits, 3) saving deposits. The first two correspond to demand deposits<sup>108</sup> (approximately), in so far as the last correspond to term deposits. Keynes makes this separation in chapter III of volume 1 of *The Treatise*... and he later expanded on it in chapter XV when trying to establish the separation between industrial circulation and financial circulation. In the first group are the income deposits and the business deposits used to maintain the current process of production, distribution and exchange (business deposits A). Savings accounts and remaining business accounts, used to feed business specifically derived from stock market and money market transactions, speculation and the process of making current savings and profits move into the hands of entrepreneurs, all of these belong to financial circulation.

Different classes of money<sup>109</sup> and two areas of economic circulation; that sounds familiar. Of course, it sounds like the formal classification of money given by Bernácer in 1922, step by step, line by line, only that the imitation was bad. Keynes, if he read Bernácer's theory through Robertson (this subject will appear again), and even if this were not the case, the truth is that he didn't know how to profit from the issue, neither him nor the large Keynesian macroeconomic family.

Let's look at the similarities and differences. Income deposits are equivalent to Bernácer's disposable funds, while business deposits A form, in Bernácer's terminology and herein, the disposable funds of industrialists and entrepreneurs<sup>110</sup>.

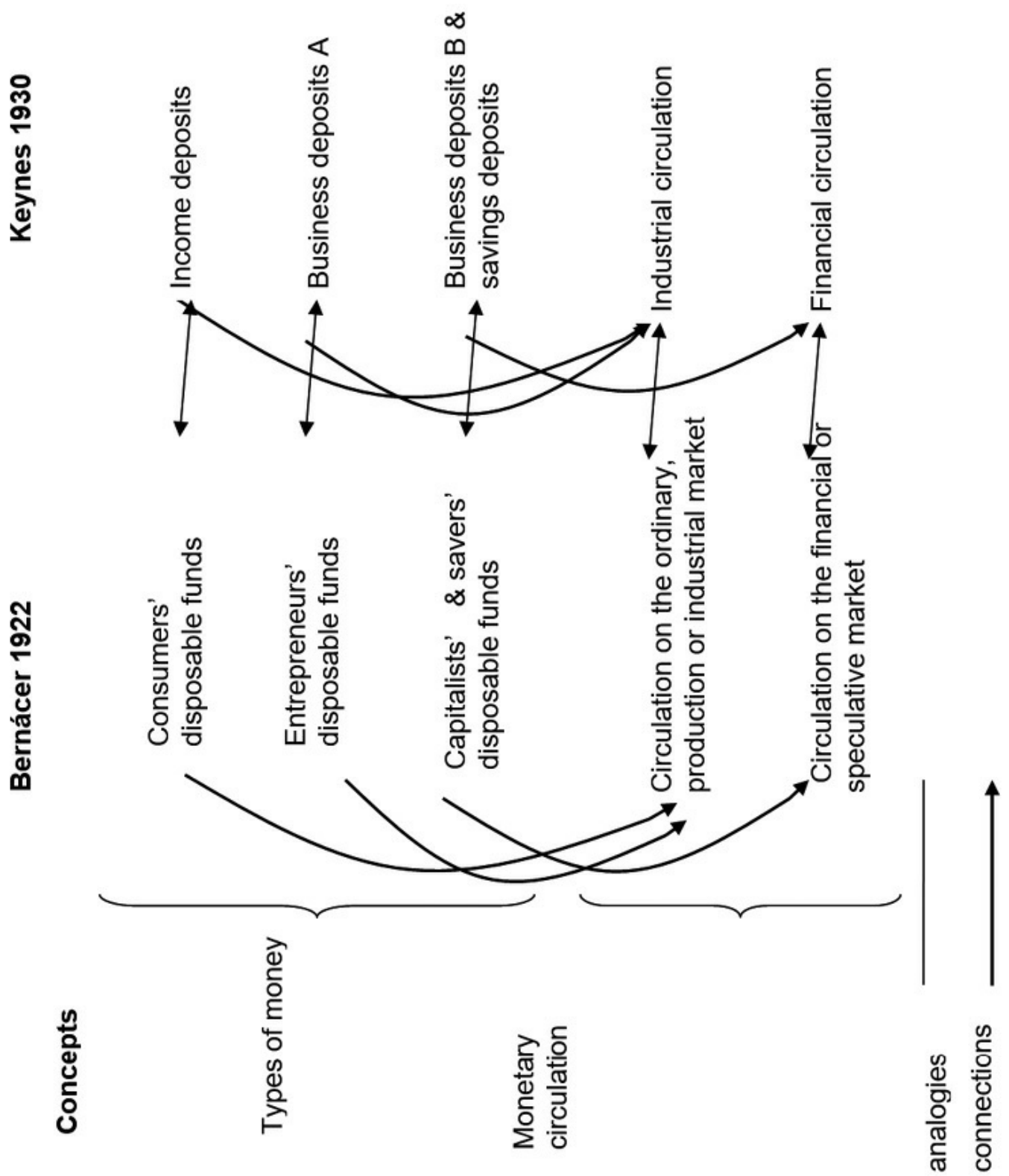
Business deposits B and savings deposits belong indistinctly to the disposable funds of capitalists or savers. In his savings deposits, Keynes made a division whose conceptual boundary line was not precise. He distinguished between deposits A, which are held for individual reasons, and deposits B, which are held for speculative reasons; the latter set forth in *The General Theory* from 1936. The bearish strategy is for those that do not invest their disposable funds in securities because they think they are going to drop and prefer to keep their liquid position. Bernácer also said that Keynes' distinction between industrial and financial circulation was identical to his.

It seems like Keynes, at those heights, lost his core of originality. I will try to be objective, although it is most difficult. Keynes is a distant child of classical economists and, therefore, from real economics, and he is the brother of empirical economists, little given to scientific disquisitions in the heavens of science and with their feet on the parquet ground of the stock exchange and the marble floors of banks. His daily travel colleagues were the speculators on the stock market, in London for example, which was the most important in the world. His manual tools, although he regrets it, are British classicists, and his heirs less classical, the neo-classicists like Marshall. It is not at all unusual that he differentiated these classes of money (income, business and saving). It was a necessary consequence of his mind. At that time in 1930, he was around 47 and was full of scientific experiences and financial toils, certainly very profitable. He knew that a production economy existed; he knew about it from the classicists and through common sense. As a speculator, he also knew that a speculative economy existed. And so he expressed it. Why would you think he would copy our provincial Spaniard? He didn't need to, since he had greater firsthand experience than Bernácer.

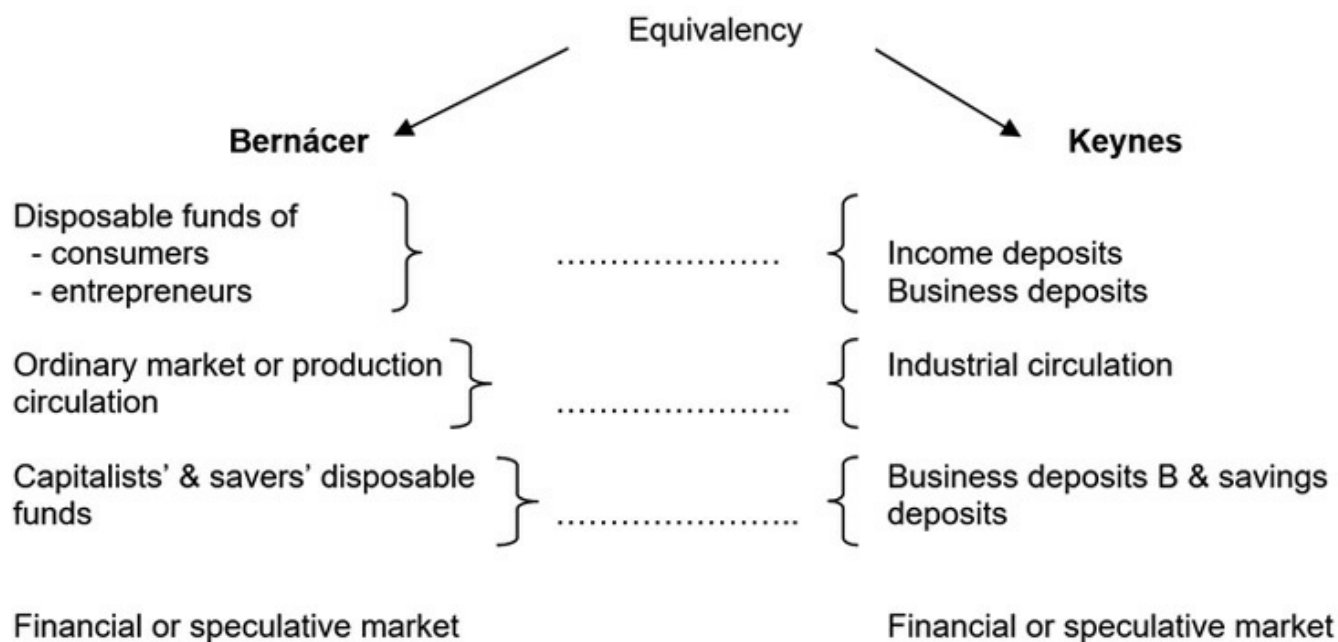
What is hard to understand is why he did not take full advantage of this difference between 'the moneys' and of double monetary circulation, one in the production area and the other in the speculative area, like Bernácer did. Let me explain. For Keynes, the financial market is a body that is inside the ordinary market

(productive) and financial circulation is found in the same flow as production circulation, just in the opposite direction. This means that, for Keynes, speculators trading financial assets receive money from their left pocket and spend it with their right in the production market. Then what they receive in the right pocket through sales from the production or ordinary market; they run to spend it on the financial market with their left pocket. Nothing else happens.

For Bernácer, the financial market is located outside of the production one, although they are connected. If money is in the production market, it is not in the financial market and vice-versa. It is precisely for this reason that I have been very precise with the term *net* disposable funds. If more disposable funds (saved and non-invested income) enter the financial market than leave it, then this event depresses actual demand in the production or ordinary market. Analogies with respect to this issue can be summarised as follows:



The connection between money and monetary circulation would be *approximately* as follows for the two economists:



*Note:* The lines – indicate analogies and the double  $\Rightarrow$  indicate connections or financing for each economist.

Bernácer's explanations are from 1922 and Keynes' explanations were made eight years later. There were communications between Keynes and Robertson in the period between the two works. Robertson was Keynes' scientific brother or they were at least economic siblings at Cambridge.

## 19.3 BRIEF COMMENT ON THE DEMAND FOR MONEY<sup>111</sup>

The previous classifications by Keynes, completed in 1936, gave rise to the construction of one of the most sophisticated and important pieces of macroeconomics. This is the demand for money. Money is demanded for reasons of trade, precaution and speculation. These demands, which will not be explained here, have an inverse relation to the interest rate and a direct relation to income.

Economics students, and even more so a man on the street, would not understand anything of this complex mechanism. Bernácer did not understand it either. When income increases, which is simply money in the end, the demand for money increases. This is hard to understand. It may be easier to understand that the demand for money is related to the interest rate. And the fact that speculative demand is the most sensitive of all is reasonable. However, the complementary, inevitable, fatal and essential operation that is supply is not so reasonable. I am not referring to monetary supply, but to the complementary operation to demand, which is somebody buying something that he wants. Demanding means desiring something and having the possibility to acquire it. If what you want is money, then you have to buy it. With what? Nobody explains it; then the demand for money is something lacking sense. If a nation's income increases, one can buy more things with it. But one cannot buy what one already has or keeps and that is money. Bernácer knew about the Keynesian demand for money formulated by Keynesians. I do not believe he was aware of the brilliant exposition by Baumol and Tobin. I make this comment so readers do not think that I am performing plays on words or a scientific sophism on a theme that is understood by economics scholars, but rather to emphasise Bernácer's lifelong obsession. Demanding something is supplying something in exchange and vice-versa. On the market, whoever demands goods is really supplying money and whoever is supplying

goods is really demanding money. This is the only meaning possible for Bernácer of the demand for money. All the rest are nothing but useless labyrinths, distracting your brain and making you get lost in trying to understand economic reality. Readers may think that everything could be explained if I started with the liquidity preference in regard to other profitable assets. Liquidity preference will be the object of study in another section. It is also an unnecessary concept.

### 19.3.1. Liquidity preference

I must be honest that the criticism made of Keynes or 'what they say Keynes said' was made by Bernácer and not me. He is accurate in his criticisms of Keynes and also somewhat unjust. I say unjust because, for any speculator and for understanding the reason to keep money, this psychological action or status, which means preferring something to a greater or lesser degree, money, compared to other assets. It is accurate because he believed it was an artificial idea created with a specific aim and did not generally adapt to economics mechanics, unless we discover what it really means deep down. Bernácer supplied this meaning clearly, so clearly that it seems like a joke. For the rest, the liquidity preference rests on a psychological belief (or reality?), which I admit, but isn't useful, since it can't be measured, on the one hand, and, on the other, it is an 'a priori' attitude in this economics mechanism. And what interested the empirical Bernácer, the physics, business and accounting professor were facts. Why would Bernácer's explanation seem like a joke? Due to its simplicity. Let's look at why:

'The liquidity preference is the preference for this, compared to other things that do not have this condition. Since everything is bought with money, having money is the power to buy whatever you feel like at any time. Buying is losing liquidity and you can only lose what you have; from here the interest in having liquidity is to take advantage of good opportunities (article 'Metric Economics', *Arquímedes* magazine, 1955-6). And what does this all mean? Well, nothing more and nothing less than the traditional and old, although not obsolete, concepts of general supply and demand. He who wants liquidity sells to obtain money. He who wants or prefers having less liquidity, buys. What is sold and what is bought? All the things that are bought and sold. Let me explain. You can sell goods and services and, of course, financial assets. You can buy goods and services and also financial assets. What happens is that Keynes emphasised the more or less liquefiable assets, which are financial assets.

Let's follow old Bernácer in sticking to his guns. Whoever sells something is actually demanding money and whoever is buying something is supplying money. From here, the liquidity preference indicates that, if this decreases, it means that liquidity or money has decreased, which is explained by a desired purchase and, if it increases, this means that a purchase is going to be made<sup>112</sup>.

These explanations, made by Bernácer almost simultaneously in his book from 1955 (*A Free Market Economy...*) obviously referred to Keynes, displaying not necessarily confusion in his work, but a somewhat useless and dangerous tangle. It would be cheeky to say that Keynes was inspired by the concept of disposable funds in developing his theories about liquidity preference, because that would mean confirming his copying of Bernácer, which was never proven. Moreover, because the concept of preference is typically an idea, or perhaps an instinct, of speculators and Keynes was a speculator. I want to insist on this idea of preference to differentiate it and clarify what Bernácer meant deep down by this concept.

Increasing liquidity preference is only a psychological attitude. The same as decreasing it. Something has

to happen so that the result of an operation has psychological meaning. If this something happens, it means firstly that this increase for preference has satisfied it, which can only happen if something was sold. Selling means receiving money for delivering something, which can be anything that has value and, in Keynes, would preferentially be financial assets. Secondly, if the desire to decrease liquidity has been sated, this means that this liquid money has been parted with, which can only happen when buying something that has value and, I repeat, for Keynes would normally be financial assets.

*Desires* to risk preference for liquidity or to decrease it have no economic result, since it is a *mental* operation of selling and buying on the goods and services market or on the speculative market. The *satisfaction* and annulment of these needs are economic operations, since they result from *operations happening* on the market. These operations are buying and selling.

The simplicity of this explanation is so elementary that, as mentioned, it seems like a joke and shows, precisely due to its sobriety, the deep knowledge that Bernácer had of macroeconomics and especially of Keynesian thought.

Thus, Bernácer said that we are expressing the same thing in different words, but his is so muddled that it is dangerous, since it seems like interest is born there. Liquidity preference implies the existence of interest and interest is born from the preference for liquidity. Bernácer asked what the initial origin of both was.

All economic operations require the participation of economic agents and not just one alone. You cannot say that someone increases or decreases their liquidity preference, in the same way that you cannot say that someone buys something without someone else selling something. In order for someone to increase liquidity, someone must agree to decrease theirs, deducing here that for someone to sell (and increase their own liquidity), someone else must have agreed to decrease their own through purchase.

For Bernácer, this economic operation does not determine interest (although it did for Keynes) but... price levels! You have already seen that they are operations involving buying and selling goods and services. But since financial assets are *also* bought and sold, these operations determine the market prices of securities, and comparing this market price with income  $R$  (not productive), interest arises. These are ideas from 1922 that easily let results be obtained like price levels and interest.

It is clear that Keynes, inspired by daily banking practices, related liquidity preference for liquid money to other profitable assets, specifically financial ones. Bernácer did not avoid this viewpoint and had the following reasoning: When liquidity preference increases, many want to sell and few want to buy and, thus, the price of money increases. There are many more who want money than those who want to part with it. If, conversely, many want to buy and few want to sell, this means that liquidity preference decreases and therefore the price of money increases. Bernácer insists that whoever wants to buy something, in this case securities (like Keynes said), is demanding money and vice-versa. These facts are elementary logic in economics that can be represented differently: If liquidity preference increases, there will be a greater supply than demand of securities, with which market prices become depressed and interest raises ( $\Delta i = R / \Delta V$ ). If liquidity preference decreases, there will be a greater demand for securities than supply, which contributes to increasing market prices and decreasing interest ( $-\Delta i = R / \Delta V$ ). These are basic operations hidden under a web of words.

In summary, Bernácer thought, like Keynes thought, about the permanent equality between savings and investment, where savings is supply and investment is the demand for funds and that it wasn't possible to



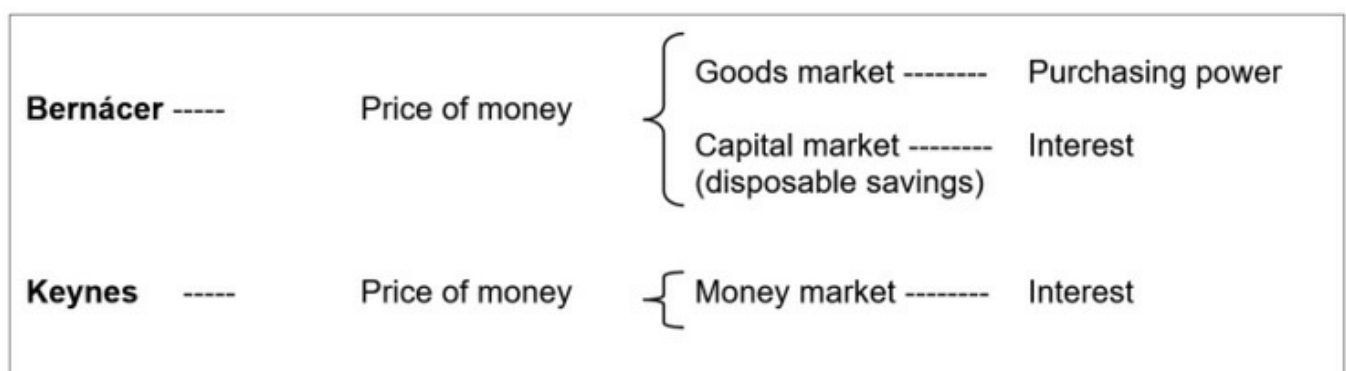
approach the problem of the price of money in this setting. Neither can the problem be approached in the terms of the classicists by saying that the problem of the value of money must be approached in terms of actual supply and demand, for the obvious reason that purchases are equal to sales. And since savings is equal to investment on the one hand and purchases are equal to sales on the other, a device must be sought to explain it. Keynes found it in liquidity preference, which is nothing more than a presumed psychological reality and that, to confirm this satiety, a sales and purchase operation must be executed that, who knows if it is psychological or not, only that it happens, returning futilely to the starting point.

Classicists were very close to finding the solution to the problem, only that they believed that merchandise was exchanged for merchandise, forgetting that this merchandise was bought and sold through the link of money. This proposition is true, even in the case of the existence of a neutral currency or purely transactional money.

The following words let Bernácer's thought in this regard be ploughed through clearly and easily.

There are two prices of money: 1) the price of money in merchandise called buying power or purchasing power; and 2) the price of money as the interest on capital, but not capital as a factor of production, but rather the money needed to buy these machines, or money. The supply and demand for money play an important role both in the price of goods and in the interest paid for money. The demand for money makes the prices of things drop and interest rates go up. Surplus monetary supply makes the prices of things go up and makes interest drop. He said in this regard: 'The reasons why one or the other vary must be different, but the distinction there must be between both concepts has never been clarified' (article in *Economía Métrica*, 1955-6).

Trying to put the ideas into their places and with their corresponding authors, I could say that interest originates on the financial market for Bernácer and on the money market for Keynes. However, many activities are executed on the money market, an equal number of sales and purchases, but they can basically be boiled down to two: first is buying and selling goods and services, that the Englishman connected to the demand for money for transaction motives, and second is the buying and selling of financial assets. Here is the core of liquidity preference. So if I am interpreting Bernácer's thoughts correctly, I could say that interest for Keynes develops in liquidity preference, which is understood as the greater or lesser demand for money for speculation. However, since interest is born from the *combined* demand for money against the *combined* supply of money being supplied, or monetary supply, liquidity preference must be understood by the special quality of money that is demanded to, in turn, demand general goods from the system (goods and services and financial assets). In summary:<sup>113</sup>



### 19.3.2. Disposable funds and liquidity

Few ideas are quite as similar as Bernácer's disposable funds and Keynes' liquidity. Bernácer said that Keynes confirmed that: '...in the opinion of the public, the liquid security *par excellence* is money...' Liquidity preference means a preference for money over other assets that, although profitable, are not money. Satisfying a greater desire for money, or the same thing, a greater liquidity preference, means obtaining money. If what you have is money, it is because this money was not spent, which is why it is liquid! If you spent part of the income earlier on goods and services or financial assets, it doesn't matter if this purchasing power is recovered later by a subsequent sale. Liquidity is money that remains totally liquid.

If disposable funds are the part of income not spent on consumer or capital goods, that means they are simply money. This statement was highly refined and defined in the wise words of *The Functional Doctrine of Money* in 1922. Bernácer stated that Robertson knew of this work and Robertson admitted this was true.

It is clear that disposable fund and liquidity are similar terms in Keynes and Bernácer, like interest, monetary circulation, financial circulation, the identity between savings and investment. But this analogy and the others are not really identical, but illusions. They are labyrinths of fun-house mirrors that reproduce false images. The most deceitful of all are disposable funds and liquidity<sup>114</sup>.

Bernácer said: 'The difference between Keynes' liquidity and my disposable funds consists of the fact that for the Englishman, liquidity includes more than money, while my concept of disposable funds includes less than money (*A Free Market Economy...*, page 45).

What does this all mean, if in the end liquidity and disposable funds are simply money? For Keynes, liquidity was also comprised of short-term debts and, he continued '... maybe (for Keynes) he didn't exclude from his thought everything that could be easily liquefiable like precious metals or current merchandise...' (*A Free Market Economy...*, page 45). In the concept of disposable funds, he stated that he *excluded* money in the hands of entrepreneurs required to increase production, as well as the money of consumers needed to consume. Remember that in the theory of disposable funds, authentic ones are the last or third-degree, those of savers, not those of entrepreneurs and consumers, since they need these funds for production and for living. It is clear that not all money in the system (*cash in hand*) is disposable. Disposability is something less as you can see. For Keynes, liquidity is money and something *more*.

Their processes of creation and destruction are also different. Keynes' liquidity can be increased or decreased only by banking activity, creating or destroying money and bank balances and short-term documents that are easily liquefiable.

Disposable funds comprised of any class of money can also expand or contract by the destruction or creation of actual, fiduciary or banking money, *but they can also* be created or destroyed through the conversion of producers' and consumers' money into inactive money from disposable funds or vice-versa. When capitalists' disposable funds are spent, either on consumer or capital goods, they move to feed the disposable funds of other producers and their production agents that are, in turn, consumers. Both have disposable funds again.

Private disposable funds, which are most similar to Keynes' liquidity, are different from group or social disposable funds and this clarification is interesting. The holder of a current account has an individual

disposable fund. If, as expected, the bank has lent this money to other people who have invested it financially, there is no social or collective decrease in disposable funds.

The inverse reasoning process can be done. If the owner of liquid money lends it to another person or buys a financial asset or security, his capital stops being disposable (he as an individual). But, if the person receiving the loan, borrower or seller of the security keeps it disposable, then there has been no decrease in disposable funds collectively or socially.

Keynes had started to shape the heterogeneous clay of his theory in *The General Theory*... with the skilled hands of an experienced economist, claiming order in his task. His many students imposed this order. Bernácer, who had done nothing but analyse ad nauseum the trajectory of money in the real and monetary economy for many years, found blunders in Keynes' work everywhere. It was easy and his attacks are accurate. They are simple but demolishing attacks. Keynes didn't respond and although Robertson did, he didn't defend his fellow countryman Keynes. One of his criticisms was about liquidity.

According to Keynes (in the words of Bernácer), the demand for capital is born from its marginal utility at each moment and its supply is limited by the liquidity preference at that time. Stated differently: there is a demand for money to finance capital, but there is not enough due to the level of liquidity preference. If marginal utility increases, capital demand increases; but this demand is not satisfied, since liquidity preference does not permit it (classicists would say scarcity of savings). The level of this liquidity preference limits the amount of money that speculators want to obtain due to speculative reasons<sup>115</sup>.

It can even be said that if the marginal utility of the capital doesn't increase and remains constant and liquidity preference increases, capitalists would demand a greater amount of money to keep it unoccupied. The greater intensity of this demand raises the capitalisation rate, limiting the magnitude of capitals that can be applied with the required marginal utility. To understand what liquidity is, it must first be defined, no matter how slippery the concept is, and secondly, given that money is what is in question here, its typology must be established. Specifying these terms will make it possible to know what we are looking for.

Bernácer said that Keynes gave no precise definition of liquidity. It seems like sometimes it is money or even liquid capital, terms that are both ambiguous in Keynes' work. Bernácer said that Marshall and Keynes himself, whom he called the 'restless economist', seem to define it as the desire to have capital in the form of money (monetary capital is clearly a contradiction) and that liquid capital is the money one has. As strange as it seems, this is not it. It is something else.

He insistently defined it as an 'increase or decrease in the stocks of merchandise to be sold' (*The General Theory*... page 75-76, from Bernácer's quotes and comments in *The Functional Doctrine*..., page 280). In other words: part of the working capital in opposition to the other part, which comprises products in transformation. Thus, a shopkeeper would have liquid capital even though he would have problems selling it to obtain hard cash. If it is not clear at all what liquid capital is and liquidity preference for something unknown, neither is the typology of money.

Keynes admitted, along with money, the effects of short-term trade, treasury bonds and other meaningful debt instruments, where the last are future money exchangeable for present money. Of course these parts of working capital, which are finished products, are also future money. One gets the impression that it is a continuation of the concept of liquidity. Something like a field divided into two by an invisible line: on one side would be liquid capital, with working capital there; and on the other, the class of quasi money or

quasi financial assets that were cited. The field in question would be what is desired or preferred, that is, liquidity.

Keynes, highly influenced by banking, thought that liquidity came from banking practice, since banks don't rely on the money in their tills for money, but rather the money they can get quite quickly and safely through liquefiable credits and investments.

Bernácer's concept is much better, which is that of disposable funds. He also stressed its superiority. Money indicates a purchasing ability, money that is in the pocket of the person demanding, which is there because she hasn't spent it on either consumer or capital goods. Geographically, it is outside the shop display case and the stock market. On the other side are the suppliers and they supply the finished products, as well as these quasi financial assets. It is clear that both counterparties, trying to reach an agreement, are not on the same side of this display case, neither outside or inside, and this is the meandering claim made by Keynes. If they have finished products, this means they are supplying goods and demanding money. If these goods, no matter how readily convertible they are, are confused with liquid capital, Keynes was essentially saying that he will exchange liquid capital for liquid capital, demanding what he already has. The same would be true of this quasi money and quasi financial assets, such as documentary credits, treasury bonds, etc.

The ease of transforming an asset quickly and securely into money should not lead you to confuse this asset with the means that make this transformation possible, which is money. In short, the person who is going to buy, whether they are finished products or liquefiable financial assets, is a demander offering a disposable fund in exchange (disposable because it hasn't been spent). This was Bernácer's proposal. With Keynes' liquidity, a person has monetary disposable funds in his pocket, along with finished products and other financial assets. Of course he has disposable funds because he hasn't spent them and the latter because they have not been used up. This seems like a miracle, putting what is spent and what isn't spent into the same bag. I will return to this point as it deserves our attention.

Let's return to the analogies between disposable funds and liquidity. This time I will emphasise its historic origin as commented on by Bernácer the accountant. He said that for Keynes, liquidity preference starts for different reasons. Income motive represents the need to maintain a part of earnings (income) in liquid form to finance consumption. It is obviously identified with consumers' disposable funds. The business motive responds to needs in place for maintaining production activity. They are industrial disposable funds. Consumer disposable funds are first-degree disposable funds and producers' are second degree. Both the first and second are grouped into Keynes' transaction motive.

Transaction motive is identified with the Bernacerian inflow that he called the production fund due to being the reciprocal and continual exchange between production and consumption.

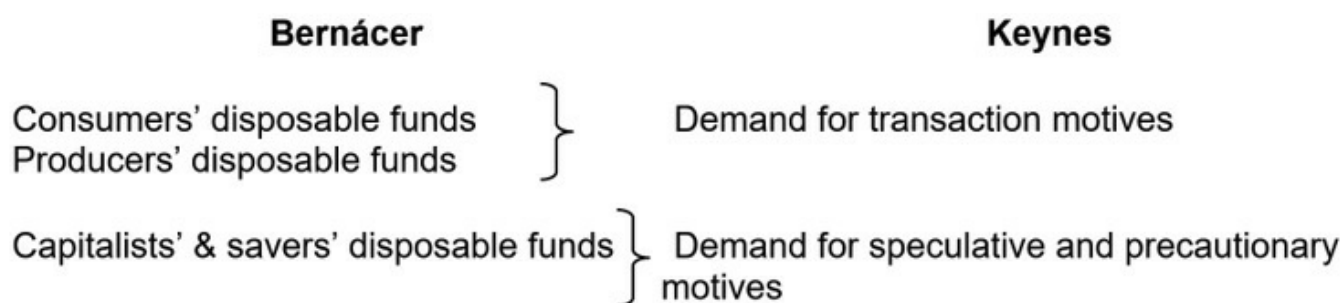
Since the disposable funds cited are minimal, because they are demanded by consumer or production needs and will therefore remain disposable for only a short time. Now maximum disposable funds will be analysed. These third-degree disposable funds are the money that Keynes said obeyed the speculative motive. This money, with repressed patience, remains liquid to be placed speculatively when the opportunity arises, but has still not been placed. There is still money kept to 'plan for contingencies that will require sudden payments or unplanned opportunities to make advantageous purchases' (Bernácer quoting Keynes). This is precautionary money. This money floats between transactions and speculation, since the fact of keeping it liquid, planning for future contingencies, is not an obstacle to taking advantage

of speculative or consumer opportunities in this interval. Bernácer said that the distinction was very subtle, as:

‘Either these sums are held for very immediate contingencies and confused with consumer disposable funds and calculated with a bit of give and take or they are for a far-off forecast and capable in the meantime of a speculative application, more or less easily liquefiable, analogous to capitalists' disposable funds when there is an opportunity for an advantageous purchase...’

These are words quoted in *The Functional Doctrine* (page 285). In the book *A Free Market Economy...* (page 44), he said, ‘How difficult it would be for capitalists to know whether they have it for one reason or another!’. This useless confusion is eliminated if they are put into the speculative basket.

In Keynes' 1930 work, he established a typology of money or monetary balances: 1) income balances, 2) business balances and 3) saving balances. He separated the total mass of money  $N$ , into two portions  $M_1$  and  $M_2$ , the second of which only includes speculative disposable funds and the first the other three.



These analogies are similar to those established in the previous chart, only here the fact of demanding money is looked at and not the deposits  $A$  and  $B$ .

I have established the differences and similarities between money categories or typologies in Keynes and Bernácer, as well as the motives that generate them. Let's look at the differences again. My insistence is not obsession fuelled by passion, but simply a matter of principles. We all know money is important and economic scientists also know it. The study of liquidity preference and the demand for money or, if you like, simply liquidity, takes us to analysing real and financial securities that are not money but have a monetary value. Being rife with liquidity means understanding many economic situations.

The essential is the following. Bernácer said: ‘*For me, the existence of disposable funds entails not having used the purchasing power it entails, as far as the English author admits that the status of liquidity is not an impediment to savings having been capitalised, which is an obvious manner of having made use of it...*’ (*The Doctrine...*, page 285). He continued with words whose simplicity was crushing:

‘For me, the liquidity position is that of savers who keep their savings in money while also keeping it liquid. Keynes believes that all savings is capitalised and that this is compatible with keeping a certain liquidity state, but the truth is that, like water downstream doesn't move the mill, it is impossible that capitalised savings are kept disposable, which would entail the possibility of capitalising it or consuming it again...’

And he added:

‘I do not conceive of the liquidity state as more than a situation in which the holder of purchasing power

neither employs it in consumption or in acquiring capital. From the individual viewpoint, it seems clear to me that whoever has liquid capital abandons his liquidity and, in resisting it, the advantage that this liquidity state has –which consists of money being the form of capital allowing anything for sale to be bought at any times- Keynes based his theory on interest...’

No comment seems necessary here. Only meriting mention is the eternal statement of Bernácer that between the supply and demand of goods, the supply and demand of money is produced internally. Liquidity means being able to demand goods and, if liquidity means keeping ‘other things’, it obviously implies already having made use of this purchasing power. Therefore, the money is not disposable according to Bernácer and, by common sense, is not liquidity.

I believe my emphasis is justified in considering the analogies and differences between Keynes and Bernácer, from which significant consequences can be drawn, related to the basic equation of macroeconomics or what is deduced from it: product equals national income. The present book would be substantially emptied of content if consequences were not obtained herein that affect modern macroeconomics (and naturally in the past as well). Bernácer’s greater originality compared to Keynes would be of only secondary interest.

*Liquidity in the equation  $S = I$ <sup>16</sup>*

The ink of Bernácer’s articles was long dry and Keynes’ still wet when Bernácer read his work. How did the Englishman interpret liquidity preference? It seems like this preference is for speculative motives. Let’s explore his line of reasoning.

One can allege that whoever loses liquidity by buying an asset, someone else acquires this liquidity and thus, as a whole, liquidity is not lost. This is the same reasoning that Bernácer set forth for his maximum or third-degree disposable funds that are kept on the financial market in this state when someone sells or buys assets on this market. With respect to liquidity and the previous argument, he said that these lines of reasoning closely follow the strict discipline of quantitative theory that, deep down, inspired the English authors. This is because they did not understand the functional mechanism of money. Our modest professor thus judged the English school. For them, there cannot be a change in market equilibrium but rather a variation in circulating money. For Bernácer, the function or position of money, or the changes in money’s position, was much more important. Purchasing consumer goods is transferring minimum, first-degree disposable funds to producers, which are then second degree. The same will happen in investment, which entails moving third-degree or maximum disposable funds to producers, for whom they are second degree. Of course there can be operations that do not involve a qualitative change in disposable funds, which are those operations happening on the financial market and also those derived from the buying and selling of *already-created* fixed capitals that, as we saw, he called realisations.

Financial and realisation operations, grouped under the name of *passive* operations, are not in themselves functional operations in the Bernacerian sense. On the contrary, active operations, like buying goods and the purchase of capital equipment, are functional. Capitalisation, for example, means the conversion of disposable funds into consumer income (wages of workers at these companies) and industrial disposable funds (profits of entrepreneurs at these companies). And here is a unique explanation by Bernácer:

‘Neither of them is liquid capital in the Keynesian sense...’ (Is he referring to the speculative sense? Probably.) ‘...of sums kept in money for speculative or precautionary reasons. They are, on the contrary, sums of money required for the running of businesses or for income reasons or, in other words, they obey

transaction motives...’ He clearly related the liquidity preference with speculative demand. It seems like a contradiction in Bernácer given that, according to both authors, he himself found clear analogies.

Proof of Bernácer’s idea, that Keynes’ liquidity preference is basically speculative, is established in the following paragraphs. When a transaction that he called passive occurs, it does not affect general liquidity (or disposable funds). But, if the disposable fund falls into the hands of a producer or consumer, the matter changes, as the first invests and the second spends it on consumer goods. Stated again in symmetry to the previous argument: Industrialists’ liquidity has a different meaning than that of capitalist-savers!<sup>117</sup> Money continues to be the same but its interpretation, its function, is different. It is no longer money kept for liquidity preference, for income, business or planning motives. And he then added: ‘...I don’t know how it could go back to being the first while it is not converted into non-capitalised savings by someone who receives it as income...’

It is thus clear that the liquidity preference that Bernácer interpreted in Keynes is the demand for speculative money. This interpretation is odd given that he himself admitted analogies between his disposable funds and the three types of demand or liquidity preference. To what is this error owing in the normally, meticulous Bernácer?

Since he was concerned about interest, he saw the motive for demanding money as directly related to liquidity preference. I shouldn’t stray from the heading of this section, which is relating the savings identity to investment.

If for Bernácer, liquidity preference only could be the preference for liquid money, it is because liquidity –Bernácer’s definition– and disposable funds are equal (but not Keynes’ liquidity). Given that I am speaking of maximum disposable funds, feverishly occupied in work derived from financial transactions and that these proceed from the ordinary market via savings, it is clear that this part of savings is not capitalised. One part of total savings  $S$ , coming from the ordinary market, returns to this market via investment;  $S_k$  returns that, when  $I$  intervenes, returns these disposable funds (industrial ones). However, another part of savings are third-degree disposable funds  $D$  properly speaking<sup>118</sup>, which are occupied with passive, sterile or financial market operations. Specifically, from *our* financial market. As seen, total savings is broken down as:

$$S = S_k + D$$

$$S_k = I$$

This is the essential point of difference between Bernácer and Keynes. That not all savings is capitalised! But if we are dishonest and play a trick and add frustrated demand via unsold products, then the equation balances. I must establish firmly that neither Bernácer nor I believe that stock or inventory investment is totally due to frustrated demand, since a part of it is working capital that has been possible to develop precisely owing to purchases with savings or with new money from production assets.

The equality (not identity) will always be true that states:

$$\text{Income} = \text{Production (production income)}$$

For Keynes, who had moved forward in his task, there was no other remedy than identifying the terms of the equality by accounting methods. This is Keynes, not the scientist and skilful speculator, but the Keynes who knew about accounting through practice and had excellent mathematical education and intuition. The

identity is the following:<sup>119</sup>

Since:

$$\text{Production} = \text{Production of consumer articles} + \text{production of capital articles}$$

And when income equals production:

$$\text{Income} = \text{consumption} + \text{investment}$$

Consequently:

$$\text{consumer article production} = \text{consumption expenses}$$

$$\text{production of capital articles} = \text{investment}$$

But if part of income is occupied in disposable funds, making passive operations possible, the market inevitably falters. Stated differently, the production of consumer goods is not totally absorbed by consumer spending and the production of capital is not totally removed by investment. The correct expression would therefore be:

$$\text{Income} = \text{consumption} + \text{capitalisation} + \text{disposable funds}$$

Where:

$$\text{Savings} = \text{Income} - \text{consumption} = \text{capitalisation} + \text{disposable funds}$$

This is Bernácer's formulation that I will expand upon as follows. Since  $R$  always = Production.

$$\text{Income} - \text{consumption} = \text{production} - \text{minus production of consumer goods}$$

$$\text{Production} - \text{production of consumer goods} = \text{investment} + \text{inventory investment}$$

Then:

$$\text{capitalisation} + \text{disposable funds} = \text{inventory investment}$$

And since:

$$\text{capitalisation} = \text{investment, then}$$

$$\text{disposable funds} = \text{inventory investment}$$

which is interpreted, as mentioned several times, by stating that speculative activity depresses demand, causing articles to not be sold. It can also be confirmed that passive operations stand opposite active operations<sup>120</sup>.

I dare to insinuate that, in my opinion, in order for this last statement to make sense ( $D = I_u$ ), working capital should not be placed in  $I_u$  but rather  $I$ . Since part of unsold production is not due to a depression in demand, but rather to genuine production market activity for sales, part of this working capital would enter into  $I$  and the other in  $I_u$ . Here is how the relation can be seen between a concept that Bernácer tried to clarify, that of liquidity and its consequences. The sharp English stockbroker, if he basically knew what he had in his hands, had to conclude that this liquidity preference had its inevitable after-effect in the real economy, but he didn't see it. Why? Perhaps because of degeneration, not theoretical but derived from the banking and financial practices he was used to; perhaps also because of a scientific distortion that made him seek entelechies like liquidity preference, which hide nothing but the ancient and human functions of the demand for goods and for financial assets<sup>121</sup>.



### 19.3.3. The vicious circle of interest

Liquidity preference is produced because interest exists, which is the device that measures the cost of opportunity of keeping money. If one waits for specific assets, which yield rent or credit, to drop in price, one prefers liquidity to buy them at the opportune moment and thus obtain greater returns. The percentage level of this income that is interest is what permits the existence of a greater or lesser liquidity preference.

But liquidity preference, the desire and demand for more money, makes the existence of interest possible. The cause becomes the consequence and vice-versa. Robertson also criticised this obscure concept using almost the same arguments as Bernácer.

In my opinion, there are no greater foundations to this critique. Supply and demand, in this case for money, determine the price or interest and there is no doubt that this price then affects demand. This dynamic is due to two overlapping reasons, in my judgement. One is that not all speculators are equal in their liquidity preferences and the other is that not all speculators keep their liquidity preferences at the same level. Some speculators may lower their preferences, which entails having bought assets in exchange for money, which is *monetary supply*; while others raise their preferences, an operation that means demanding money and supplying assets. Sometimes the same speculators increase and decrease their preferences. All of this line of reasoning is to lighten the criticisms dumped on Keynes about this issue. What is first? Interest or preference? The chicken or the egg?

It is a dynamic process. Supply and demand determine price and this price, in turn, affects the supply and demand, an operation that is ever truer if recalling that in the middle, and complementarily to this game between monetary supply and demand, there is another game taking place, which is the demand for and supply of assets. With respect to liquidity preference, I understand these as more financial than actual.

## 19.4. INTEREST

With Bohm-Bawerk outdated by Keynes and Bernácer, the explanation of the origin of interest was approached. This issue has been handled from several areas, mainly economics and ethics, and has proven to be indomitable.

Swedish Wicksell would be influenced greatly by Keynes and not at all by Bernácer, although the latter did merit a passing mention at the end of Wicksell's scientific life. Bernácer owed his theory on interest to Turgot, a physiocratic economist who, despite the serious burden of the school to which he was tied, intelligently formulated an almost-modern theory on interest. Both Keynes and Bernácer coincided in three ways in their understanding of the economy. First, the economy was not in full employment and, therefore, interest as an award for savings is annulled as a theory. Secondly, money is not only demanded for transaction motives or, in other words, money is not only a lubricant of the engine of the real economy. Thirdly, differentiation between the productivity of what accrued savings demands –capital– and the price of savings, becomes a compass for investors. I want to emphasise this last point. The moorings of the classicists are broken, who linked the supply of savings with its demand, with interest being the result. After Keynes the *total* supply of and demand for money remained, which determined interest. This interest could be compared to the profitability of production activity. Looking closely at this idea, it was actually not so new in economic science.

Bernácer, with great common sense, was close to the classicists. For him, interest was born from the

supply of and demand for savings... *that was not capitalised*. This statement is a good reminder if I was not successful in my explanation about interest in the theory of disposable funds.

Disposable funds ( $D = S - S_k$ )<sup>122</sup> finance a series of speculative operations like properties, building sites (real), bonds, etc. (financial). Assuming that they yield a speculative income  $R$  (different from production income) of 100 and that the market price of these assets is 1000, the percent profitability would be 10%. This is the same as what Keynes said. These operations can be financed because they are disposable and *totally liquid* (for Bernácer, there were no different levels of liquidity). Disposable means not spent on consumer goods and not invested; basically that they were not demanded.

People supplying these speculative, real and financial assets demand these disposable funds. Supply and demand of speculative assets is an operation done through demanding and buying money. Stated more precisely, this operation is possible due to the supply and purchase of disposable funds. Saying that interest is the price of money is too excessively generic and distorts its meaning. In Bernácer, interest is the price of disposable funds or the price of non-capitalised savings. Of course, money created and destroyed and exiting and entering the financial market is added to this operation.

For Keynes, current interest is the percent profit yielded by the disposable funds placed. Where are they placed? For the Keynes quoted by Bernácer (*The General Theory*), the issue is not clear, since the familiar discount operation cannot be applied here, which is needed to find the real value of an old debt instrument at the cost of capital.

If you know the income that will be received periodically, the discount operation lets you find the actual value, which is well known. In my opinion though, it changes everything and Keynes did not explain it in the context of this explanation, whether the acquisition of a financial security or the acquisition of new capital is the same to him. This explanation would resolve a series of questions.

To Bernácer, interest is found in the supply and demand of these assets and the meaning of this operation is double: one is that the event (already occurred) on the financial market has prevented part of savings from *being capitalised* or invested. The other is that, upon generating interest, *future* investments in real capital, or part of them, do not happen. To Keynes, the existence of assets that generated returns conditioned the existence of a preference for liquidity and, in turn, liquidity preference conditioned the market price of assets and, therefore, interest. His argument did not extend to sales and purchase operations involved in liquidity preference. He coincided with Bernácer and moved away from Böhm-Bawerk in that security market prices do not involve the existence of actuarial calculations, since these market prices are determined freely by the market that notifies its findings after determining them.

He is different from Bernácer in that the existence of liquid money and financial assets does not involve depression in demand. The monetarist explanation of interest in Keynes is a quantitative reliquary. Remember that he entered through the door of monetarism, through the sliding door of liquidity preference and Bernácer through the firm footing of functional money. Readers should remember that liquidity preference does not have a direct connection to income, but rather an indirect one, and that it is furthermore a psychological manifestation. Nonetheless, disposable funds are a river flowing from production income and actually connected to the financial market via interest. This interest is born from operations in which aprioristic desires are not questioned but are already-convicted operations made possible with monetary forces proceeding from production income.

### *What Bernácer missed*

Bernácer called his theory *functional* or *income-based*, since everything is explained by what money does and what it does involves a situation in the metabolism of disposable funds.

If income flows out of production, economic activities should be able to be explained by operations derived from the comings and goings of part of this income to and from production. These operations are buying and selling and that is basically it. Consequently, interest was studied by classicists by the supply and demand of this savings. In a certain sense, this systematic is suitable; given that savings is a specific entity that is traded. Savings is born from income. On the contrary, all of this about the supply of and demand for money creates images that seem exceedingly abstract and, even more so if linked to the psychological cord that is liquidity preference. *Bernácer makes interest be born genealogically from income, but not all of it, just the part that is not spent or capitalised, which are disposable funds.* Bernácer's analysis has a certain classical sobriety, since if the classicists made interest come from the supply and demand for savings, Bernácer focused it on disposable funds. Whether or not the classicists were mistaken, it is true that savings comes from income, the same as disposable funds.

If financial interest is effectively born on the financial market, as a consequence of the exchange of disposable funds that occurs there, there is absolutely no doubt that there will be supply and demand with the other part of savings, capitalised savings ( $S_k$ ), thus following a line of reasoning equal to that of the classicists.

I will repeat the argument. Total savings  $S$  is broken down into two currents. One that is capitalised  $S_k$ , and the other that is not capitalised. There will be supply and demand for each of them. Disposable funds are supplied and demanded on the financial market, giving rise to the market price of securities and, therefore, to financial interest. And the other part of savings is supplied and demanded on the *ordinary* market, giving rise to ordinary interest, with a different origin and different consequences than financial interest. *This ordinary interest was what Bernácer missed*<sup>123</sup>.

### *The classicists and Mr Keynes according to Bernácer*

Despite Keynes and Bernácer breaking *some* ties with classical economics, the Spaniard drew close to them in finding contradictions in Keynes' work.

When liquidity preference increases for some, it is satiated by the lesser preference of others. The first sells assets that the second buys. But if the community as a whole increases its liquidity preference, the matter changes. Then there would be more people demanding money than supplying it, which will contribute to interest increasing. The market comes into balance in this way; equilibrium that means that thirst has not been sated. Basically, the water has become more expensive. Bernácer said the following with respect to this preference: 'if liquidity preference is unsatisfied, unsatisfied it will remain...' (*A Free Market Economy*..., page 293).

The remedy remains of creating more money to satisfy the thirst for liquidity. If there is more thirst and more water, the price of the latter has no reason to rise. And we come to the heart of the problem. For Keynes, this greater amount of money, when there are unoccupied resources, will increase employment without the prices of things needing to go up. Keynes' affirmation is also a statement made by many post-Keynesians and even monetarists (if considering employment). So this is false reasoning, since what normally happens is that the prices of goods increase. Strange, then. Bernácer didn't explain the reason for

this increase, which is precisely what is important. He only detailed what had to happen so that this increase did not happen.

If the tap is turned on and you don't want prices to go up, those eager for greater liquidity just have to sate their thirsts or demand so-called *income assets* (*our* financial assets from *our* financial market).

Keynes knew that interest was born in liquidity preference and in its inevitable connection to the market price of financial assets. Since this preference is sated by the measures that make it possible for monetary authorities to increase or decrease the amount of money, Bernácer found it strange that to Keynes, the *total* money influences interest. This is not possible, just like a need for salt cannot be satisfied with sugar. Let me explain.

I stated that for the Keynes of 1930 and 36, interest is born from and for the speculative market. It is clear that not all money enters into play, just the money apt for speculation. And the money suitable for speculation is suitable or ready... because it has not been allocated to buying consumer goods or capitalisation. If it had been allocated to these tasks, of course it would not be in the speculators' portfolio, not being suitable for anything, given that it wouldn't exist. Thus, Bernácer said: '...only the money that has been put into speculation influences it...' (A Free Market Economy..., page 294) and then, 'So why talk about money that does not participate in the matter? Wouldn't it be better to speak of specific things that determine interest?'

*Thus, the classicists' instinct and common sense was not erroneous, as they preferred to speak, not of the supply and demand of money, but of fractions of income or savings.* The mistake of the classicists was that they didn't discover financial circulation on the financial market like Keynes and Bernácer did.

Bernácer, as mentioned, incorporated the two advantages -of the classicists and of Keynes- as follows: from the first, he considered the supply and demand of disposable funds and the supply and demand of savings that is capitalised. And from the second, he used market dichotomy, one the ordinary market and the other the financial market. Since interest is born on the financial market and this is nourished *only from disposable funds*, it seems like *not all money concurs in the determination of interest*.

After this entire argumentation, it may seem like the matter is reduced to a simple question of rhetoric or a different way of looking at the problem. Economics is replete with unnecessary Byzantine fights provoked by mere sophisms in their approaches. But this case is not one of them. For Keynes and the Keynesians there cannot be an increase or decrease in interest if there is not a reduction or increase in money, but the reality is different. Recall the monetary circulation of disposable funds, it is enough that only part of money is destined to consumption or investment for liquidity to decrease. If those selling consumer and capital goods do not increase their liquidity since it is in a production fund, then it is transaction money and not full or disposable liquidity, which is what influences interest. Here is another way of looking at the problem with different results! There is no scientific rift in this line of reasoning.

With respect to liquidity preference, it leads us to acknowledge consequences opposed to those of classical economists. For the latter, the abundance of lendable funds would make market prices go up and interest go down. In Keynesian logic, the abundance of money involves a high level of liquidity preference that tends to increase interest.

In order to reveal the simplicity behind the Keynesian Baroque stone wall, Bernácer brought Erich Schneider to his aid. Baroque style, he said, is this vague and psychological term for liquidity preference.

Ancient supply and demand curves are the hidden and simple reality behind this wall.

Schneider outlines the curves of the supply and demand for securities. The quantity of financial instruments are defined on the x-axis and their prices on the y-axis; the value of the instruments supplied or demanded is the result of multiplying the price by the number, like with any asset. Market equilibrium is the point where the supply and demand curves cross, since there is agreement between those who want to buy and those who want to sell these securities. This agreement relates quantity and price and, therefore, determines the amount of money to exchange. Whoever demands securities is supplying money and whoever is buying them is demanding money. How much money? The exact amount determined by the product, price and quantity.

The inverse operations can be done or, better stated, the same operation of buying and selling securities but the other way round, considering the supply and demand of money that makes the reciprocal operation of buying and selling securities possible.

Who demands money? Whoever manifests a liquidity preference. What does he do to sate his thirst for liquidity? Sell securities. Schneider called it new demand. Since it is true that the party keeps a liquidity state and *starting from* this situation increases it, Schneider called this first state *self-demand*. Thus, there are two liquidity states: the one from before and the part or margin he wants to increase, which is self-demand.

To satisfy self-demand or higher liquidity preference, the party will have to have sold securities. Total liquidity on the other hand is new demand and self-demand. So, given a liquidity state, total liquidity, self-demand is calculated by subtracting the amount of active demand for securities from the amount of money that exists (the supply of money). Total money in the system is comprised of the object of this transaction and that which is kept inactive. This total money completes equilibrium price levels. Bernácer did not specify which prices he was referring to, only those of securities or goods and services or both.

It would be easy to get confused at this point. The reason is that the liquidity preference, which I said hides the supply and demand curve, is connected to a specific transaction type: speculative. But what doubt is there that whoever buys consumer and capital goods temporarily loses his liquidity and whoever sells these goods increases liquidity. I will quote Bernácer to add clarity: ‘In the money not supplied, which we add to active demand to find liquidity preference, there is a good part that does not remain inactive due to liquidity preference. Transaction money is not inactive or retained by liquidity preference, but due to consumption and production preference and a part of the rest is not due to liquidity preference and hence not moving, but due to inertia, due to liquidity *indifference*.

Those who have lived in Keynes’ or Bernácer’s labyrinth move in it with the familiar confidence of a man walking in his home. And those of you who don’t know so much about macroeconomics move around it gropingly. If readers do not know Bernácer by now, meaning my account must be defective, you will want some *synthetic* explanation of this issue. In very general terms, liquidity preference in Keynes and Bernácer can be expressed by the supply and demand curves for goods and financial assets. That is, everything that has a monetary value. Let’s stop here to repeat that one thing is liquidity preference (greater or lesser) and another thing is *alleviating this preference*. *Relieving this preference involves sales and purchase operations of everything that has value*.

From the meaning that Keynes gave it, and even his interpretation of what Schneider said, one infers that liquidity preference is closely related to the financial market. It is Bernácer’s full liquidity or, better, *the*

*meaning of preference for full liquidity is the preference for third-degree or maximum disposable funds.* Maintaining more or less disposable funds will entail crossed operations between the financial and ordinary markets, since operations executed within the financial market, which are passive to Bernácer, do not alter disposable funds or overall liquidity.

Liquidity alterations happening on the ordinary market are not like this, since they happen within the ordinary market derived from sales and buying operations of consumer and capital goods.

Liquidity preference, as used by Bernácer and Keynes, involves a supply and demand of money to and from the financial market; it is an exchange of money for financial assets. The rest of the money that is kept is not for liquidity preference but for specific operations of buying and selling goods and services. This is what can ironically and objectively also be called the *illiquidity preference*. The following chart summarises this section.

Author concept	Generic liquidity preference	Strict liquidity preference
Bernácer	Supply and demand of goods and financial assets	Supply and demand of Keynes' financial assets
Keynes	Supply and demand for financial assets and quasi money	The same as generic
	Bernácer	Keynes
Liquidity	Only money, called maximum or third-degree disposable funds	Money plus other assets, short-term debts with easily-liquefiable securities
They change	Sales & purchase operations of everything that has monetary value + creation & destruction of money	By banking activities

## 19.5. SAY'S LAW, WITHOUT SAY AND WITH KEYNES

This question is valuable to delve into the identity  $S = I$  and into the macro-identity from which it came, which is income equals production. The simplicity and cold logic of the identity offers no discussion. The logical-scientific tether is so consistent that it is forced towards an identity. Classicists and also Keynes were involved in explaining it.

But, as mentioned, obvious truths shine so brightly that they blind and prevent you from seeing what is hidden behind the light. Bernácer turned his back to the light and discovered the plot that we will now see.

He started by saying: 'If the postulate is established that savings and capitalisation are identical after accepting the equality between production and income, the logical consequence is the fatal and permanent equilibrium of the market and economy. The fact that this equilibrium does not exist necessary involves the negation of one or both of them. Trying to find the causes of market disequilibrium when accepting both is to consider the problem of movement, starting by establishing the impossibility of things moving.' (*The Functional Doctrine...*, page 266).

What did he mean with those words? That Keynes, for whom the identity is a constant bill of fare in the economic system, formulated Say's Law. It is intellectual servitude that he inherited from the classicists. Nonetheless, he tried to explain disequilibrium. Bernácer quoted Keynes 'from his last book, page 63 contains the following syllogism' (*The Functional Doctrine*, page 267). Since Bernácer's comment is from 1945, he referred to Keynes' book *The General Theory* and not to *How to Pay for War* from 39-40, since in the latter he didn't handle the cited identities<sup>124</sup>.

Income = Value of production = consumption + capitalisation

Savings = Income – consumption

Then:

Savings = capitalisation

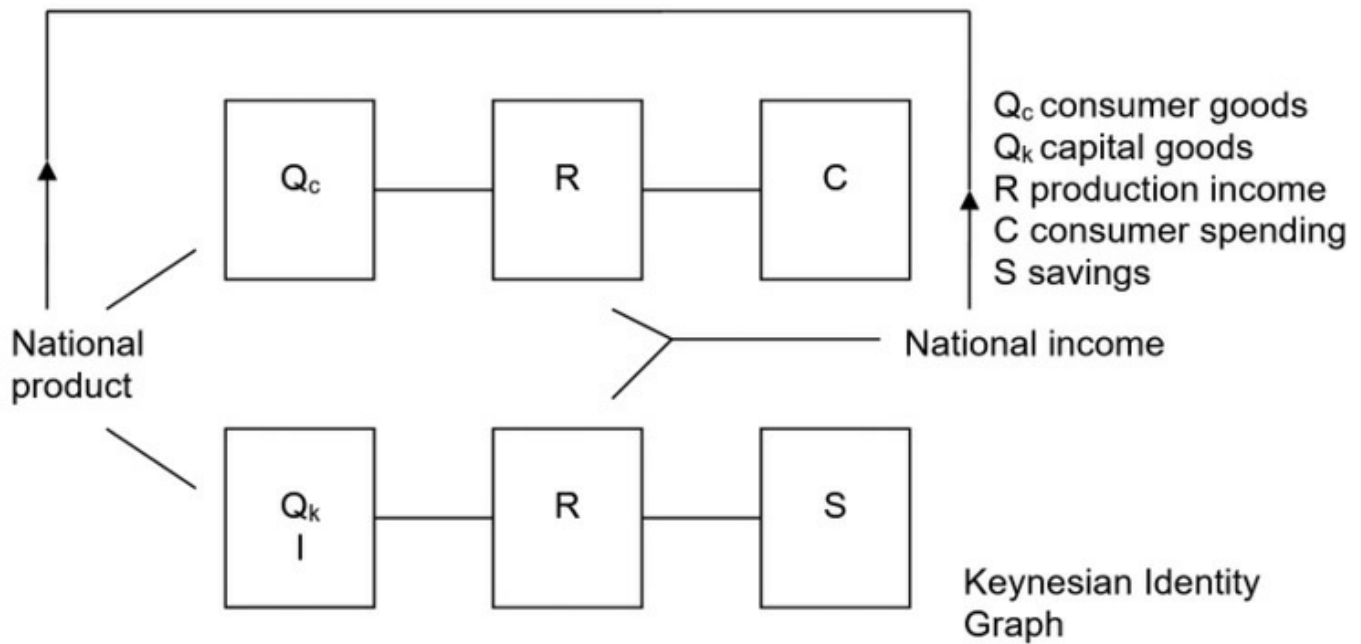
This is an issue looked at already in the section relating savings-investment and liquidity. I will return to it now for the penultimate time, as there is one more section where it is extensively developed.

Viewpoints differ on the next question. For Keynes (in Bernácer's interpretation), investment happens when entrepreneurs decide to *create* or *produce* a capital product. Overall production is comprised of the production of consumer goods and the production of capital goods. The latter is called investment.

If the production of consumer goods generates income and the production of capital goods also generates income, overall production thus generates *total* income. If part of these incomes is consumed, the part that is saved *inevitably* will be equal to investment. The graph below explains this.

Unfortunately, the issue is more complex to Bernácer, for whom investment meant the previous formation of savings and, afterwards, either demanding the capital formed with this savings or helping create new capital via the purchase of supplies. Clearly things change. And they change because in Keynes' interpretation, savings is equal to investment, so equilibrium will occur always, like the water in communicating vessels (where the water is income). Nonetheless and constantly for Bernácer, disequilibrium occurs because demand does not remove all production from the market. If all capital equipment formed is not withdrawn through savings, there are unsold articles and savings equals investment is not fulfilled. Of course, if we are not serious and twist economics to the servitude of arithmetic, we can place what is unsold  $I_u$  with another thing that is different, which is capital equipment ( $I + I_u$ ), making it equal savings. But it is obvious that this formula would bother even a young child. This is the problem, which is that not all savings is invested. This problem leads us to another question. Why isn't it invested? Well, due to Keynes' liquidity preference, from which a second contradiction is brought to light in his work. For Bernácer, not all savings is invested because of the financial or non-productive market, although it is speculatively profitable.

The truth and problems have different plots. As do the previous identities. Maybe everything would be resolved if we understand that the important thing is not an equality with one brought from one side and the other from the other, but rather the mechanism of movement. Let me explain. We need to know the process through which income born in production and not consumed helps either in demanding capital goods or helps to form it and not only the identity  $S = I$ .



Bernácer said that part of income saved is invested, either by savers or by others through the bridge represented by the banking system. With this savings, supplies are bought that help create capital goods and also to buy capital equipment. The part of savings that performs this task is  $S_k$ . The other part is disposable funds  $D$  that go to the financial market to demand sterilely productive assets. This is a functional explanation, as it explains a function. If capitalised savings is added to non-capitalised savings, or disposable funds, this represents total savings  $S = S_k + D$ . And if looking at total savings, without having the good judgment of specifying which part is capitalised and which part isn't, the conclusion is not that it will be equal to investment, but will be greater than investment. And if obstinacy prevails in our increasingly poor judgment and capital goods or investment are added to inventory investment, it is clear that the equation matches, although it is conceptually terrible. All of these words can be explained as follows:

$S > I$  because not all savings is capitalised ( $S = S_k + D$ )

$S_k = I$  because  $S_k$  is the savings that is capitalised

$S = I + I_u$  considering inventory investment  $I_u$  and *all* savings, including that which is not capitalised

Keynes' formulation seems to be missing the supporting framework that links savings to investment and remains only with quantitative theory. The key consists in explaining and considering what investment or capitalisation really is.

For Bernácer it is a demand operation or bartering operation, or the exchange of capital goods for savings. For Keynes it is the formation of real capital or its creation. The lack of agreement in his theoretical crossword, liquidity preference, stays in the air. It has to be one of two situations: savings is kept liquid, in which case it is not capitalised; or it is not kept liquid, in which case it is capitalised, but not both things at once. And if readers think I am exaggerating my conclusions by blindly following exclusively monetary liquidity preference, I respond that if I had used other things as examples, i.e. the preference for liquidity through other assets, my criticism of Keynes would be even greater. If other non-monetary financial assets are acquired or held, it is undeniable that this *disposable* savings stops being such and is unavailable and, *always and, this is what is important, not capitalised*. I return again to repeat that,



disposable or not, savings is not partly capitalised and does not fulfil the familiar identity.

## 19.6. THE IDENTITIES AGAIN<sup>125</sup>

The identity established by Keynes  $Y = O$  ( $Y$  income and  $O$  production), is simply Bernácer's familiar formula that states  $R = P$  ( $R$  production income and  $P$  production). They are not the same thing; they are two different things. One is production, a real element with monetary value, which is found on the side of supply, and the other is money; a flow of money and potential demand. Product is what is created and income is what is received as a consequence of this creation. Thus, Bernácer said: 'Merchandise is not merchandise until it passes into the hands of the entrepreneur and income is not income until it passes into the possession of its legitimate owner...' (*A Free Market Economy...*, page 277). Bernácer complained of the uselessness of identities in science, but his complaint takes on legitimate outrage when pointing out that what people have agreed to call identities -like income and production, savings and investment- are not identities in the least, but rather equalities.

He defended Keynes against the Keynesians, more hotheaded than their teacher about imposing his doctrine. He said that Keynes clearly distinguished the terms and *did not say they were an identity*. Identities are useless as it means giving nicknames to the same thing. The fact that things like income and production are born from the same womb and are quantitatively equal do not predict anything about identity.

Rife with this type of speculation, Bernácer made the following explanation. One thing is consumption and another is spending on consumption, in the same way that one thing would be real capitalisation and another thing the spending to acquire it and shape it. Consumption and real capitalisation are activities related to real production and consumer spending and investment are related to monetary income.

A tough polemic between Bernácer and Dr Saénz of Mexico made the latter harshly respond to Bernácer: it is only possible to consume if you have first carried out consumer spending. I was surprised by this correct criticism by Saénz, since I think it is right, but I soon realised Bernácer's intention.

If you spend now on consumer goods and invest in capital, triple of any other period and you acquire, for example, less than before, you couldn't say that you had consumed and capitalised more or not even the same. And why is this important? Well, because spending was less than the supplied production, economic equilibrium is not produced.

Consumer spending and investment are monetary phenomena and consumption and capitalisation are real phenomena. The only thing that remains valid is that  $R = P$  in Bernácer's formula and  $Y = O$  in Keynes'. It is not clear if savings must inevitably be equal to investment, given that period savings can demand production in capital goods that is less than what is supplied. Demanding capital equipment is called investment and if this investment is less, as mentioned, than the capital equipment supplied, it is clear that there is no concordance between real capitalisation and investment. I have repeated and repeated this argument each time I have dealt with the basic identities. There is a methodological trick that makes it possible for savings to equal investment, even in the same Bernacerian context. If capital goods are acquired with the savings formed (more, equal or less) and this act, operation, demand, purchase is called investment, then savings is equal to investment. Note that it is a kind of play on words equivalent to confusing buying or demand with money, and saying that money is the same as demand, insisting that

without money demand wouldn't be possible.

One thing is savings, which is the monetary term that breaks off from the monetary womb of income. Another is the real term that is capital goods and another thing, not a thing but an operation, is the operation of exchanging capital goods for savings. This operation is investment. If this savings is totally spent –even without there being sterile speculative operations and despite not withdrawing all capital goods from the market– it is clear that equilibrium does not happen.

If, as Bernácer interpreted Keynes, the act of investing means the creation of capital goods, then the identity  $S = I$  is fulfilled. Part of production activity flows into the production of consumer goods and the other part into the production of capital goods. If the latter is called investment and if part of the income coming out of production is allocated to consumer spending and what remains to savings, it will be equal to the production of capital goods. Savings is always equal to investment.

## 19.7. BERNÁCER'S CRITICISM AND DEFENCE OF KEYNES<sup>126</sup>

The monetary and the real term can be distinguished in the term  $Y = O$ . Economists have focused on the real term, a point on which Bernácer agreed, provided that the two are not confused, the real and the monetary. Thus, consumer spending is different than consumption, spending on capital goods or investment different than the production of capital goods. So I continue with an expression of the following type:

$$\text{Overall income} = \text{Amount of all sales}$$

I will not analyse the problem of assessing it. It doesn't really need it. Merchandise is exchanged for money and this money means spending income.

Overall income is spent on consumer goods and saved.

$$\text{Overall income} = \text{Spending on consumer goods} + \text{savings}$$

Sales are broken down into two groups. On the one hand, sales of consumer goods and, on the other, sales of capital goods. The latter operation, the sale of capital goods, has entailed an exchange of income, or savings, for the person who bought them for capital goods.

$$\text{Consumer spending} + \text{Capitalisation} = \text{Total amount of sales}$$

I faithfully follow the expression commented on by Bernácer. Consumer spending could have equally been replaced by the sale of consumer goods and capitalisation by sales of capital goods, since sales are being dealt with here. In any case, the analysis would not change.

With the common term eliminated from both sides (consumer spending), the result is:

$$\text{Savings} = \text{Capitalisation}$$

The advantage of this adept logic of equations is that the real terms are not confused with the monetary ones, like consumption and consumer spending.

The disadvantage, and Bernácer's mistake, is identifying the sales that produced the total income with the sales resulting from the investment of this income. This is the same as reversing the logical order of causality, cause with effect. If sales have led to incomes, the statement that gave rise to the equality: sales equal income, it cannot be confirmed that this income born from sales will be exactly equal to the income from where it was born. It would be an unjustifiable methodological distortion.

Bernácer believed that Keynes' supporters adulterated the thought of their teacher. By establishing that  $Y = C + I$ , what he meant was that all income must come from a production of consumer or capital articles, so that the total value of production would necessarily have to be equal to the total of all production income. *But he did not say that it was an identity.*

I believe that Bernácer was one of the men who was most prepared to understand Keynes' thought. As I continue to repeat, he had already walked down the road many times that Keynes' scientific shoes would later tread. His defence of Keynes was justified.

He continued by saying that this income is either spent or kept or a bit of both. If it was spent, its equivalency will be found in the consumption and capitalisation made. If part was spent, the previous argument holds true and for the part that wasn't spent, either kept or saved, this equivalency remains in the hands of producers or businessmen in compulsory capitalisation. Given that what wasn't spent is savings, then savings and capitalisation are equal. How is this line of reasoning made by Bernácer about Keynes different from the previous one? In that there is no assimilation between the sales from one period and the following one, but rather a single production batch from which income comes. He didn't consider the future destination where the flow of income would finish, but rather the fountain from where it comes, which is production.

To justify equalisation between savings and investment ( $S = I$ ), factors of production must be considered equal with what is produced and not sold; that is, capital equipment and inventory investment.

The source of income is production or, if you like, the ordinary market. And the source of the error in question is admitting consumption and spending on consumption as the same. Since more can be spent in previous periods and, even so, less consumed in real terms, unsold production remains. This is investment in stock or inventories. This investment, *badly called investment, will be comprised of capital goods also*. And this capital equipment, while it is not separated from the market by entrepreneurs and added to production tasks in their workshops, until this happens, it is working capital. Working capital is also part of unsold consumer goods. And how to distinguish planned and unplanned working capital?

Another similar question could also be posed, which is: Wouldn't it be better to establish a distinction between working capital, which is non-fixed factors of production, and end production? And why not establish a quantitative and differential distinction between inventory investment by periods, in order to set apart that which is produced due to variation in demand from what isn't? One cannot confuse what represents the system's capacity to increase production with other things that mean weakness in demand. Moreover, in my understanding, investment is a financial operation of buying capital equipment or financing new capital equipment with savings (plus new money, if there is any); inventory investment exists no matter how it came to be, due to the absence of demand in the system, whether it is planned or unplanned.

Producers' demands are intermediate demands for final demand. They demand capital goods and working capital so that end demand removes their end production. This reasoning can respond to the reasoning that working capital from end production has been an intermediate demand for working capital.

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<sup>97</sup> José Villacís: 'Vida y Obra de Germán Bernácer'; Valencian magazine *S'Pill* (written in Valencian) year 1983 no. 19.

<sup>98</sup> José Villacís 'Breve Síntesis de la Macroeconomía de Germán Bernácer' *ESIC Market* magazine no. 53, July-September 1986.

<sup>99</sup> José Villacís 'La Teoría Macroeconómica de Germán Bernácer', *ICE Bulletin*, July 1986 no. 2043 (Ministry of Economy and Treasury).

Spanish Commercial Information).

<sup>100</sup> Bernácer was referring to the fact that he took it from Turgot, although his macroeconomic exposition is original to him. He referred to the capacity of money to be invested and to 'yield'.

<sup>101</sup> José Villacís *La Teoría Macroeconómica de Germán Bernácer*; *Católica Portuguesa* magazine; volume IX, October 1985, no. 3

<sup>102</sup> José Villacís *Macroeconomía* Dykinson publishing house 1986; Madrid, chapter devoted to Germán Bernácer

<sup>103</sup> Bernácer did not make a mistake in speaking of material production, as it fit into his explanation of the production of income.

<sup>104</sup> The analogy, object of this section, is followed by Keynes (the Keynes of 1930) in his *Treatise on Money* (1930) V 1, page 154... (later in *The General Theory on Employment, Interest and Money*; McMillan, London 1954, although the book was first published in 1936). Bernácer had established macroeconomic equilibriums, already sketched in *Society...*, and arithmetically with strict symbolism in Epilogue IX 'Mathematical Equivalence between Savings and Disposable Products' in 1925, with the publication of the article 'The Theory of Disposable Funds' from 1922 in between. Thus, when Keynes' work appeared, he had already explored this in depth and is the reason why he understood it so well. According to Robertson's words (from the article in *Económica* in 1940), it was already known in the thirties. In my judgment, this analogy does not hold special interest. Bernácer formally established the analogy between himself and Keynes in *The Functional Doctrine...* in the chapter 'Similar Anglo-Saxon Doctrines' page 217 (1956 edition, the first was 1945).

<sup>105</sup> These are economic explanations emitted by Bernácer about Keynes' equation.

<sup>106</sup> The first time that Bernácer established this analogy was in the article entitled 'Monetary Theory and the Market Equation' published in the magazine *Anales de Economía* no.1, March 1941, a year in which the two cited books by Keynes had already been published.

<sup>107</sup> The exposition of this formulation by Keynes (that Bernácer compared) appeared in an enormous number of economics books, including *Tratado de Economía* by Jesús Prados Arrarte in volume VIII (Gaduzana publishers, 1973) Chapter XVIII, page 94-5-6. Prados, who knew Bernácer and had a deep respect for him, did not know of his work. He did not mention him at all in this work. Ignorance about Bernácer was constant, but at the end of his life, Prados incorporated it into his explanation of the cycles (from *Tratado...* book: 'Los Ciclos...', Edit. Universidad Complutense de Madrid). This is an argument that challenges the supposed conspiracy of silence against Germán Bernácer. Prados was an economist who before, during and after his exile always tried to rescue the knowledge of Spanish-speaking economists for scientific economics. His entry in the Spanish Academy spoke of a Spanish economist: Alvaro Flores Estrada. If Prados did not know of Bernácer's work, it is understandable and logical that other economists did not know it either.

Prados never imagined that his study of Chilean Limited Companies in 1956, published approximately 2 years after the famous meeting in Granada, when he himself introduced the two economists, Robertson and Bernácer, would statistically also prove Bernácerian theory about the undercapitalisation of companies. As mentioned (and will be repeated), this work was published in a book entitled *Inflación y Desarrollo Económico*, Aguilar Publishers, 1956. Madrid.

In 1984, I published an article in the magazine *Pensamiento Iberoamericano* (magazine on political economics) no. 6, July-December 1984, entitled 'El Paralelismo de Bernácer y de Prados Arrarte en la Macroeconomía'. In this work I stressed how producers' disposable funds (Bernácerian term) were transformed into maximum or net-speculative disposable funds, in the bridge of sinking funds, which was what Prados studied. He stressed the movement of amortisable investments (fixed assets) into non-amortisable investments (building sites, etc.). Companies would not decapitalise if the two are called investments; but not if only the fixed capital is called investment.

<sup>108</sup> Part of restricted monetary supply, or  $M_1$

<sup>109</sup> I insist that it is improper to speak of three classes of money; one could perhaps say that money exists in different places. It was an imprecise scientific expression.

<sup>110</sup> G. Bernácer, *The Functional Doctrine* (1945), chapter 'Similar Anglo-Saxon Doctrines' page 223-4 (the 1956 edition) commented on the three classes of money established by Keynes in chapter III of *Treatise* and expanded upon in chapter XV. The speculative motive would be opened in 1936 in *The General Theory*...

<sup>111</sup> Keynes, Bernácer insisted, changed his way of thinking and had not evolved in 1936 with *The General Theory* compared to *The Treatise* (1930).

<sup>112</sup> Bernácer clarified and revealed the contradictions of Keynes' liquidity preference, as well as highlighting their difference from disposable funds in *The Functional Doctrine*, chapter 'Liquidity and Disposable Funds', pp. 279-293. What Bernácer said was revealing in that he didn't understand how Keynes purported that savings could be kept *liquid* while at the same time being capitalised (page 285). This issue appeared again in 'Metric Economics' *Arquimedes* magazine, section 'The Keynesian Solution', page 53 (1955-6). The clearest distinction between liquidity and disposable funds is found in *A Free Market Economy...*, chapter III, section 5 'Disposable Funds and Liquidity'.

<sup>113</sup> 'Metric Economics' *op. cit.*, page 52 (*Arquimedes* magazine) section 11 'The Walras Method'

<sup>114</sup> *A Free Market Economy*, page 45. Bernácer insisted (as I do) not so much in their similarity, but rather that each concept and idea has a different name and is distorted.

<sup>115</sup> To readers' irritation, Bernácer did not specify the term demand for capital that he put into Keynes' mouth. I do not know if it is capital as a factor of production or money financing this capital or simply money. Neither do I know what he was thinking when speaking of marginal utility... marginal utility of what? If capital is money, it would be the marginal utility of money in the sense of Marshall but if it is a factor of production, in my understanding it would be approximately equal to the marginal efficiency of capital.

<sup>116</sup> The precedent to this from 1945 in *The Functional Doctrine* can be found in the article from 1941 entitled 'Monetary Theory and the Market Equation' (*Anales de Economía*).

<sup>117</sup> Capitalist savers are the people who hold savings and lend it or spend it. To me they are not different from consumers or industrialists. In reality they are the same but with a different function. Capitalist savers are different due to the savings they have.

- <sup>118</sup> Third-degree or maximum disposable funds remain in this state in the financial market. The others, first-degree of consumers and second-degree of producers have ephemeral life. Whenever I speak of disposable funds, they are simply the maximum ones.
- <sup>119</sup> *The Functional Doctrine* chapter VI of book II, 'The Postulate of Savings equal to Capitalisation', page 266-267-8. Bernácer emphasised that the statement that savings is always equal to placed capital is wrong for two reasons: 1. Because savings is not immediately placed and; 2. Even if it is, placed savings remains a disposable fund of the new holder (old capitalisations).
- <sup>120</sup> *The Functional Doctrine...*, page 288. He criticised Keynes with great skill by saying that liquidity is incompatible with the identity  $S = I$ , bearing in mind that it is a part of non-capitalised savings. On page 285, he said, as previously stated (page 285), that the liquidity state is not possible, which by definition is non-capitalised savings and moreover, by admitting the equality  $S = I$ , this means that savings has been capitalised: 'And I cannot understand how it is possible to capitalise savings and keep it liquid at the same time...'
- <sup>121</sup> See the article: 'The Postulates of Equivalency between Production and Income and between Savings and Capitalisation', magazine *Anales de Economía*; Madrid, 194 (this article does not appear in the reference appearing in the final notes, last page of *A Functional Doctrine* in which Bernácer's articles are listed. There is another footnote that explains that this article will be set forth in the book *A Functional Doctrine* and will appear in 1945 (page 266). Potential supply and demand are not casual events but critical ones, but not so with *actual* supply and demand... he stated on page 154. This article precedes chapter VI of the cited book 11 of *The Functional Doctrine...*, page 266. In his criticism of Keynes, he stated that Keynes did not admit the equivalency  $S = I$  in the *Treatise...* (1930), but in 1936 he made it the pivot of his doctrine. The difference is that in Keynes they are contingent profits and for Bernácer, they were financial market disposable funds.
- <sup>122</sup>  $D$  = disposable funds;  $S_k$  capitalised savings and  $R$  in this case is production income.
- <sup>123</sup> This was first set forth in a previous heading entitled 'A Serious Mistake by Germán Bernácer' section 15.5.1 of the chapter 'Interest Revisited'.
- <sup>124</sup> *The Functional Doctrine...*, chapter VI of book 11
- <sup>125</sup> Critical Appendix III, section A from *A Free Market Economy...* is of interest here, pp. 276-283. He made a comprehension revision of the postulates that supposedly guarantee that  $S = I$ . He somewhat defended Keynes by trying to judge his thought correctly, against his own students. Section D of this appendix is also of interest, section 4 entitled 'Investment in capital or invested savings?'
- <sup>126</sup> *A Free Market Economy...*, the cited defence of Keynes is on page 277 (critical appendix III) where it says: 'The case is that Keynes had conserved the fundamental distinction of the terms in the equation  $Y = O$  ( $O$  value of production) by defining  $Y$  as monetary income and  $O$  as the value of production and *he did not say this was an identity* (my italics).

## The great doubt

### 20.1. INTRODUCTION

Those of us educated in Keynesian academies, or simply in macroeconomic laboratories, find a series of common sites that define the geography of this science. The marginal efficiency of capital, the demand for money, liquidity preference, the identity between savings and investment, national income, interest, the uselessness of commodity currency or the gold standard, the existence of cycles, the demand for financial assets, etc. are like the multiform mosaics that, like a puzzle, let us build macroeconomics.

Looking back, we find the enigmatic smile of Keynes who donated his work to science. His front men, attorneys of the impossible, arranged this complex inheritance so that it could be read and understood without too many problems. They were people like Samuelson, Hansen, Robinson, etc.

Modern economists, who know the secrets of macroeconomics, find an easy-to-read manual in Keynes body of work. This reading is so comfortable that it is soporific. It is the drowsiness you feel waking from a siesta after a heavy mid-summer meal.

Now it is known that Keynes did not say what they say he said. It seems to be something else. In any case, his monumental body of work is there for whoever wants to read it. It is complex, long and, above all, informed by intelligence. He intentionally confused and enlightened when he wanted to enlighten. It was strategic and wise. Let me explain. Keynes knew where he was going to crash and didn't do it. He changed the route and misled us. He frequently removed useless labyrinths and outlined the master road with a sure hand. This is the great Keynes, heir of the haughty English school and the malleable moneychanger of the great metropolis. His financial intelligence and astuteness helped him reveal the science he believed to be new and conceal what he didn't know and what he didn't want us to know because nobody knew it.

In this pleasant saunter down a road that he discovered, a road that is both straight and twisted, it seems like he had a map in his hands. He is a sailor of ancient caravels that take to the seas seeking unknown continents and hidden treasures. He had a map in his hands, perhaps dirty and somewhat deleted by the impatient saltpetre of the sea. He received the map by a less audacious sailor than himself called Robertson. The map was called *The Theory of Disposable Funds*. A poor Spanish sailor, daring and self-confident like Christopher Columbus, discovered a continent and encrypted the route onto this map. This was Bernácer, who in life had died and not in a storm, but on the calm sea of indifference and oblivion. It was a Spanish sea.

This is only a hypothesis with which to moor this thesis.

### 20.2. THE INTERPRETATION OF DOUBT

Far away were the tributaries of the classicists and closer the streams of neoclassical economists when a breeze of restlessness made economists' chests swell with impatience. Say's Law cracked their solid

foundation; equilibrium was revealed as a physical chimera; the gold standard shown to be golden boots that prevented movement.

They continued pontificating in university classrooms, with little conviction, on concepts corrupted by hypotheses. These are the years from around the beginning of the century –maybe a bit earlier– until the thirties. But no one dared to confront the Cyclops of classical economics, since the scientific honesty of self-respecting economists would mean they would have to have the courage and patience to break down the giant piece by piece... and then build another one. This Herculean Cyclops gazed with his single eye upon full employment throughout eternity. Its blood circulation is circular and always with oxygenated blood. Nobody could imagine –and much less so the Spaniards– that in a modest provincial capital, a humble merchant, with even more modest scientific means, would execute a scientific and unprecedented heroic deed. He created macroeconomics. This was around 1916. Attentively scanning our scientific history, it is easy to conclude that it would be the most important scientific discovery in Spanish science. The Cyclops fell in defeat after a mortal hit: the discovery of interest and the money market.

And it would be the scientific uprightness of Professor Robertson who presented Bernácer to the world, to the shame of the Spaniards in Spain. Our economist quoted Robertson (*A Functional Doctrine...*, page 214). His quote was<sup>127</sup>: ‘All of these writings (referring to his own) have no apparent impact until 1940, when the eminent English economist D.H. Robertson, current professor of Economics at Cambridge, repeated some excerpts from my booklet from 1923 in the English magazine *Económica*, and dedicated a very flattering comment to me, which ended as follows’: ...And then Robertson’s quote on Bernácer:

‘I believe that the fact must be justified of not sharing Mr Bernácer’s essay with English-speaking economists before now. In addition to the obstacle of the language and the general difficulty of distinguishing authenticity in the droves of monetary literature we all receive, perhaps my excuse is a bit more well-founded. It is no tarnishing of Mr Bernácer’s work to say that it is perhaps not after all as interesting as it may seem at first glance. There is a legend today that approximately until the year 1930, all academic economists thought and wrote exclusively in terms of full equilibrium, with inspired devotees relegated to a handful who scribbled in solitary attics about problems related to idle money and unused resources. This legend is not true. If Mr Bernácer’s essay had ended up being more widely known by his economist colleagues in 1923, than what I believe it was, the order of ideas in content would not have been so unfamiliar to them as university graduates are led to believe. Nonetheless, I believe it is worth reprinting and I sincerely hope the author is still alive...’<sup>128</sup>

And what truth is there and what is there of shrewdness? I believe, above all and firstly, that Robertson is an honourable man and a prudent scientist. But this prudence muzzles a truth. Which? Well, the sentence I repeat again referring to the novelty and interest of Bernácer's discovery. ‘...perhaps it isn’t after all as interesting as it may seem at first glance...’ Of course it wasn’t interesting in 1940, after 1930, which is when Keynes started to dazzle... But it was indeed in 1923!

I would have had to have found out many more things that I will unfortunately never know. What exactly was the correspondence between Bernácer and Robertson? If it was his article on ‘The Theory of Disposable Funds’ or if the epistolary relationship was much more. One thing that Bernácer stated was that he did everything possible to disseminate it, sending no less than 150 copies abroad, accompanied by a summary in French.

Aware of its worth, Bernácer said:

‘...that poor seed that sprouted one day in December of 1905 has become a robust and mature fruit, which can rub shoulders with those obtained by other more or less academic economists, who have also stopped thinking in terms of perfect equilibrium...’ (*The Functional Doctrine...*, page 216).

In 1940, his work continued to be interesting and still is at the time I wrote the present book in 1989, when the double monetary circulation of the two types of wealth has still not been understood. The wealth generated in the ordinary market or real wealth and the actual secondary financial assets or illusions of wealth that exist and endure in the financial market. This double circulation explains two types of interest and two types of investments. In my judgement, this needs to be explained still.

The article ‘The Theory of Disposable Funds’ is a key that has an incalculable explanatory potential. Indeed, the book from 1945, *The Functional Doctrine...*, and the one from 1955, *A Free Market Economy...*, are both extraordinarily dense, heavy with ordered layers of ideas, just like the endless number of articles that were published in different international publications. This enormous body of work and this fertile quarry of concepts are simply further branches springing from this simple but incredible work on the theory of disposable funds.

In turn, ‘The Theory of Disposable Funds’ is a summary and sharp explanation of a nucleus of ideas that appeared in the extensive book *Society and Happiness*, written in 1916. He clearly polished the scientific mechanics in this gap of six or seven years between the two works. Alicante, a sunny, thriving and pretty city, did not exist in the scientific arena and even less so in economic science from the beginning of the century. Cambridge, conversely, was practically the world capital of economic science. Bernácer, our humble accountant, was only 33 years old (I do not tire of repeating this). In his words, the idea of monetary circulation, which he sensed in 1916, was born in 1905!

That year was when he intuitively started writing *Society and Happiness*. His testimony, which is the only information I have, is found in a footnote in *The Functional Doctrine...* It reads: ‘The book that has the subtitle “Essays on Social Mechanics” was started at the end of 1905. Difficulties inherent to new authors publishing works postponed its printing until the summer of 1915.’ I do not know if I should believe that such an accurate intuition sprang from a young man from the provinces when he was only 22 years old. Usually youth of that age are only excelling at sport. In the intellectual and artistic order, youth tends to be the time for musicians and mathematicians, but not of economists, if they are not economic mathematicians, which was not Bernácer’s case.

Perhaps the adolescent, who had worked in the small grocer’s shop of his parents since he was young in Alicante, thought about how money is exchanged for goods. And of the goods coming to this diverse shop, some were coming from gardens and crops and others from boats. The young Bernácer may have thought that there was a national and international monetary circulation there. In his domestic education as an accountant, he discovered basic, but practical, methodology, somewhat sensual and physical. Assets and liabilities always had to match up because one financed the other; everything had a causal order, etc. This same education, as well as the contacts he made at his parents’ small business with businessmen, small also, gave him knowledge of specific foreign *merchandise* like bonds, shares, public debt; lands that were speculated and whose prices rose vertiginously. He had heard people speak of how the state was going bankrupt, but it never did, and that the origin of this bankruptcy was closely related to these paper commodities called public debt. Of how interest went up and that this increase ruined entrepreneurs, etc.

Perhaps the first mental outline, which took up permanent residence in his brain, was his dichotomic



vision between two types of merchandise. One that came from his parents' grocer's shop, which arrived from the neighbouring crops and the tireless boats and, the other, those that incredibly earned money: those sterile papers like public debt, shares, lands, with all of them multiplying their initial values. Furthermore, that authentic wealth, what was eaten from the grocer's shop, the clothing that he wore, a train ticket and others were all exchanged for money. This was the common link in exchange. But if this money exchanged sterile wealth or past wealth, but multiplied in price, then primary wealth, that of the garden, what the boats brought in, would be demanded less. And Bernácer the child understood perhaps better than anyone, better even than the classicists and the English Keynesians, that demand is nothing more than the *señora's* handbag opened to take out money and exchange it for food or a spool of thread. The much-heralded demand for money was understood before he was even 22 years old, before Keynes understood it, supposing that he did understand it. His father, the humble shopkeeper who offered goods, demanded money! Depending on this demand, he knew it well, led to his family's wellbeing. The inquisitive eyes of a child and the later adolescent, the accountant, the shopkeeper's son, understood humanity's oldest operation: commerce and the money market, which is the same thing. Here is where his golden rule was born that he would never abandon: 'Whoever demands goods is supplying money and whoever is supplying goods is demanding money.' Only that this supply would split into *two* groups: what went to the shop and other shops and that which wasn't wealth in itself.

These ideas, created from the loose threads of daily merchant observation, were the extremely fertile ball of wool wrapped up in 1905. This is my assumption. I believe, however, that *Society and Happiness* was not created whole in 1905, but much later.

### 20.3. THE ENERGY OF SUSPICION

When Bernácer read Keynes book in 1930 and then the later one in 1936, he noticed two interesting aspects: One, the suspicious strategy of Keynes, who changed methodological direction between 1922 and 1930, and then changed again in 1936. These changes in direction had a lot to do with, not similar Anglo-Saxon ideas, but his own ideas. Another aspect that strongly attracted his attention was the similarities that are so miniscule, similarities that are both ideological and functional. I make reference to the income determination model in Keynes' work and in Bernácer's work.

There is still one more window through which the condensed and freezing air of suspicion entered our accountant's soul. These overwhelming similarities are systematically transposed one by one. Very similar strategy, in fact, to the one frequency used by patent thieves when changing a shape here, a structure there, paint, size... altering appearances and appropriate ideas. Liquidity, financial interest, the demand for money, speculative demand, the supply and demand for goods, etc.

Bernácer was flustered and upset with these suspicions. Enervated and irritated. Given that he couldn't speak of copying or plagiarism, he did something better still. He stripped Keynes bare, showing him his mistakes and other foolish errors. Keynes, oddly, not only did not respond to the push, but did not even quote Bernácer in passing. I believe it would have been the scientific obligation of a good academic upbringing to cite him, even in passing on a few lines of his crowded bibliographic references. But he never did it.

So readers will be asking me: So what is it, is it plagiarism or not? I don't even think Robertson knew for

sure and I know even less. The false serenity of prudence, and not sincerity, forces me to think this, although I don't feel it. The following lines may twist everything even more and not clarify anything.

The *General Theory*... (1936) was not a branching off from the ideas contained in his previous book from 1930, *Treatise*... What he did was pick an entirely different road, practically a 180-degree turn. And if there are contact points between one theory and the other, they are in secondary points, adornments and artifices.

This was Bernácer's opinion, which I will set forth now. I believe the similarity is unquestionable in Keynes' and Bernácer's equations. Recall Keynes' production,  $O = E + [I - S]$ , and Bernácer's demand,  $D = R + [A - A']$ . The work by Bernácer was done in 1922 and Keynes' in 1930. Here is where the long and anguished path of suspicion started.

In Keynes' earlier book from 1924, he started a type of analysis based on the disposal of a specific purchasing power, breaking the quantitative bindings of Fisher to join them to other quantitative ones -less mechanical and more real. Nonetheless, in 1930 he did not follow this type of analysis and started another branch of study, which was income-based theory.

And if he broke away from a certain continuity in 1930 compared to 1924, in 1936 he broke away from the conclusions he made in 1930 and jumped back to past conclusions from 1924.

I want to go into greater depth about these issues of dates and theories. If in 1936 Keynes returned to his work from 1924, did he return alone or equipped with new tools? I would have to tell Bernácer that he didn't return alone, since he had not *totally* forgotten his 'income-based tasks with respect to money'. Something remained and it is very important. He also returned with the psychological and scientific baggage of the economist who has seen how the capitalist world, this world built by classicist patience, had been falling apart since the tragic year of 1929. Seven years later, we can only assume that Keynes knew a lot more; specifically, that the great crisis of 1929 had been unleashed in such a frenetic hotbed of passions like the stock exchange. And Keynes was a speculator. Thus, these ideas from 1924, whose epicentre was the desire to maintain some purchasing power, returned to his mind with the tremendous force of inevitable logic.

It is now 1936 and also 1924. Keynes' split in this earlier time from Fisher's quantitative thesis had already been done earlier with respect to Marshall and Pigou. These latter economists changed Fisher's business operations figure for another more closely related to the desire of keeping a certain purchasing power available. Keynes started the twenties (he was 36 years old) with some stock exchange and banking experience and it is quite sure that these desires of keeping a certain purchasing power in hand were affected by different aims such as business deposits and also speculative activities. And if Keynes knew all this at the beginning of the twenties, the suspicion about the plagiarism of the *Theory of Disposable Funds* was not so necessary. If further recalling that the English speculator and scientist in 1936 knew that the 1929 tragedy started on Wall Street, he had a certain obligation to incorporate it into his work.

He also forced himself to give a new theory to the scientific world and the world of business, to politicians, to businessmen; he owed them an explanation about unemployment and his *General Theory*... responded to these needs. It wasn't really such a drastic change in strategy as Bernácer said (of 100°); it was a forced change. This was basically what Bernácer said of Keynes in 1936.

The total income of the community depends on the employment volume  $N$ . Active demand depends on the

portion of income that is expected to be spent on consumption and the part expected to be allocated to new capitalisations. The latter is a function of another similar factor: the induction to place savings. This induction is in turn born from the ratio between the current interest rate and the productivity of the newly-employed capital (marginal efficiency of capital). How is interest born? From liquidity preference, the desire of capitalists to have more or less of their capital liquid, a desire that leads to a demand for liquid funds. This demand is handled by the funds that the banking system can supply; with a capitalisation rate resulting that in turn handles the marginal efficiency of capital, leading people to capitalise more or less. Thus, interest born from the money market or from the monetary economy is intertwined with the real economy born from capitalisation, leading to the incorporation of a capital flow, which is not total, due to which unemployment starts. This is an idea Wicksell had expressed and, I think, seems to have had an enormous influence on Keynes, although he never gave him credit for this influence.

The theory on prices is the object of a final chapter. Here simple quantitative theory is clearly noticed, although certain technical changes remove obvious similarity. The modifications are as follows: the elasticity of prices of employment, of production, of wages, of actual demand; all of which add up to a coefficient of price elasticity as a response to the changes in the amount of money. So.... said Bernácer: When this elasticity reaches the exceptional value of 1, Keynes' formula is simply quantitative! He didn't express it as a cunning criticism of Keynes. He did accept, like I do, Keynes' great intelligence and scientific ductility in reaching these conclusions that let him combine a critique of Say's Law with quantitative theory.

It seems like Bernácer's suspicion of Keynes rested on the fact that the work from 1936 changed direction with respect to his 1930 work, and because he noticed an overwhelming similarity with his *Theory on Disposable Funds*. Thus, in 1936, Keynes was not acting suspiciously to Bernácer. Robertson had to have told Keynes or at least noticed this similarity between Bernácer's 1922 body of work and Keynes' from 1930. This is the most that I imagine. And who told us that Keynes would concern himself with Bernácer?

Keynes copied himself; he listened to Robertson, to Say and to Ricardo in the past. He also heard the frenzied shouting of the speculators on the London Stock Exchange. And the crazed litany of those who had seen their savings go up in smoke after the stock-exchange crisis had also reached his ears. And if he read Bernácer or heard him spoken about, he wasn't worth quoting.

## 20.4. THE INVISIBLE BRIDGE OF COMMUNICATION

There were many shouters around Keynes throughout his life. His father Neville Keynes, Marshall, Pigou, Robertson, the governor of the Bank of England, stockbrokers, bankers, Treasury clerks, gold standard technicians, foreigners like Wicksell, etc. and he himself. As mentioned, they comprised a varied murmur of voices that his intelligence knew how to direct, like a good orchestra director, to create a symphony like *The General Theory*...

I am interested in separating the precise and serious voice of Mr Robertson from the clamour of the rest. He is the only path to finding out something about this winding bridge between Bernácer and Keynes.

Robertson's scientific nobility recovered an author, Bernácer, as one of the scientists who made contributions to economic cycles. Robertson published the article 'A Spanish Contribution to the Theory of Fluctuations' in the February 1940 issue of the prestigious magazine *Economica*, which was later

incorporated into the last chapter of the Spanish translation of the book, also by Robertson, entitled *Essays on Monetary Theory*. 1940 was a year with a climate of war in which, moreover, scientists were still digesting the still-hot meal of *The General Theory*... Robertson's opinion of Bernácer will be left till later and I will focus here on said bridge.

Keynes acknowledged the influence of Robertson's ideas in his work and Robertson, in turn, also acknowledged that Bernácer's ideas had *perhaps* had an influence on him. If Bernácer *maybe* influenced Robertson and Robertson *maybe* influenced Keynes, then it is also possible that the first influenced the last. This is the only proof I have! Evidence that a scientific judge would reject as insufficient.

Bernácer's words in this regard were: 'Professor Robertson has nobly admitted of his own accord the possibility that the reading of the French summary accompanying the booklet *unconsciously* influenced him (my italics) in his book *Banking Policy and the Price Level* (London 1926). Other similar influences were possible. (*The Functional Doctrine*..., page 218). He was referring to the booklet on his work *The Theory on Disposable Funds*..

Keynes in turn said: 'With respect to me –and I believe that the same will happen to the majority of English-speaking economists- I am indebted to the lines of thought that have made my mind work in the good direction of the work by Mr Robertson in *Banking Policy and Price Level* published in 1926 (*A Treatise on Money*, London 1930, V 1 p. 170-1, note). He had already stated in the prologue: 'Mr Robertson has focused a powerful light on specific essential subjects and this book would not have had its present shape without the help of his ideas' (Op. Cit. Preface, VII). These were also Bernácer's words in a footnote in *The Functional Doctrine*... referring to Keynes. And here is where all ephemeral reasoning of suspicion ends, like the small stream that dies in the desert due to lack of documentation and proof.

Suspensions disappear. Maybe they never even existed. The 'history of economic thought' does not contain Bernácer's thought, while it contains an astonishing amount by Keynes. The children of the Keynesian school formed, in turn, other schools and many of them are already Nobel Prize Winners. In Spain and in the world naturally, nobody knows the name of Bernácer. And I am speaking of specialists. It seems like there was a time when he was recognised by internationally-renowned economists, but that is where it all ended. As we have seen, nothing has made anyone think of the scientific connection between these two scientists, if not for the noble passion of a researcher and enthusiast like myself.

But raising our eyes, our eyes gaze upon the vision of a mountain range with precise silhouettes, defined ravines, measured heights and numerous volcanoes. It is the Keynesian mountain range and then there is another exactly like the first, the Bernacerian, geologically earlier, with the same profile, which looks like a scale copy of the other's topography. It is a labyrinth of mirrors, as I have said, *with the mirrors in the labyrinths reproducing false images*. Because Keynes reproduces the Bernacerian images one-by-one, like he wants to hide his prolific copy. Thus in the mirror there is one mountain in front of the other, a ravine imitating another, a height rubbing shoulders with the following, and so on. They are false images, since liquidity and disposable funds are similar but not equal, or interest, or the perverse oscillation of Say's Law, or the narrow bridge of interest, or the boisterous money market or the asphyxiating corset tied with golden laces.

In this vision of the two symmetrical mountain ranges towering above me, which defeat me, I return to my suspicions and think about a conspiracy, a skilful plot drawn up by British astuteness and studied Spanish indifference. They were not both connected. The first is understandable and even, I dare to say,

scientifically forgivable up to a certain point. Ambiguity is the trapeze of the adroit. I do not understand the second and it can only be understood by a total demonstration of lack of support from Spanish scientists.

Henry Guitton, French economist, author of the prologue of the work of French-Spanish economist Henry Savall, said: 'Bernácer, so much time unknown, will he become the Spanish Keynes?' Such a prestigious economist had commented earlier in the same prologue: 'The famous proverb –nobody can be a prophet in his own land- has unfortunately been proven true. One could say that in Bernácer's case there was a conspiracy of silence of Spanish economists...' They are tough and blunt words, which in the style of a scientist, used to exactitude and precision, cover the sharp shape of a sword. It is true that Spanish-speaking philosophers and scientists are not known and that their potential renown has been recent in the international setting. However, Guitton mentioned in this same prologue that when he wrote his thesis on economic fluctuations in 1951, he knew about Bernácer's body of thought on economic cycles. Did he know about them, like it should be, through his homeland, from his institutions, from the Bank of Spain where he worked or from the Business Studies School where he gave classes, from Spanish professors? No and thus Guitton stated: 'Through Dennis Robertson, I found inspiration in them...' (referring to Bernácer's work).

In France, renowned economists knew of him such as André Piatier, Françoise Perraux and Jacques Rueff. The magazine *Revue d'Economie Politique* published homage to Bernácer in 1965 owing to one of his compatriots José Pozuelo.

Henry Guitton's comments appear in the prologue to the book *Germán Bernácer: Heterodoxy in Economics*; a beautiful work, extraordinarily well-crafted and created by the mind of economist Henry Savall. I have great appreciation for the merit and scientific decency of Savall. Bernácer and I, who wrote this book, acknowledge the merit of Savall, who unveiled and made Bernácer into a Keynes. The merit of Savall's work is indeed enormous because his work is extraordinarily complete and contains everything you read herein. These are the sincere words of a researcher who read his book with the difficult art of *passionate precision*, someone who knows about the issue in great depth.

Like most or all Spanish economists, including Professor Emilio Figueroa who knew Bernácer best, Bernácer passed right in front of him without anyone knowing about his theory. As strange as it may seem, Figueroa was not aware of Bernácer's work, but his influence did lead to the solid scientific training of the economist who knew the economic space and the music of the master.

This work, which was written before I knew about Savall's, was created through lessons from Figueroa and from Bernácer himself. I will ignore the reason, but I do know that the conclusion I obtain, unlike Savall, is not that I see Bernácer as a harbinger of Keynes. It was surely the opposite way round. Keynes was the precursor to Bernácer but not in the sense expected, but rather he repeated what the Spaniard said. If he copied him, which is improbable, he copied him badly, and if not, the similarities are astonishing. Furthermore, I stress the fact that *Bernácer's work is much better in many aspects*.

In order to remove obstacles and eliminate annoying and angry debates with wise and scrupulous scientists, surely Spaniards, I will not carry on with the issue of who was first and if there was copying or not. It would be the same as continuing to investigate who discovered America first; if it was Christopher Columbus and if he were Spanish or not. I will not continue here on this road that will just entangle me like a vine of discussions that goes around and around a stake without ever reaching a conclusion. One thing I do want to stress is that Bernácer's work is another tree next to the Keynesian one, but the latter has

had several gardeners taking care of the tree, pruning and cutting it and planting these trimmings and all together, joined to the robust tree of macroeconomics, they form an organised forest called macroeconomic theory. Next to this forest, unshaken and upright, looking towards the sky and rooted into the ground, is the lone Bernacerian tree. It is incredibly alone, paradoxically solitary, where other Spanish gardeners walk right by the little tree and move onwards to watering and pruning the other forest: the Anglo-Saxon Keynesian one.

I also want to say that there are many sides, angles and peaks to this post-Keynesian economics, which have forgotten their roots. And I am not speaking of Keynes here, but of the conceptual quarry from where they *should come from*, business economics. This did not happen with Bernácer. And he thus gave importance to working capital, to its development, to inventory investments, to economic physical facts, etc. From Bernacerian teachings, a dangerous flame could be lit that could light and devastate the macroeconomic forest. This is perhaps the most important lesson to be included. These devouring flames could be the questions. How is it possible to keep savings liquid and keep it invested? Where is interest born? How does inventory investment join investment in capital goods? How does demand acquire capital goods and stop demanding what is paradoxically called inventory investment? Isn't fixed capital still working capital as long as it isn't demanded by entrepreneurs? And there are endless and tireless questions that have no answer in macroeconomics, but do have an answer in Bernácer's work.

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<sup>127</sup> *The Functional Doctrine...*, page 215 and 221

<sup>128</sup> D. H. Robertson, *Essays on Monetary Theory*, chapter XVI

## 21.1. INTRODUCTION

In the heat of my flurried and passionate research of Bernácer's work, the shadow of Robertson continually appeared. Sometimes it seemed like the North Star, showing me the right path and, at other times, a mirage that led me astray. If I must be honest, I not only came to think that Robertson was the diligent postman delivering the correspondence between Keynes and Bernácer, but that, furthermore, Robertson's theory on loanable funds seemed like the theory of disposable funds staged by a filmmaker.

With the disorder and research now organised and after rereading Bernácer's work in order, chronologically and conceptually, as well as all the rest, the complementary and marginal, I can venture some hypotheses that are less fantastical.

I believe I have already qualified the relationship between Bernácer and Robertson and the one established between the latter and Keynes, although there is still ambiguity. I will not go on about the issue.

## 21.2. BANKING POLICY AND PRICE LEVEL

In *Banking Policy and Price Level*, which was published in 1926, Robertson divided time into successive periods in which monetary events are developed. In these periods, there is a flow of money and other goods, so that the daily flow of products is bought with the daily current of money. Robertson's time period is one day, which has nothing to do with a solar day, but is an arbitrary period of time. He established that income received during a period is not available until the following period. It is a hypothesis that greatly clarifies his experiment. The following day the income is spent or consumed, saved, hoarded or invested. The movement of prices will basically depend on the difference between savings and capitalisation. The money created by the state or central bank is added to this current of money. Price variations will also lead to a variation in savings, which is added to natural savings and is part of unspent income.

Certain analogies exist between Robertson and Bernácer since, as Bernácer himself said, both established the part of savings hoarded as the cause of price variations. The similarity finishes there, since to Bernácer, this bit of coincidence was but a small part of his vast physiological analysis of the economic body, which is the model of income circulation. This circulation was driven by expansion and contraction activities of the production and speculative capillaries through two doors: interest or marginal efficiency of capital and interest properly speaking or financial interest.

Bernácer said that Robertson had proven himself to be an exact, precise and critical scientist, skills that have stolen energy from his creative capacity. Robertson's body of work was essentially set forth in 1933 in *Saving and Hoarding* and reprinted in *Monetary Essays* in 1940, not differing much from the one of 18 years earlier (in Bernácer's words).

Maybe Robertson, who was generous with Bernácer by acknowledging the French summary of his work, could have been influenced in *Banking Policy and Price Level* from 1926. This generosity rests on the great possibility that he wasn't influenced at all (and of course not by Keynes either) and everything would end in an idea or analytical road that was followed independently by Robertson.

The Robertson seen in *Essays in Monetary Theory* (1940) was severely critical of reigning economic theories, above all, Keynesian ones. Bernácer was not outside his normal shooting range in his bull's-eye opinions.

### 21.3. ROBERTSON'S CRITICISM OF THE THEORY OF DISPOSABLE FUNDS

Robertson knew *The Theory of Disposable Funds* well. I have no further information that could lead me to think that he was aware of the full body of work of Bernácer. The English magazine *Económica* published his *A Spanish Contribution to the Theory of Fluctuations* where he set forth the thought of our economist with the highest praise. In the Spanish translation of Robertson's book *Essays in Monetary Theory* (Madrid, Aguilar 1961, the original English version, London, 1940) it appeared in the last chapter of the work. The original English version did not contain this last chapter (chapter XVI) and it was added to the Spanish translation with permission of the editors of *Económica*, King and Etaples. The book in question was translated by a good friend of Bernácer's at the Bank of Spain, José Fuentes Ruiz, with the editing and prologue written by Bernácer.

He set forth the core of Bernácer's thought extremely clearly with respect to the theory of disposable funds to, in the end, make a brilliant criticism, which shone with the sharpness and education of someone who had spent many years studying the agitated birth of macroeconomics. Criticising is not destroying. Criticising is building by shaping and moulding. It is a writing task that is auxiliary to that of sculpture, in this case the creator of such and such economic system.

Keynes was polished by Robertson and Bernácer was not freed from this constructive criticism. Mexican Dr Josué Sanz was also an important critic, perhaps confused by the rising Keynesian star. There were no critics in Spain, given that there weren't even any attempts to get to know his work. Indifference and scorn from our country have filled his work with the sands of time. This sand does not destroy or build or sculpt, it hides something without showing it or revealing it. It is a shoddy task, born of mental banality.

Robertson undoubtedly acknowledged the similarity between Keynes' and Bernácer's thought. For both of them, interest is born outside of production. In general terms, it is born as the result of the connection between liquid funds and a mass of income-yielding assets. Given that interest will thus be freely generated, it acts from outside as a 'containing wall' *against the employment of funds for industrial uses*. If the money removed for speculative aims (Bernácer would say income-based) could be left in freedom, interest would decrease and the industrial system would be pushed towards full employment.

Robertson said that Keynes and Bernácer were similar up to this point, and similar as well in a mistake they made... 'in their incapacity to recognise the productivity of investment funds as a determinant of interest on the side of demand...' (*Essays...* page 251). And Keynes also erred in finding a strictly-monetary theory on interest. Bernácer fell into another mistake that is expressed hereafter.



I believe readers know where interest is born for Bernácer. I will repeat it nonetheless before continuing with Robertson's criticism. Interest is a strictly-monetary phenomenon, since it is born from and due to the existence of money. Unlike the excessively-monetarist Keynes, the Spaniard believed that money in itself does not express anything, while an economic category like income does express something. This is why he called his theory income-based or functional. The part of money or income that is liquid funds (Robertson's loanable funds) is savings, but not all, only that which is not capitalised or free savings or, better yet, disposable funds. These disposable funds  $D$  are exchanged for income securities or income goods (Robertson called them income-yielding assets. *The percentage profitability of these collected and placed assets is called interest. This interest is basically born from goods that are not wealth or national product but rather past wealth, sterile assets from a productive viewpoint.*

Given that any loan can be placed in these speculative activities and earn interest, if they stop executing this function, interest is deprived. It is a cost of opportunity. Given that the cost exists, all loans will accrue interest. In itself, from the nature of savings and loans, interest has no intrinsic reason that explains its existence, if not due to the existence of financial market assets. This is how I have understood Bernácer throughout almost all his works. But there is a small detail that, like a tiny grain of sand that falls into the perfect mechanism of a patiently-assembled watch, obstructs its operation. The grain of sand is Bernácer's statement that land is the asset that genuinely accrues rent, a statement that is directly shared with David Ricardo and Turgot. Stated differently: *The earth is the income asset par excellence*; the mere possession of land generates income for whoever owns it. If this party gets rid of it, it is at least because it is compensated for by the *differential* rent of this land. Then if loans, which are cessions of savings, potentially stop acquiring land, it is because they are waiting to obtain compensation that is at least equal to the percentage return on this land. These words by Bernácer in *A Free Market Economy*..., published 15 years after Robertson's criticism of Bernácer, may help clarify this concept

'I must examine Professor Robertson's criticism, which rated my theory as a piece of physiocracy... The truth is that, if the origins of interest are on the income-asset market, that all income goods owe their origin to loans, except for land, and that the loan with interest presumes land's existence, it is obvious that the first cause of interest is profitable land and its exchangeability for money. This reminds us of the physiocratic idea of the *produit net de la terre*. Physiocrats attribute income to the forces of nature; this was the core of their doctrine: but we know from Ricardo that it is not the profligacy of nature, but its stinginess that does not provide us with enough top-quality lands, the cause of territorial income, whose origin must be sought in differential productivity...'

I will continue explaining why land comes into line with income assets. More than lining up, they are put in the first row. Income assets or financial assets or income securities, or income-yielding assets according to Robertson, generate income  $R$  (not productive). Land also generates income (more income from top-quality lands). Since land is exchangeable for money and it is clear that a loan, which can acquire land and doesn't do it, stops earning interest or percentage income, the ultimate cause of interest is income from lands. And income assets or financial assets have their origin in loans. Since they generate profitability like lands, this is how loans generate interest.

Bernácer continued:

'Interest exists because there are income assets, including land –which is a fact independent of all theories– and since these can be exchanged for money, money acquires the property of earning...' (page 177).

In *Society and Happiness*, which Robertson surely did not read, he clearly expressed this term (I don't know if correctly or interesting) about income from the land and he repeated it 29 years later. It was clearly commented upon in the brochure sent to Robertson, so much so that Robertson took hold of it to make a convincing criticism.

Robertson said:

'Mr Bernácer acknowledges physical productivity as the primary source of interest; but not believing in the productivity of free capital or funds applicable to loans ('loans in themselves are not the cause of interest'), he turns to seek refuge in the productivity of nature. In this piece of neo-physiocracy, I fear that he seems to fall somewhat behind the times; although he is some centuries ahead of the neo-medievalism of Keynes.'

It is an honest and tragic criticism. It is tragic because Bernácer did not need this neo-physiocrat plot of land. Indeed, throughout the present book, I have done without it, as Bernácer did in reality.

Bernácer made a mistake in placing land income with securities. He should have changed roads and placed it on the ordinary market, specifically on the production market; and more so, pair it up next to capital goods. Neo-classicists understood that the same thing happens to capital equipment as land, which is that it is subject to the biblical law of diminishing returns of production. Of course this is my evaluation and not Robertson's.

If land generates last profitability and Bernácer made the origin of interest rest there, the immediate criticism of Robertson can be nothing less than justified. But Bernácer, who knew about Robertson's criticisms, did not take back what he said, but rather insisted upon it. He repeated it a year later in his article *Monetary Theory and the Market Equation* (1941), in which he responded to Robertson and also, as mentioned, in 1955 in a *Free Market Economy*... Bernácer did not move from this strip of physiocratic lawn.

In any case, economists and scientists in general, who live in their large scientific constructions, forget to set forth what they consider obvious, although the public does not. This may be the case for Bernácer's income from land, which strikes me as a path without signposts. It is the same anxiety caused by David Ricardo. I find his pure classicism odd, with his monetary prejudices that were so close to the classicists, given that he was, like Keynes, a stock market speculator. I also find it strange that he took an effort with this issue of land income, when he could have focused on speculative income. And it is this land income on which Bernácer nails in his boots, with so much security that it makes me apprehensive. Why not go back and reread Ricardo and Bernácer along with (prejudices included) advanced, contemporary classicists and monetarists?

A third criticism Robertson made of Bernácer was, as he admitted, merely formal. He first paid homage, along with appreciation, to Mr Bernácer's attempt to think dynamically in terms of time intervals. He then stated that there were points of confusion in the exposition. For example, he discovered a source of confusion between two lapses: The inequality emphasised by Bernácer between the execution of a production work and when the money is received, and the time that passes between the execution of the job and the sale of the product on which the work was done. I can imagine that the first interval is zero. In this case, Bernácer argued that there can be disequilibrium if the pace of spending in production –joined to the pace of the inflow of monetary income– increases or decreases with respect to the sales rhythm. Up to here, he could be compared to Mr Hawtrey, for whom excess spending over income would lead to a decrease in stock levels. But the Spanish economist did not do this, since he then spoke of a third lapse

that I had not heard of before: the interval between receiving incomes and when they are paid out.

Robertson finished by admiring the luminosity with which Bernácer expressed the processes of hoarding and de-hoarding, although he does it... *despite his algebra*.

Bernácer did not make Robertson wait for a reply. The following year in 1941, in the cited article *Monetary Theory*... he answered:

‘I am not opposed to considering the period of time null ranging from production until the reception of payments; the generality of these are normally paid until the product is finished and can be sold to consumers, so that payments are generally received before the products are put onto the market.

What concerns me though is the lapse of time between the reception of payments and when some of them are disbursed. In this period, there is a part of income that is not spent and that, therefore, is totally disposable income. They are disposable funds!

I understand that this last criticism by Robertson and the response by the criticised party are episodic. It is an expositive formalism. Robertson, who was always concerned about dynamic analysis by period, understood it very well, so much so that he paid homage to Bernácer.

What I am concerned about is that in this article (1941, *The Monetary Theory*...) answering Robertson’s criticism, Bernácer did not answer the criticism of being a neo-physiocrat that was made to shine light on the origin of interest. If interest is a key piece of all self-respecting macroeconomic thought and this result is criticised, I do not understand why he did not take advantage of the occasion to defend his strong position.

## 21.4. ROBERTSON'S THEORY ON LOANABLE FUNDS

I try to be honest in this book, more than sincere and, at least honourable, as I said Robertson was with respect to his admired Germán Bernácer. I want these words to be used as a balsamic introduction to monetary theory on Robertson’s loanable funds, whose resemblance to Bernácer’s funds is strong. If this comparison causes readers to feel suspicion, this concern will belong to your scientific task and not mine.

After criticising Keynes’ theory on interest, he formulated his theory on loanable funds. This criticism had a precedent in Robertson’s 1926 work *Banking Policy and the Price Level*, which entailed a painstaking, although somewhat myopic, delving into the turbulent waters of the flows of income. This experience let Robertson criticise Keynes and, in turn, launch his theory on loanable funds. This theory is a design or map of the hydrographic basin of these monetary flows, which he called loanable funds, so well known by him, given that he dove into them. But Germán Bernácer knew them even better, who did something better than enter into these fast-flowing waters. What Bernácer did was rise up in an aerostatic balloon, that of his imagination and intelligence, and observe this hydrographic basin with an incomparable panoramic vision.

He drew up the hydrographic map and explained the multiple directions of monetary flows, which are different types of disposable funds. This map reached the hands of Robertson at the beginning of the twenties (23 or 24?) and he himself admitted the possible influence in his work. Let’s look now at the cited influence. The map is the article on *The Theory of Disposable Funds*.

In *Banking Policy*... he tried to imbue monetary phenomena with energy, making them appear by days, where these days were whimsical periods of time that were not related to a solar day. Time comparisons were a deep and constant concern of Robertson and made him able to criticise Keynes, whom he

considered the static economist. Keynes cut time into a specific moment and took a snapshot. He measured what had already happened on the market.

Robertson was interested in knowing what happened in the intermediate period of time and, to do this, he didn't need a photo camera but a video camera<sup>129</sup>.

To Robertson, the interest rate was the market price to rent something that Marshall called free or floating capital and that others have agreed to call disposal of capital or control over capital. Modern writers seem to have come to an agreement to call them loanable funds or funds to be invested.

The amount of loanable funds supplied on the market at any price are comprised of the following elements, according to Robertson (some of them may be negative). (*Essays in Monetary Theory*, chapter dedicated to Mr Keynes and the Interest Rate, page 5, Spanish translation done by Germán Bernácer):

1. Current savings made during the period.
2. Detachments, or savings that were made in the past and are freed now from being part of fixed capital (buildings, tools, etc.) or working capital (merchandise being produced or in storage) and thus become available to be reincorporated to these capitals or other things.
3. Liquid de-hoarding, previously saved or previously detached, money taken now from the vaults to place on the market, minus the money that is currently being saved or detached and that is kept outside the market.
4. Liquid supplementary bank loans (naturally including placements in securities). At this time there is no distinction between the different markets. In other words, they are the gross amount of new bank loans granted during the period minus repayments made to the banks, proceeding from decapitalisations or current savings.

The amount of loanable funds that the public wants to remove from the market for one price or another can be analysed, according to the aims for which they require the funds, as follows:

- a) Funds allocated for investment in the establishment of new increments of fixed or working capital.
- b) Funds allocated for investment in the conservation or replacement of existing fixed or working capital.
- c) Funds allocated to remaining hoarded.
- d) Funds allocated to consumer spending, both individual and collective (i.e. through state subsidies, etc.) in excess above current earnings.

The first four points explain the supply of loanable funds and the last four the demand for them. Why does the public want these funds? Mainly to finance investments, including stocks and products in production.

Deceased Spanish professor and mutual friend of Robertson and Bernácer, Jesús Prados Arrarte, commented that the Englishman would have to alter his opinions when looking at durable goods, especially houses. However, his conclusions will continue to be true.

Savings is a function of national income and interest. Robertson is clear that it comes from income and depends more on income (Böhm-Bawerk as you can see, is already forgotten) and, to a lesser degree, on interest. At the same level as income, savings leans towards interest.

Savings partly come from domestic economies and partly from companys' undistributed profits. These savings are considerable and interest influences them only as a lure or stimulus to replace equity with

loanable funds and vice-versa. It is clear that current studies about company financing strengthen Robertson's theory on loanable funds given that, at least in developed countries, these come from self-financing or undistributed company savings.

## 21.5. BERNÁCER AND ROBERTSON'S THEORY ON LOANABLE FUNDS

I acknowledge that the dynamic study of monetary flow and knowledge of the income dynamic were Robertson's ideas. I will now comment on the possible influence, if there was one, of Bernácer while also making some criticisms. These are directly born from Bernácer and others from me, but using Bernacerian tools. The first thing I must stress is that this concept of loanable funds seems to me like a monetary fund, or the provisions of an errant vagabond who tries to place and sell his goods in the towns he passes through. It is floating, loanable, etc. money and is nothing but savings, which is born from income and offered by some, demanded by others. Since savings does not start out capitalised and its incorporation to investment is not magically instantaneous either, it is well-known that it floats for a period. But a cork floats in a pond without going anywhere and a tree trunk also floats in a river so that it reaches its destination downstream, which is investment. The two types of floating are different. Nonetheless, Robertson's logical discourse has something when he says that they are loanable funds, that they have some inducement to the intention of loans.

Another point is the following: Bernácer differentiated two types of money, ordinary and financial money. He had bad luck with the names or adjectives, given that the money is the same, for example bills; but what is not the same is the functional operation of this money whether it is in the financial market or in the ordinary market. Bernácer took the idea of money on the financial market somewhat from Marshall when he spoke of free or floating capital and American Seligman when he spoke of money in the sense of Wall Street, or the stock exchange.

This floating money has that status because it is not subjected to the ironclad and rigid discipline derived from consumer and production needs. Floating money floats because there are last disposable funds or disposable funds properly speaking. The others, consumers' and producers' disposable funds (first and second degree) have such an ephemeral life that they practically don't exist. Their life is something like subatomic particles whose life is a fraction of a thousandth of a second. And they live because they are claimed by the urgent needs of consumption and production. They are needs that create an ironclad and rigid discipline in monetary flows. Then, if there is floating money, it is because a part of income has not been consumed and has been saved,  $S$ . But that is not all of savings, but the part that has not been capitalised ( $S - S_k = D$ ) and is called disposable funds. And floating or loanable savings can be in bad shape if, as Robertson stated, its aim is net capitalisation, replacement and consumption (and hoarding).

The meaning that Robertson gave it can be none other than the fact that this savings born from income is on the road to investment, in which case it is not floating, *but on the way*.

It may be most interesting to note that Robertson, like Keynes and Hawtrey, did not realise that loanable savings is lent and requested for speculation and not all for production activities. Why didn't he list speculation as a motive for demanding savings? An economist squanders a magnificent occasion when not renouncing income-based ideas to speak of supply and demand of savings for speculation. I am sure

readers could tell me that Keynes did indeed speak of speculative demand. I respond that he effectively spoke of speculative demand but money, a stock of money; and what I and Bernácer and Robertson speak of is the supply of and demand for savings (which is why I call them income-based), not simply of money.

And it is this appreciation where the problem and confusion arises: if savings were demanded for speculative activities, Bernácer's disposable funds and *part of Robertson's loanable funds*, it is clear that not all of this savings would be capitalised and the macroeconomic equation would be overturned.

Is everything savings? Almost everything. Robertson's detachments are past savings connected to fixed and working capital (Bernácer gave an extensive explanation before Robertson about these types of operations). Net de-hoarding is old savings that comes out of hiding. What remains is the bank loan or banking money (the latter term my own).

Let's compare these implications with *The Theory of Disposable Funds*, given previously by Bernácer. This comparative sequence will be done, one by one, relating demand with the supply of loanable funds.

Current period savings are total system disposable funds and they will be lent for consumption and production. And also for hoarding (Robertson) and neutral financial market operations (Bernácer).

The detachments of savings done in the past, which are free of their original attachment to fixed and working capital to now be lent, are their sales operations to Bernácer. They are transformed into producers' disposable funds that are recycled into production and, once again, no longer disposable funds. Remember that sales of fixed capital to other entrepreneurs are called realizations and of working capital are called liquidations. If they are lent (Robertson) for fixed and working capital and for replacement, they are obviously called reinvestment.

De-hoarding did not mean anything to Bernácer and did not entail any operation. But if this de-hoarding is lent to invest in fixed and working capital, it is logically called investment (Bernácer).

If new bank loans are lent to investors in fixed and working capital, it is also called investment. If it is lent to consumers, it is for consuming, in which case this money is no longer available.

If the supply of de-hoarding is what is given to consumers, this entails a net absence of disposable funds, since they have been dumped into consumption.

Is there something left? To Robertson no and to Bernácer yes. A part of savings and bank credits (new money) remains that is not capitalised or hoarded, and these are net disposable funds. These disposable funds are supplied on the financial market in exchange for our financial assets. This operation does not imply an absence of disposable funds, since they become the net disposable funds on this market.

### *The meeting in Granada*

Perhaps the destiny of the British and Spanish economists, after maintaining epistolary communications for many long years, without wanting it or provoking it, caused them to meet. It is not just the story that is interesting to me but the psychological aspect of it, increased by the polluting air of my unjust but perspicacious suspicion. I am referring to the glacial cold with which Bernácer received the effusive Robertson. The warmth of Robertson's greeting was not cooled down by Bernácer's ice.

An abundant correspondence started in 1940, the year when Robertson's article about Bernácer was published. It was a paper bridge that hid the steel beams of a thought that both of them knew extremely well. The bridge really started at the beginning of the twenties, when Bernácer showed Robertson his

work on the theory of disposable funds.

My tenacity has been what has driven me to work so untiringly on Bernácer's works, as well as trying to assure its incorporation into modern macroeconomics. But chance, or fate if you will, also wanted me to work with Jesús Prados Arrarte, an admirer of Bernácer, although he didn't know all of his work. He was the one who presented Robertson to Bernácer in Granada in 1954.

And it was also the incredible web of fate that put me into contact with Professor Emilio Figueroa to talk about issues related to monetary policy. Through these conversations, his relationship with Bernácer came up. Emilio Figueroa knew him quite well and intimately and in the peaceful days of retirement, the flame of his admiration had not gone out. He was his colleague at the Business Studies School, where he taught Economics and, also, at the Bank of Spain, eventually holding Bernácer's post. Emilio Figueroa was a witness to the introduction between Robertson and Bernácer.

Jesús Prados and Emilio Figueroa have provided me with enough information to be able to freeze-frame a photograph of this meeting, although a photo is not enough to explain the coldness of the introduction. However, his family, who knew his heart, insists on one of his most-defined personality traits: *his shyness*. It was shyness and not humility, as it may have seemed, that muffled his emotions. With my non-scientific suspicions and others, I would like to re-enact the memorable introduction that took place in the city of Granada.

Robertson and Prados Arrarte were talking in the restaurant of the hotel where an international banking conference was being held. These types of meetings become a pretext for making contacts, informal chats, the gleaming of knowledge and, frequently, the start of fructiferous relationships. Prados thought to tell Robertson that Bernácer was there in the same building a floor below. He thought that Robertson might be interested in meeting him. They went to where Bernácer was. And they met after so much time, face to face, Robertson and Bernácer. The Englishman made a show of Latin temperament and towered over the slight Bernácer, hugging him enthusiastically. The force and maybe even the noise of this hug accompanied a gradual reddening of his white face. The Spaniard remained rigid, impassive, glacial, and a growing paleness fought to steal the colour from his dark Mediterranean face. His arms hung limp at his sides; I am not sure if they were imprisoned by Robertson's arms. Prados and Figueroa witnessed the meeting, probably a bit unsettled. But neither they nor anyone else knew what hung between these two figures. *The General Theory*... separated them.

Prados, who told me the story, days after being appointed an academic of the Spanish language, laughed and said that Bernácer's face looked as if he were ill. Figueroa, who knew Bernácer's reactions well, said that he was very reserved. I think his family came closer to the truth, which I can never really know. They said their father was extremely shy. His widow said that he could have died from his timidity.

Imagine poor Bernácer suddenly being introduced to Robertson, the invisible man he had imagined so often and so vehemently debated and to whom he owed part of his ephemeral fame. And, still not recovered from the surprise, he suddenly received a warm and effusive hug from this Englishman. It was much more than he could handle in a few scant seconds, the timid, reserved and prudent Bernácer.

But even so, even the most irreconcilable enemies meeting at a social gathering show, at least, a modicum of courtesy. There are words and gestures that society has imposed on culture. But no, Bernácer was like Sarah, Lot's wife, turned into a salt statue.

What happened? Nothing happened. This is what a scientist would say. However, since I am exhausted from my doubts and, indeed, this work is a way of exorcising them, I can infer from other hints, like glass when sunlight hits it, fractures into a thousand sparkles. I know that this doubt made Bernácer uncomfortable throughout his life. But it was a pebble in his shoe and not in his brain.

He met Robertson face to face, the son of the English school and the great Keynes' blood brother, who knew the map of *The Theory of Disposable Funds* well. Like mirrors placed in front of each other, instantly reflecting images, the two met. Bernácer knew Robertson's theory and knew that it was an imperfect adulteration of his theory and the Englishman knew that Bernácer knew. And between them, the cynical and seductive spirit of the great Keynes, criticised by Robertson and humiliated by Bernácer. Robertson's hug could not have been closer because *The General Theory* separated them. Bernácer also knew that he walked the damp fields of Cambridge with John Maynard and that he told him about *The Theory of Disposable Funds* step by step. And Bernácer also knew, beyond any doubt or suspicion, that the great glory of the monetary theory of macroeconomics that Keynes had usufruct of, belonged to him. That this glory should have been for Bernácer... Robertson knew it. And thus, face to face, he met the source of the torment of so many years of tenacious suspicions, pestering Bernácer throughout his life like a hive of irritated bees. I knew about this hive of bees and about his doubts.

Perhaps Bernácer's icy reception of Robertson was not irritation, however, but bewilderment, of not knowing what to do, of confusion. Robertson had another style of relating with scientists that was very different from the Spanish way. He was quicker and intelligent. He had admired him since 1940 and, as if it were nothing, gave him a big hug. It was the least he could do. In Spain the matter was different. A jungle of ominous sounds in which no animal could be seen that would face the consequences and attack, listened intently around Bernácer. It was the conspiracy of silence (Figuerola, Savall). There wasn't a conspiracy though, because in the end that would have meant they knew about Bernácer's work and in Spain, economists only knew about Keynes' work. In fact, Figuerola was one of the pioneers in disseminating Keynes' work. Although the heavy curtain of silence also fell on this man, Bernácer's student.

In Spain they did glimpse the genius of his work through the sparks that returned from abroad via famous economists: Rueff, Piatier, Montgomery, Haberler, etc. who all knew his ideas. But he irritated them exceedingly or they simply didn't believe it and, thus, through an aggressive and studied indifference, he ended up in the shadows, like an underground river flowing beneath a desert.

Beyond these suspicions about the English, not about the Spanish, are the facts; and the facts, steps that must be trod by the scientists who talk not about copying but a scientific continent parallel to the English one. The fact that Robertson received and read *The Theory of Disposable Funds* in the twenties has been acknowledged, as well the mere possibility that it influenced Robertson and the admission of a probable subconscious influence (Robertson's own words) of Robertson on Keynes from Bernácer's work. However, above everything else, the honour and nobility of Robertson is unquestionable, who told the international scientific community about Bernácer and, on the rebound, the Spanish community.

*Mr Hawtrey*

To my way of thinking, in this extensive and prolific network of scientific contributions that appear in the macroeconomic arena, there are two flows that are the central rivers. One is Bernácer and the other is Keynes. But it is undeniable that many others were born in the mountains of the past and others from



nearby springs of the present, who claim their scientific contributions. One of them is Hawtrey, who merited Bernácer's attention. He saw his ability to observe reality without unnecessary scientific complications. It is frequently the scientist who approaches the object of his study with the magnifying glass of the banker and the ruler of the accountant.

Bernácer did not execute a complete doctrinal critique of Hawtrey like he did with Keynes, but rather saw him as a clearing in the forest to clarify different concepts for him.

We are in the ordinary market where consumer and capital goods are born from production. Income comes from this production, where part will be saved and part will be spent on consumer goods.

He said that Hawtrey acknowledged a difference between the value of production and the income made up of the amortisation of fixed capitals. But Bernácer also said that Hawtrey needed to recognise that amortisation is a cost and a component of the value of production. In other words, profits are obtained from the product's sales price, which is income in the end, and part of this is not distributed and forms a fund, with which depreciated capital equipment is demanded. The fact that income is undistributed does not mean it is no longer income and the fact that the capital equipment is not new capital equipment does not mean that it is not production of capital equipment.

Sinking funds, said Bernácer: 'are a part of purchasing power born of production, which are available to exercise demand...' (*The Functional Doctrine...*, page 260). It seems as if Hawtrey wanted to differentiate different levels of production and income arising from this production, due to the fact that part of income is undistributed and that replacement investment (my term) does not involve a new *net* flow of capital goods.

What does it matter! Whether income is distributed or not or whether a company or an individual receives it? Sinking funds are part of company income; when it is distributed, it is consumers' income and when it isn't distributed, it is income that legally and partly belongs to consumers and really belongs to the company. It is like consumers' savings: that the company, as such, exercises a demand and the capital equipment replaces the depreciated equipment.

Thus, Bernácer said that Hawtrey confused income and disposable income, and that the fact that income is not disposable does not mean that it isn't income. Naturally, consumers are not the ones who spend disposable income, but others, companies, for example.

If what Bernácer said of Hawtrey was true, it is possible that the latter was skirting the cognitive borders of Bernácer's last or authentic disposable funds, or Keynes financial or speculative market. This could be true since sinking funds are placed preventively and speculatively (and temporarily of course) on the speculative market, to later bring them to the ordinary market as replacement investment. The fact that he somehow understood this idea but didn't develop it may be why he stressed the non-potential demand of consumers.

Along the same line as the similarities found by Bernácer between his work and Keynes' (income, business and saving deposits), he mentioned a similarity to Hawtrey.

He established a similar classification, breaking them down into three groups: consumer's cash balances, trader's cash balances and investment market cash balances.

This classification is very similar to Bernácer's three types of disposable funds: First degree, second degree and the ultimate or third-degree or disposable funds properly speaking, which correspond to funds of consumers, producers and capitalists or savers, respectively.

It is not strange that those interested in the physiological explanation of a sale, against the classicists who did not consider it constant, would independently find three flows comprised of the same monetary waters.

As we know, Bernácer thought that working capital was the same for producers whether they produced consumer goods or fixed capital. He believed that many authors suffered from a general confusion (current authors) from which Hawtrey did not escape.

In *Capital and Employment*, he often mentioned that banks have to irrigate two fields of very different sizes: one that is reached via bank loans for working capital, established by the merchandise production sector, different than instrumental goods. This merchandise tends to be sold to merchants to form part of their stock. The other field is reached by the capital market, which consists of the production of instrumental goods.

One can conclude from this statement that consumer goods are financed with working capital, while capital or instrumental goods are financed by the capital market<sup>130</sup>.

Production does not have to be financed differently, if taking into account that, for the producer in general or macroeconomic production, everything produced, whether consumer or capital goods, is all working capital.

When the fixed capital is taken away by buyers, removing it from the market forever and adding it to their factory for production, is when it can be called fixed capital. And don't forget one of the basic principles of Bernácerian macroeconomics that says that in order for equilibrium to exist, working capital (*all* production) must be financed with new money and fixed capital with system savings. If this does not happen, Bernácer emphatically stated, then financing of working capital with savings is depressive to the system.

He quickly pronounced Hawtrey correct (against Keynes) when he refused to admit that stocks accrued by producers or sellers, due to weakness in sales, was capitalisation. Capitalisation is a deliberate act, like consumption. He said the other was failed production. Inventory capitalisation is not that, whether it is in consumer or capital goods. Instrumental goods or capital is investment or it is capitalisation, the latter at the time when it changes from being working capital for the producer into the fixed capital in which he wanted to employ his savings. Clearly, working capital in instrumental goods cannot continue to be called fixed capital when it is still unsold and even less so for consumer goods pending sale. I believe that Bernácer, in agreeing with Hawtrey here, was referring to the book *Capital and Employment*.

Risking much, I believe Hawtrey was faced with the tough problem of fitting the piece into the puzzle; the real piece of unsold merchandise (poorly called inventory investment) with the monetary piece, income that is not spent and not hoarded. This problem did not exist for Bernácer after 1922, as maximum disposable funds were this monetary piece.

And I return for the thousandth time to the central point of macroeconomics, or the identity  $S = I$ . He believed, despite everything, that Hawtrey's position was correct, when he said that this identity is only true in equilibrium. Lack of equilibrium will occur (and he also agreed here) by an absorption of cash balances. It is enormously similar to Hawtrey's solution if not for his confusing different types of liquidity and disposable funds, unlike Bernácer. Our economist said that Hawtrey was prevented from reaching the correct solution due to the accumulation of different disposable funds of consumers, producers and capitalists, and adding the creation of money to this.

To be clearer: If Hawtrey had known about Bernácer's theory of disposable funds from 1922, specifically, if he had known of the passive or neutral metabolism of maximum disposable funds, he would have formulated the same equation as Bernácer:

$$\text{Income} = \text{consumption} + \text{capitalisation} + \text{disposable funds}$$

$$\text{Production} = \text{production of consumer goods} + \text{production of capital goods}$$

where:

$$\text{Savings} = \text{Income} - \text{consumption} = \text{capitalisation} + \text{disposable funds}$$

This is the piece of disposable funds missing from Hawtrey's puzzle. Unfortunately for Keynes and present macroeconomics, income is appraised only in consumer goods and capital goods. They are missing a third good, or anti-good, or illusions of wealth: *our* financial assets. And it is not that financial wizards like Hawtrey and Keynes and modern macroeconomists did not know about them, but that to them, financial assets represented a type of wagon carrying savings-coal to the production ovens of capital goods, forgetting that these wagons are the object of innumerable purchases and sales, which are done with period income.

In general terms, Bernácer's evaluation of Hawtrey was quite positive.

*Walras and desired cash balance, Keynes and liquidity preference and Bernácer and disposable funds*

Relating analogous concepts in the labyrinth of science, unlike what it may seem, is a difficult task. It is more intuitive. Walras' desired cash balance and Keynes' liquidity preference are comparable concepts to Bernácer. It is not that other brilliant economists have not noticed this similarity, but that the relationship established by Bernácer is so simple and elementary that it is almost amusing. This comparison is a methodological pretext to remove unnecessary clothing from economic science, of mended and worn terms and concepts.

Disposable funds also enter into the game of this comparison. The article in which this analogy appeared is entitled 'Metric Economics' and was published in the magazine *Arquímedes* in 1955-56. Bernácer was around 72 and had already read *The General Theory*... and the post-Keynesian rash had already strengthened, not modified, his own body of work. This article, due to its real and apparent simplicity, established a small piece that let macroeconomics be understood quite simply. And it has merit given that part of Walras' analysis, which is microeconomic and thus universal and macroeconomic, finishing with Keynes and his own, which is monetarist and macroeconomic.

The term desired cash balance (*encaisse désirée*) is a concept developed by Walrus in his general equilibrium to record the monetary provisions that the subject wants to keep to carry out his transactions. It is money that is neutral. Money desired by the subject can increase or decrease. Let's look at two things: The first is that these operations have the possibility of money increasing or decreasing. The second question is: What is the value of the money?

Like any other asset, money is desired more or less intensely. If there is more desire, the estimation or value of the money increases and if there is less desire, this value will decrease. If it is desired more, the only possible operation necessary to obtain it is the sale of assets. Otherwise, the purchase operation is what makes it possible to part with money. And money is not rejected because you don't like it or you desire money because it is beautiful, but because the buying and selling of goods and services are the

operations that make liquid balances or desired cash balance increase and decrease. Obviously, I will rule out theft on the one hand and giving money away on the other, as well as counterfeiting, to maintain a determined and desired cash balance. These operations are not strictly economic.

Let's look at the value of money. Money is worth what can be bought with it. The temporary renouncement of money also has a value and I could thus say that the value of money is interest. Purchasing power and interest are closely related. It is a very simple relation.

A greater demand for money, like any other good, makes the price go up, which is interest. How is this greater demand for money manifested? By offering goods in exchange, which makes its price drop. Thus, an increase in interest and a decrease in prices will be two sides of the same coin. Excess supply makes its price go down, making interest drop. Money is supplied in exchange for goods. A greater supply of money means an increase in the demand for goods, which makes their prices go up. In this way, a drop in interest and an increase in prices are correlative.

Thus, Bernácer said: 'It is clear that desired cash balance is the opposite of effective balance, which is was called supply and demand before, if it has to mean something quantitatively and mathematically economic ...' ('Metric Economics', page 52 of *Arquímedes* magazine).

As seen, it is a direct road to explaining the relationship of the prices of goods and money, which leaves out the winding roads set forth by Keynesian macroeconomists. Having finished with Walras, let's start with Keynes.

Liquidity preference is the preference for money, which is the most liquid asset. I will follow the same argument as with desired cash balance.

If you want to increase liquidity preference and satisfy it, an operation must be performed that makes this satisfaction possible. Similarly, whoever wants to decrease liquidity must perform an operation to contract this desire. In the first case, the operation the economic agent does to satisfy his thirst for cash is the sale of goods or demand for money. In the second case, the economic agent can get rid of liquidity by buying goods. These are just old names for old concepts, said Bernácer sharply. He who wants more liquidity sells and he who wants to keep less buys.

And you already know that, given constant monetary supply, an increase or decrease in liquidity preference makes interest change and also involves (the same thing) operations of buying and selling goods, then we can conclude:

An increase in liquidity preference will make the price of goods drop and will make interest increase. A decrease in liquidity preference will make interest drop and prices go up. The line of reasoning is the same as with Walras. *Just replace the term desired cash balance with liquidity preference and the conclusions will be identical.*

The conceptual matching between Walras and Keynes is the following: *Cash balance with liquidity and desired with preference.* And don't forget that one thing is desired balance or liquidity, which is no more real than what is found in the heads of economic agents, with the fact of fulfilling or satisfying these desires. The latter are operations of buying and selling goods that are, in turn, the buying and selling of money, whose execution satisfies this desired cash balance and liquidity preference respectively.

Bernácer's attack on classicists and Keynesians is methodologically simple and is thus summarised:

‘Supply and demand of money, without saying in exchange for what, does not make sense, because the act of exchanging money for money requires some qualification that takes away the appearance of an absurd operation’ (‘Metric Economics’, *Arquímides*, page 54).

The matter can be complicated if, as he correctly said, the money market is nothing more than an exchange operation between past money and future money. But it suffers from leaving out a fundamental issue, which is the market derived from the supply and demand of savings. For tricky Keynesian economics, this was no problem given that since  $S = I$ , the price of money cannot change, since the supply of savings,  $S$ , as mentioned, will be quantitatively equal to its demand for investment,  $I$ . Thus, you may be asking: How did Keynes make interest vary? Well, through the variation in liquidity preference.

In order for a group of economic agents to satisfy their higher liquidity preference, another group must be willing to part with liquidity. This detachment is the desire for cash or a lesser desire of liquidity preference.

This lesser desire will be focused, not on any money, but on totally available money. These are Bernácerian net disposable funds. Why? Because first-degree disposable funds, required for consumption, and second-degree disposable funds, for production, are not disposable. Nonetheless, that fraction of savings which is not capitalised (and obviously not consumed) will be disposable.

If one knows that the satisfaction of this higher or lower liquidity preference represents buying and selling operations and that they involve reciprocal buying and selling operations of money, as long as demand is greater than supply, or supply greater than demand, the price of money or interest will vary, as well as the price of goods in the opposite direction.

Bernácer complained, and not without reason, about this useless Keynesian muddle, which hid the buying and selling of goods inside of liquidity preference. In the end, liquidity preference, like the desire it is, is related to the psychology of economic agents, while operations derived from the market, buying and selling, are assessable and measurable economic realities. Bernácer’s complaint finished as follows:

‘Has anything been advanced by transferring the viewpoint to individual desires, instead of looking at economic realities? It has only put economics in a pickle while trying to take it out of a labyrinth.’ (*A Free Market Economy*, page 292).

These issues have been looked at already in this book, in particular when I compared disposable funds with liquidity. From there and other parts, I draw conclusions that will clarify these dangerously similar points greatly.

Walras, Keynes and Bernácer differed in fundamental aspects about the money market. Walras, a classical and neoclassical economist, analysed a *real* and not monetary world. In this world, money was kept (desired and maintained in the form of balance) only for transaction aims. That is, to lubricate operations of buying and selling goods.

For Keynes, keeping money totally liquid (preference for cash money) had a strategic orientation that rested on the opportunities of financial speculators. In Keynes’ world, unlike Walras’, the financial market was joined to the goods market and money divided into two types of operations: transactions with goods and speculative or financial transactions. He did not only differentiate the intentions of economic agents in Walras and Keynes, but in the operations in which this money is occupied via balance in the first and liquidity in the other. The latter group is greater than the first, given that in addition to transaction

operations, it is also bought in financial operations.

For Bernácer, the matter changes. He, like Keynes, said money was demanded for two aims: one, pure transactions and the other, financial. But he never broke with his income-based vocation, as Keynes did, because he incorporated income into these preferences. The part of income that goes to the financial market establishes ultimate disposable funds or disposable funds properly speaking ( $S - S_k = D$ ), and the other part continues on the course of operations derived from the buying and selling of goods and consumption and capital services. I said that Keynes broke with income-based theory because, while his analysis is basically a model for income determination, when dealing with the money market, he did not speak *directly* of income, but rather the supply and demand of simply money.

This kinship between desired cash balance and liquidity balance was not original to Bernácer, as he himself stated. Oscar Lange said that the demand for liquidity appeared in Walras as desired cash balance. Bernácer *also* quoted Deramoudt: ‘Between desired cash balance and liquidity preference, the coming together prevails...’ (G. Deramoudt: *De l'encaisse désirée a la préférence de liquidité* en *Revue d'Economie Politique*, page 383. It is a footnote in Bernácer’s *A Free Market Economy...*, page 289).

Bernácer also said that: ‘The idea expressed by Schumpeter is odd about desired cash balance, and that “mutatis mutandi” could be applied to liquidity preference...’ Then Bernácer spoke his mind about some of Schumpeter’s lines that said:

‘This idea of Walras of desired cash balance, which returns again in Marshall's analysis and seems to be recently revived, is one of the elements of the least value in the powerful structure created by this great Frenchman. It is inoffensive only in its stationary status, although even so it surrounds an erroneous representation of facts. (Schumpeter: *Business Cycles*)’.

As you can easily imagine, nobody took an interest in relating Walras' desired cash balance to Bernácer's disposable funds. Our economist, unlike Keynes in England and in the world, did not have anyone in Spain to develop his theory, and even less someone to relate it to the Frenchman’s theory. This comparison was only done by Bernácer himself, clarifying their differences.

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<sup>129</sup> Remember Bernácer’s comment about Robertson’s point in *The Functional Doctrine...*, page 219. Bernácer carried out the division of time into periods, or monetary dynamic vision, in his book from 1925, *The Origin of Interest...*, page 244 notes.

<sup>130</sup> To prevent confusion, I must state that when speaking of the capital market, I am referring to the savings market. This is Hawtrey’s meaning common to normal terminology.

## The bitter Mexican controversy

Keynesian pollination had travelled around most continents, bearing both fruits and controversies. Some Keynesians, like Doctor Josué Sáenz, debated with others who were not exactly anti Keynesian, but simply macroeconomists, such as Bernácer. They were bitter and impulsive discussions, sweetened by the appearance of academic civility. They were indeed driven by vehemence, but also by sincerity and purely scientific aims, as you will see.

The event in question took place in the prestigious Mexican economic-scientific magazine *El Trimestre Económico* between 1941 and 1947. This period is very significant in economic sciences, since many of Keynes' ideas matured during this time, mainly in the United States and England.

It all started when Bernácer published an article entitled 'Monetary Theory and the Market Equation' in this magazine in 1941 (volume VIII, no. 2, July-September, page 169-204). Dr Josué Sáenz responded quickly that same year in the same magazine with an article entitled 'A Note on Monetary Theory and the Market Equation of Germán Bernácer' (volume VIII, no. 3, October-December, page 521-525). Bernácer did not read the response until six years later, when he responded once again with an article entitled 'Keynesian Disquisition' (January-March 1947). Josué Sáenz, a Keynes admirer and defender, responded to Bernácer's attack on the English economist with another article entitled 'Ex Post Bernácer' in the same magazine again.

The clashing of the academic sabres is not what interests me as they move from defence to quick attacks, but rather the information I received about a very interesting period that was watering the macroeconomic tree. I am also interested in this discussion, because it lets us review and detail Bernacerian thought with greater precision.

Bernácer did not hide his gratitude to Professor Josué Sáenz for translating his article *The Theory of Disposable Funds* for Professor Robertson. Thus, readers should understand that Professor Sáenz was already quite familiar with *The Theory of Disposable Funds*. And of course he was also familiar with Keynes' *General Theory*, so this polemic has great interest.

### 22.1. THE DEBATE

As stated, the origin of the debate started with Bernácer's article entitled 'Monetary Theory and the Market Equation' (1941).

Since the last two articles contained the summary of both of their bodies of thought, I will focus on them. I will start with Bernácer's article from 1947 'Keynesian Disquisition', separating them into the same chapters as he divided his work. And since Professor Sáenz responded one by one to these chapters, in turn dividing his response into the same number of chapters as Bernácer, it makes sense to follow the same outline.

### *Keynesian syllogism*

Keynes' version to which Sáenz *later* gave a *new* version was the following:

a)  $Income = Value\ of\ production = consumption + investment$

b)  $Savings = Income - consumption$

c)  $Savings = Investment$

The base error consisted of confusing real and monetary concepts. One thing is consumer spending and another is the real consumption of the good.

With respect to savings, investment and capital articles, the matter also changes, although it all corresponds to investment metabolism. Money is saved (monetary concept); capitals are factors of production (real concept). Investment is the transformation of money into these capital articles. Capital is not money and investment is the financing made with money from purchases and/or creation of capital goods. It is clear that if real consumption and capital are connected to their respective prices, a monetary expression is obtained, which is consumer spending and investment respectively.

And what is the importance of this conceptual and semantic disquisition? A lot. Let's see why. You can spend three times as much on consumer goods than the year before and consume the same if prices have increased (tripled). Its immediate meaning is that this is not the reason why three times more consumer goods have been removed or demanded. In the formation of capital, there are three intimately connected processes: *savings*, *investment* and *capitalisation*. Sáenz defined it well (Bernácer said about him in reference to Keynes that: '...it cannot be considered investment while the spending made translates into the creation of a production good...').

This is how savings can be increased, for example doubled, and this same amount will also be spent in the formation of capital. Investment will obviously be double of the previous period, but *not necessarily* capitalisation, which is a real term. Not though if the prices of these factors have doubled. If this happens, doubled savings and investment, the **same** quantity of capital equipment can be removed or demanded from the market (or formed) as in previous periods provided, naturally, that prices have doubled.

And I repeat: Why is it important that consumer spending and investment are different than consumption and capitalisation? The importance rests in the fact that there is always the possibility that consumer demand or consumer spending does not totally remove all of the production of consumer goods (real term) and that the demand for capital equipment does not remove all the capital goods created or partially created, which is the same as saying that investment does not match capitalisation.

And if this happens, demand would be lower than supply; demand that is a monetary matter and production that is real, although also monetary. Thus, there will be unsold products, which Keynes adamantly called inventory investment.

The question takes on more relevance when remembering that total production is divided into consumer products and capital products; better yet, the product value is divided between the *value* of consumer production and the *value* of capital goods. And if income is born from this production and *only if there is equilibrium*, total spending will demand part of the value of the consumer goods and the rest must necessarily demand capital equipment. But if this equilibrium does not occur because, for example, demand is less than supply, or because spending in consumer goods does not demand all consumer



production and/or because the demand for capital goods (investment) does not remove all production of capital goods, you must understand that the rest can never be called investment. You must also ask yourself where the rest of this income is that has not exercised demand.

## 22.2. SÁENZ' RESPONSE TO THE KEYNESIAN SYLLOGISM

Sáenz' response is basic and clear. He said that common people definitely know that money is not the same as merchandise and economists naturally know this as well. He would not be the one to belie Bernácer about something so evident that does not clarify anything; like that spending is a monetary concept and consumption a real concept. After the number of physical units is measured, multiplying this number by the price will give us the monetary version. Since one implies the other, Sáenz said he had no objection about identifying both concepts. It is obvious that there cannot be consumption if there is no consumer spending.

The same thing happens with national income and national product. The first are monetary units and the second are physical units suitable for monetary representation. It is the same idea that will exist between savings, investment and capitalisation.

Economists frequently debate different subjects believing that they are talking about a common issue. Sáenz did not realise the intention or aim of Bernácer's argument. The Spaniard was concerned simply with establishing the distinction between consumption and consumer spending, capitalisation and investment (and this with savings), with which he wanted to highlight the possible lack of correspondence between production-supply and demand. And if this happens, inventory investments will appear.

Nonetheless, Sáenz, who didn't realise this, insisted on a debate that I believe lacked importance. He said that of course there could be imbalances between physical consumption and consumer spending during certain phases of the economic cycle.

'I refer specifically to variations by consumers and sellers. The accumulation of stock during specific phases of the cycle can accelerate total spending of the community without correlatively increasing physical consumption; the drop in stock in the hands of consumers and intermediaries in other phases of the cycle can prevent the acceleration in physical consumption from increasing producers' earnings...'

I believe these economists did not look at the problem to analyse it, but were so entertained in looking at each other that they got lost in the same polemic.

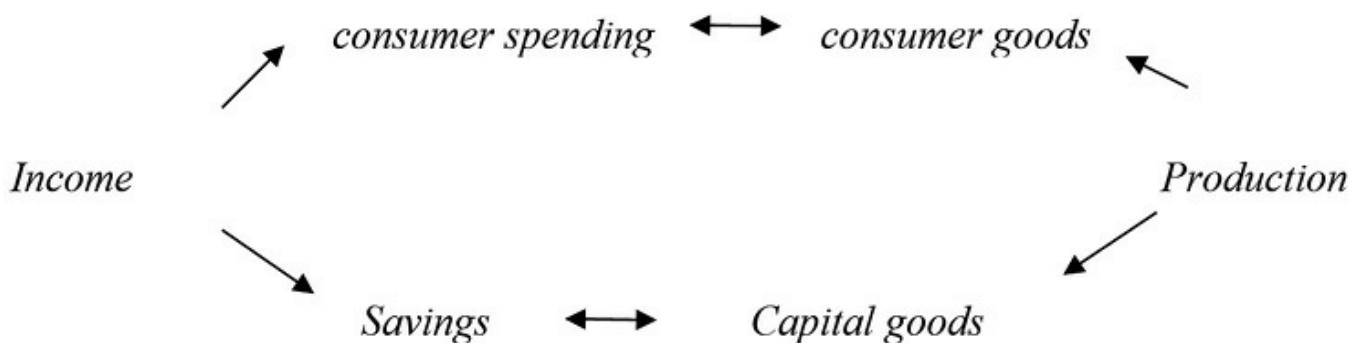
What happened was that the veil of words also veiled the argument and the matter is so subtle that it seemed more like a game. The problem is the following: Of course consumer spending is not the same as the *physical* consumption in Sáenz' words. To Bernácer, when speaking of physical consumption, he emphasised the total number of units acquired and not the destruction that consumption implies. In this way both are right and what was sought -a clarification of the fundamental macroeconomic equation- was not clarified or darkened. It was basically not touched upon. While Bernácer was speaking of physical consumption units, Sáenz was speaking of the physical consumption of these units. They are not the same although they occupy the same words and the same number of them.

## 22.3. FORCED EQUILIBRIUM

National income is broken down into spending and saving; and production, which originated this income, is broken down into production of consumer goods and production of capital goods. Spending will acquire consumption goods and savings will demand capital goods and/or will help to form them. Sáenz previously admitted that

$$\text{Income} - \text{consumer spending} = \text{Savings}$$

Thus:



This coincidence to Bernácer was a market contingency and not an identity. Reflecting on an identity is nothing more than a forced hypothesis of equilibrium. This was always Bernácer's opinion. That savings and investment are equal is a question that we will look at in the following example set forth by Bernácer. If the public as a whole decides to save more, their consumption or consumer spending will decrease, making production and sales not profitable. If, in parallel, demand for capital goods or investment increases with this greater savings, the opposite will happen, making capital resources and the matched working resources travel towards the capital market. And who tells us that savings is totally capitalised? Sáenz said that nothing happens, according to Bernácer.

And the argument, pretentiously dynamic, ends up being futile. If hoarding increases, the income of other individuals will decrease. Which individuals? Those who did not sell their products when they could because the money-income hoarded was not claimed from shops. In this way, greater hoarding by some people produced lower hoarding for other people, without this changing the amount of merchandise in the economic system.

Common sense believes this is logical and common. Everybody knows that merchandise wealth is created with rolling money. Merchandise is created and manufactured with money and then removed from shops with money and, furthermore, these purchases provide means for producers to continue production. None of this happens when the money is frozen, which will remain frozen, just like the merchandise in the shop windows. Nothing moves forward with hoarding, just like a reservoir, unlike what happens in the monetary river that brings navigable merchandise with it. It is not about the amount of money but the functionality or movement of this money. If it were about the quantity, you would just have to add the hoarded money to the money in operation to try to understand income and production. To Bernácer, supporter of his income-based theory, what matters is money in movement or money-income.

*Note:* Bernácer lost a golden opportunity here to explain his financial market theory to Sáenz, a market

which is fed with disposable funds. Disposable funds or income that is not consumed or capitalised or hoarded, would have given his explanation more precision. Bernácer stayed with hoarding, despite the fact that most of his theory spoke of the financial market and disposable funds.

## 22.4. SÁENZ' RESPONSE TO FORCED EQUILIBRIUM

Sáenz defended himself by saying that neither he nor Keynes, who he followed, said that investment decisions coincide with previous decisions to save, and that Bernácer had not read the voluminous literature about ex ante and ex post or understood Keynes' theory.

Keynesian theory says that in actual results, or ex post, savings and investment match. Expansions and contractions in the volume of employment and national income make it possible.

I believe that this is exactly what Bernácer did not believe, that ex post savings and investment are equal. Of course he knew all about Keynesian literature and its contradictions, since his theory on disposable funds and his disheartening suspicions forced him to study it in depth. But Bernácer was only concerned with facts, like a good accountant and a good physicist. He didn't care what was happening in the minds of saving and investing economic agents, although he did care about the result of these choices or the ex post operations registered and seen on the market.

Ex post savings and investment are only equal in the equilibrium hypothesis. This is what Bernácer understood and what Sáenz thought always happened, with or without equilibrium. If savings is not capitalised, then equilibrium and equality stop existing. This is the opinion that Bernácer always developed from the beginning.

With aggressiveness not free of ingenuity, Sáenz said that surely if a privileged mind like that of Bernácer had not understood this point in Keynesian theory, it was because *The General Theory* that reached Spain had been destroyed by censorship. Although there was great censorship at that time with respect to politics and morals and religion, there was no censorship in technical issues and much less in a theory that was quite complex.

Emilio Figueroa, who worked with Bernácer at the Bank of Spain, told him he should throw the ball back to the Mexican with the same force that Sáenz had thrown it. He could do this because the translation of *The General Theory* that came to Spain was done by a *Mexican publishing house*, Professor Sáenz' country, which proves that it was neither mutilated nor unknown and that, if Bernácer had read it, it was through this prestigious Mexican publishing house.

### *On disposable funds*

Sáenz translated the article about disposable funds for Robertson. The English economist, after acknowledging that he had received it 16 years earlier (spoken in 1940) said: 'The translation done for me by Mr Josué Sáenz was of great help to me'. An article is not enough to set forth an entire economic theory, no matter how clearly it is written. A great deal more complementary literature is required to shape it, giving it internal coherence and greater precision and depth. And of course, neither Robertson nor Sáenz nor anyone else I know, except Professor Savall, has read Bernácer's works. On these grounds, I can understand and comprehend Robertson's and Sáenz' criticisms of Bernácer's disposable funds. The same happened to me at first.

At any time we consider, economic subjects will have part of their income available. It is available for consumers to spend on consumer goods and producers to spend on capital goods with savings. After this operation is done, the income is no longer disposable for these initial agents, but it is disposable for others. First-degree and second-degree disposable funds are not true disposable funds, since they are needed to carry out normal operations for individual and business survival.

Authentic disposable funds are those that are not required for consumption or capitalisation. This is money that is on the stock exchange. Bernácer added that this term –disposable funds– has been adopted in stock-exchange slang. It would be wrong to call a worker’s daily wages disposable funds or the part of company profits required to meet immediate emergencies for working capital.

For Sáenz, total disposable funds equal zero. This statement rests on the dangerous sophism that the money that some receive represents the disposable funds that others have spent. Sáenz did not see the most important fact, which is that everything depends on what is done with the fraction of income spent and where it is. If it has been spent on consumer and capital goods (1<sup>st</sup> and 2<sup>nd</sup> degree), it is then producers’ disposable funds. But if we recognise that part of savings –overall disposable funds– that are not invested and move to the financial market for speculation, with an agent buying secondary securities, then the disposable funds of one move to become the disposable funds of another. It is, as I said, a neutral operation and these disposable funds are not only positive but can also increase.

As mentioned, producers’ disposable funds are not maximum or authentic disposable funds, given that their destination is spending on the ordinary market. The same does not happen with speculative funds, whose aim is to remain in this state for speculation. Bernácer complained that Sáenz did not understand a single word of his modest writings. Neither he nor Robertson understood, owing to their brevity, since Bernácer did not have academic and cultural support that publicised the translation of his works.

#### *Sáenz’ response to disposable funds*

Sáenz acknowledged that he had not understood the comments about disposable funds which are, as we have seen, the most important part of his theory. In any case, he did not grant them importance for understanding the economic cycle.

He would have understood them better if he comprehended that, if these are born from savings, it means renouncing consumption and that they do not return to demand capital goods, meaning that they are necessarily invested and thus, savings will not equal investment. For this reason and many others, this section on disposable funds complements Bernácer’s on forced equilibrium. Only in equilibrium, I repeat, does savings equal investment.

*Note:* My formula, using other symbols but faithful to Bernácer’s thought, is the following:

$$S_k + D = S_{\text{total}}$$

$S_k$  is savings that is capitalised and thus:

$$S_k = I$$

$$S_k < S_{\text{total}}$$

$$S_{\text{total}} > I$$

and for Sáenz and Keynes, it is: *simply S*.

## 22.5. PROSPECTIVE AND RETROSPECTIVE

Looked at from any viewpoint, the identity  $S = I$  is false. Bernácer started by connecting the following sentence by Sáenz: ‘It is obvious that at any given time, an individual can decide how much money he wants to save, even deciding to hoard it, and that there is no obligation for him to invest a quantity equal to his savings. In this prospective interpretation, it is clear that savings and investment, for individuals, do not have to be identical.’

Bernácer acknowledged that he did not understand. Thus, he asked – Is the fact that an individual saves and even keeps his money a prospective fact? I thought it was a real fact, accomplished. Our economist returned patiently and persistently to state that what he studied was what was really important, and what was really important was what really happened on the market, in other words, operations that had already been done, accomplished in short. And it is in these operations that had happened on the market when there was no coincidence between supply and demand.

He said that what happened is that both Sáenz and his teacher Keynes, when they thought about savings, they were implicitly thinking about investment or capitalisation, which is how they identified them. At this moment, when savings takes place, the only true thing is the saving and what is planned is investment, where there is also a lapse of time between one and the other. During this period, this savings is a temporary financial disposable fund, or what I call second-degree disposable fund. If after investment there is a disposable fund, this will be called a third-degree disposable fund, maximum disposable fund or disposable fund properly speaking.

Given that these disposable funds may live on, the error in believing that savings and investment are equal is clear, as well as the fact that they are not equal either conceptually or numerically.

But Bernácer had yet another criticism. Sáenz was right when he said that ‘in this prospective interpretation, it is clear that savings and investment, for a given individual, have no reason why they must be equal’ (my italics, commented on by Bernácer on page 647 of *El Trimestre Económico* of January-March 1947 in his article entitled ‘Keynesian Disquisition’). He was right because savings and investment are not identical for a subject for several reasons. But Sáenz thought and stated that he believed that while this coincidence did not happen with respect to microeconomics, it did happen in macroeconomics. And this last suggestion was rejected by Bernácer also.

In this boisterous dawn of macroeconomics, the voices of the teachers were confused with the enthusiastic repetition of their students until, in the end; these multiple echoes blurred the original message. Nonetheless, there were certain truths and dogmas that were faithfully repeated and, what is worse, were not discussed. One of them is the time at which capitalisation is fulfilled. For Keynesians (and for Sáenz), it takes place when the producer decides to create a production means. This is not what Bernácer thought, as we have seen in several past sections, due to dealing with fundamental identities in his explanation.

For Bernácer, capitalisation, which is a different activity than saving, occurs when savings demands capital goods produced or demands the supplies required to manufacture them.

And furthermore, these production or capital goods were confused with a mass of products in producers’ hands called working capital. This mass is separated from producers at the time of capitalisation, via a purchase operation, which is done with savings. This time is also when it stops being called working capital and becomes fixed capital. Is this calculation *ex ante*? Are they prospective activities? No, they are

registered facts that physicist and accountant Bernácer, used to parsimonious records and millimetric and temporary analysis, knew how to measure correctly.

## 22.6. SÁENZ' RESPONSE TO PROSPECTIVE AND RETROSPECTIVE

After Bernácer made the exact definition of 'fact' very clear and the meaning of what is prospective and what is retrospective, Sáenz brilliantly replied that he did not know how to differentiate them, that he got entangled in the terms and that, furthermore, he did not know how to come to understanding. He said that Bernácer did not understand Keynes, since this economist did not analyse economics statically but rather dynamically. Proof of this was *The General Theory*, which establishes functional relationships and therefore the causality between employment, circulation, consumption, stock variations, hoarding, investment, national income, etc.

Sáenz, who must I admit know Keynes' thought very well in these early years, did not directly criticise Bernácer. He didn't say practically anything in this section. It is very possible that he was perplexed or maybe confused when reading this precise and millimetric Bernacerian formulation that separated savings, investment, capitalisation, etc. He did not explain in what Bernácer's confusion consisted nor in what Keynes' dynamism consisted and he did not explain neither the key term of capitalisation nor the almost-magical operation that is financing of capital goods made with savings.

For Sáenz, Keynes' creation was an unprecedented scientific discovery and he closed ranks behind him. The same thing would happen in the Western world when legions of economists tried to perfect nascent macroeconomics. Clearly, Bernácer's annoying criticisms of his teacher bothered him and, since he didn't agree with him, he accused him of not understanding Keynes. I can assure Mr Sáenz, over close to forty years of distance (this article was published in 1989) that Bernácer bothered me even more.

There is a larger annoyance. In 1989, I collected a macroeconomic work that was arduously worked upon for fifty years by so many economists that I believe that the distance between *The General Theory* and what we read now in textbooks is infinite. It is logical that more is known now than before. Thus if it is understandable that the stone in the road (the stone being Bernácer) disturbed Mr Sáenz, why does it bother me? Because I understand that they have not understood the macroeconomic consequences of the financial market, of the disposable funds that nourish it and why these disposable funds breach the sacrosanct rite of equality between savings and investment. And also because I have never read anything more precise than what Bernácer established when differentiating consumption from consumer spending, savings, capitalisation, spending on capital goods...

Mr Sáenz probably did not have all of Bernácer's work in his hands and did definitely have all of Keynes' work, since it has always appeared very well documented. What he didn't know was that Bernácer had already built a large part of the monetary apparatus before Keynes and that Bernácer had been surprised and irritated by the Englishman's imperfections.

Keynes reached the world like an arrow launched by genius, sowing polemic wherever he went, offering specific theoretical solutions and practical ones also, naturally, on classical economics that were sunk into the swamp of useless dogmatism. Sáenz saw a continent worth conquering in this. The glitter of novelty and the shine of the English, of what is foreign, the glamour of Britain seduced him, like it also seduced Spaniards and even Bernácer's student Figueroa. One Mexican and one Spaniard, both Spanish speaking

and both born in countries where what is generated domestically is automatically scorned. Thus, Bernácer and Sáenz did not understand each other. It was a shame since the Mexican's sharp intelligence could have, if it had wanted to, perfected the Spaniards doctrinal work.

## Part five

Monetary policy or Bernacerian monetary reform or  
rational utopia



## Monetary policy or rational utopia

After Germán Bernácer wrote his monetary theory, his body of work on monetary policy still needed to be developed. If his analytical style is similar to that of Keynes, one may think that his monetary or fiscal formula would have to be similar as well. Both advanced with their analytical scalpels into the organic depths of an economic being that was dying from anaemia. The blood of demand lacked energy; this was their basic proposal and it was logical to think that their medicine or surgery would also be similar.

There is no similarity at all, as will be seen. Keynes, with a capacity for political leadership and the chance to use it, was tormented by an economic reality -of the British Empire and the United States- with greater political and economic significance, which collapsed. To Bernácer, involved in the emergency of sickness, which slipped from his hands into another world, and to really understand what was happening, the solution was glimpsed and this solution was violent and traumatic: fiscal policy. Over time, others, monetarists, mistrusted this solution, which was nothing but buying crutches for sick men, and trusted in intravenous monetary injections.

Bernácer demonstrated the errors of the concept and practice of the Keynesians and the monetarists. They did not know the economic body and, if perhaps they did know it, they did not know anything about monetary physiology. This physiology explained how nourishment or supplies are transformed into new organic matter in the economic body and, in this task that is incessantly executed by the ordinary market, the monetary blood flow originated for circulating income. Up to here, the classicists and Keynes himself would have agreed. What happens is that this hydrographic basin was not circular but split into two rivers: the monetary one and the monetary-financial one. They were both respectively driven by the discipline of two valves: ordinary interest and financial interest. And troubles, crises specifically, were caused by asynchrony between these two valves, above all when the financial stream acquired more force than the ordinary one.

Understanding this mechanism meant understanding the solution. This solution would be *economic policy*. I understand that Bernácer did not understand the drama of a body that suddenly died in the eternal seconds of the thirties. To him, the disease was like an epidemic that secularly devastated humanity. His book *Society and Happiness* was written after a crisis and thirteen years before another. It was written in appeasement and calm, illuminated by the sun of Alicante and the heat of meditation. And he was there when he tried to cure the epidemic.

For this reason, there are two execution disciplines in economics. One that is born from the concept of natural dynamic equilibrium: *Savings, which is the part of income that is unspent, must demand something in the end and this something is capital goods*. Like how the economic body creates new money, it must finance working capital. If savings finances working capital, two products will appear on the market: capital goods, which haven't been demanded because savings went elsewhere, and the new product formed by new demand and the productive application of working capital. But since anti-wealth or dead wealth exists in this system, growing and multiplying like germs on the financial market, the

solution will be to eliminate the pool. In other words: eliminate the financial market!

These rules from the economic community must always be fulfilled. This was its monetary policy. And how odd! But monetarists say almost the same thing as Bernácer:

‘Monetary supply must grow at a constant rate... monotonously constant.’ If Bernácer were alive, he would finish it as follows: ‘... monetary supply must grow to finance new working capital and a community’s working capital is national product...’

The other economic policy was that for emergencies. This involved an emergency surgical technique when the organism declined intensively in its last moments. This solution is very similar to the Keynesian one<sup>131</sup>.

He would have said that the first and peaceful discipline would manage to make savings demand fixed capital, new money demand working capital and make the financial market disappear. In this way, there would be only a single monetary blood circuit: national income. The other involved transporting a new organ helped by new blood injections. This would be the new and powerful demand of the public sector.

### 23.1. THE NATURAL SANCTITY OF WORK & DIVINE PUNISHMENT<sup>132</sup>

Economic nature has its own laws that must be respected. This law states that each individual and the system as a whole should enjoy and receive the fruits of work contributed. There is no whiff of classicism or Marxism in this statement that reminds us of the labour theory of value, since Bernácer blessed and found fair the profits of business owners. The only thing he stated was that, after expelling human beings from heaven on earth, a date placed at the birth of economic activity, we have all been obliged to work and thus collect the fruits of labour.

If an entrepreneur has an idea and gathers workers together and guides them through the north star of his imagination, daring, audacity, intelligent and hard work, then he deserves his share. As I have already stated: income is born from labour. In the ordinary market, one is called wages and salaries and they are received by workers; another is called interest and is the reward for savings and may disappear; and the last is called profit. David Ricardo and Carl Marx would not agree here.

It is a violation of economic and even divine law that someone can live from others’ labour, owing to the sorcery of strange economics. What is this sorcery? Speculative operations that occur on the financial market, which let some rescue monetary surpluses greater than they initially placed, and for others to accrue interest from the money placed there. Never forget that this market’s sterile wealth must be explained.

Since this operation is not natural, the overall system is punished, the system that permitted it. Part of the income that was born from and for labour doesn't return to it and, therefore, demand is frustrated and supply as well, whose mission is to disappear. They are economic crises.

### 23.2. THE PERFECTION OF THE SYSTEM VIA THE DISAPPEARANCE OF THE SIN<sup>133</sup>

Bernácer said: ‘Above all, everything that induces savings to be separated from their natural objective of

creating real capital must be excluded...' (*A Free Market Economy...*, page 183). The existence of a stock market is the reason why capitalisation becomes an issue of speculation. This is how unplaced cash savings are formed (or disposable funds) with a subsequent mountain of unsold products piling up. The cause and effect, the effect and cause of the stock market are liquidity preference. Other times these disposable funds deflate and return to the ordinary market, with the monetary tides forming in this ebb and flow resulting in economic cycles.

Thus, the income or financial market will have to be eliminated, what Robertson called the income-yielding market, modulating Bernácer's original term.

This is where I believe Bernácer's common sense went up in smoke. The disappearance of the financial market is practically impossible for several reasons. One of them is because it is necessary and unavoidable in many ways. In principle, savings travel fluidly towards investment by arterial routes in the stock market. Investors, even admitting their intelligence and goodwill, do not think in macroeconomic terms, but as individuals, worried about their portfolios. They buy financial assets with their savings to resell them and then buy others.

Another reason is the enormous variety of classes of actual secondary financial assets, which may exceed the number of stars in the heavens. They are so varied that they may not even exist. Indeed, non-existent lands were sold in the United States before the 1929 crisis and then, their ephemeral buyers sold them on to others. If they wanted to, they could sell lots on Mars or the Moon. In modern financial economies, things so invisible and so lacking in wealth are bought and sold, such as purchase option rights, which are then bought and sold numerous times above their initial value.

Used houses also entered into this market and other real assets such as building sites, postage stamps, etc. How did Bernácer think this ancient market could be eliminated?

By prohibiting their transmissibility, the financial market would be annulled. If selling was prohibited, nobody could buy and, if nobody could buy or sell, the market -which is defined by the coming together of supply and demand- would disappear.

Given the case that these assets have been acquired with the fruit of their labour, or spent income or savings, it would be unjust to deprive subjects of their enjoyment. Bernácer accepted their ownership and possession and cash recovery via sale to the state. What he wanted to prohibit was transmissibility.

And to eliminate their transmissibility, proprietary requirements would be more guaranteed, extending property registers to include even personal property. Paradoxically, the right to inheritance, donations, usage, rental or hire, mortgages and pledges would all be assured; in other words, all the manifestations of ownership, usage and enjoyment, which completely agrees with the idea of private ownership that Bernácer firmly believed in, as well as market economy. Capitalist market economy has no reason in itself to bear the stigma of the financial market.

With transmissibility and the financial market eliminated, savings could go only to the ordinary market, its initial starting point. But economies are not stationary, since they grow. And savings, which must return to where they started, must be helped by new money that finances working capital.

### 23.3. THE RECOVERY OF SAVINGS<sup>134</sup>

Economic agents should deposit their earnings in bank accounts. Then they would need to differentiate between earnings needed for ordinary consumption and earnings needed for business, from the part of net savings. This is set forth with already-familiar terms in his doctrine, disposable funds that disappear as such, those of first and second-degree, from the last or properly-speaking disposable funds.

None of these accounts would accrue interest! There is no reason to do so, since interest originated on the financial market, now gone for our purposes. Let's stop at this very delicate point for a moment. Interest originates on the financial market and if someone abandons keeping it on that market, he is renouncing interest and, therefore, he would ask the banking entity for interest. But if this market stopped existing, the cost of opportunity would disappear and the interest it represents as well.

If interest disappeared, would savings no longer be formed? No. Savings will grow, as mentioned, for several reasons. Due to the need of financing capital, due to postponing an unnecessary present consumption, etc.

And above all, invested savings that do not accrue interest would not stop from obtaining their genuine compensation. Since workers and business owners will participate in the end product, a part of profits will be used to indulge savings.

Savings will have all the advantages wished. Firstly, it can be recovered whenever you want and spent on consumer goods. Bernácer knew that this wasn't likely given that the probable spending of savings would entail company savings via undistributed profits.

## 23.4. CAPITALIST SOCIALISATION<sup>135</sup>

The recovery of savings is a form of productive socialisation of the system in a general sense. In a demographic or employment sense, the connection of savings to the saver and the saver with his job could not be more optimal. The best scenario would be that employees dumped their savings into their companies and then companies could be self-capitalised.

Labourers' control over companies is dangerous, he said, but there is the difficulty of maintaining outside capitals. Thus, Bernácer said: 'this difficulty would disappear when the worker had his savings or part of them in the company and decisions involved their own interests...' (*A Free Market Economy...*, page 104).

And since there will probably be excess savings above companies' investment needs, a bank or banking system would cede them to large companies that needed them for their investment needs. What is missing from Bernácer's explanation is what secret reason would lead someone to cede his savings to others. I have no idea.

The way or percentage that savings participates in profits is still floating in the air and whether this marginal or percent participation is interest or is not interest. It is not interest. It will be the percent productivity of the investment, a term I prefer over marginal efficiency or productivity of investment. Why? Because system net savings reverts to capitalisation and is thus a consequence or emanation of capital, which is indeed *real* and effectively (and socially also) productive. Machines produce goods and not the house of illusions of financial assets.

After obtaining profits as a consequence of the sale of obtained products, part of these profits will be

distributed and the profits will affect production agents. Part will belong to the entrepreneur as a worker and the other in proportion to the savings formed. But, real wealth would be distributed and not monetary wealth without a counterpart in actual wealth. In macroeconomic terms, savings will receive the equivalent wealth or percentage profit of the investment, while in an unimproved economy and, the one we live in, savings split partly into actual wealth and partly into monetary and false wealth.

## 23.5. THE ROLE OF THE STATE IN CAPITAL FORMATION

There is a little indicated profile in Bernácer's opinion about the financial role of the state or Public Treasury.

It's a shame that the elder Bernácer did not develop this topic more extensively in the fifties, specifically his criticism of Keynesian Public Treasury and the real need of state investment activity.

About monetary reforms, he stated that since there will normally be excess savings over investment, someone must return them to the system. But if, according to the functional design of correct macroeconomic physiology, savings must return to the capital market (capitals as factors of production), someone –the state- must capitalise these savings.

Two conclusions can be obtained from this interesting statement, both of them very important. One makes it possible for demand not to lose energy and have the capacity to take supplied production from the market. If savings exist, it is because consumption has been renounced and this savings will have to demand part of unsold production via investment. We know that investment is the acquisition by the system of capital increases and this activity that is assumed by the state will mean strengthened demand.

The second conclusion is that of finding out how the state can capitalise these excess savings. Normally this capital equipment is basic, fundamental and necessary for the functioning of the entire economic system. It has been generally agreed to call this public social capital (not a name established by Bernácer). They are public buildings, dams, ports, parks, hospitals, clinics, public recreation spaces, schools, universities, and I could go on to include roads, research, public companies, etc. What is interesting to know is that these investments are truly investments; although universities or roads are not factories or installations or tools, they do shape a type of invisible and visible infrastructure over which the trees of private capital equipment settle and put down roots. Private investment is complementary to public investment and in the end, relies on it.

This is how the idea is brought into line of returning surplus savings to the system via authentic investment, only that state investment, in the sense of capital equipment, is more indirect in production than the first.

It is a shame that this does not always happen, since the spending of savings is born from the agitated womb of political tensions at the time. Conveniences weigh more than the system's public investment needs, making the state spend this excess savings, spending it badly and spending more than investing.

Bernácer was very disturbed that a collectivity that is yearning for savings to invest, delivers its savings to a public sector that threatens and blackmails it, causing a scarcity in this savings, which then causes interest to rise. Far from helping investment, it actually reduces it. This is a simple economic argument with elementary math that had already deeply concerned classical economists. Via its deficit, the state can decapitalise the private economy, absorbing savings that, according to Bernácer, must be used to

capitalise the private economy.

The elimination of the financial market would not do anything if the state collects savings that are, furthermore, not excess from the system but imposed by aggressive fiscal policy.

## 23.6. PROPERTY TRADE<sup>136</sup>

Income assets or income-yielding assets or financial assets, being negative for the system, do not stop being the manifestation of savings of past and present generations. It would be unfair to strip it of these savings that are placed there. Thus, an intermediate solution must be sought or, better yet, one that is fair and economically healthy.

One could argue that part of this savings or increase in value of financial assets took place due to speculative drives, although it would not be possible or even practical to establish these differences.

Since we have eliminated the financial market, there will be no way to sell these assets, with the state fulfilling the task of replacing this market in the liquidation and return of the value of these assets. As stated in the section entitled 'The Recovery of Savings', the state must monetarily return the value of financial assets to their owners. In this way, their trade is prevented, trade that is done with part of the system's non-capitalised savings. How would this operation be done? Bernácer stated:

'Payment would consist simply in making them pay the amount into an available account at the bank in favour of the seller, charged to state credit, for the surplus of fresh savings. The accountholder could draw on all or part of the balance for consumption and capitalisation aims. In all cases, the amounts used represent a decrease in savings disposable for public investment. These accounts, as well as normal savings accounts, would enter into the computation to calculate the increase of the acquisition fund since, like the others, they entail a right to future products and continue to die out by the progressive usage of this right...' (*A Free Market Economy*, page 186).

This disposal of savings (excess savings over capitalisation) decreases state disposable funds for public investment, although the state obtains the following benefits in exchange:

1. If public debt is in question, it is annulled without the need of a net disbursement by the state, which thus decreases its spending on debt services.
2. If an actual secondary asset is in question, like a rented land or a rental home, it is added to communal property and can pass to common use or represent income for Public Treasury.

These clear benefits, basically those of disposition, are achieved without prejudice to them, since the current owners of these savings, with which they made payments to past savers, do not lose the right to enjoy this savings. The enjoyment of this savings is made possible with the constant flow of present savings.

The argument set forth in this section is so logical and clear that it seems impossible to me. And it also seems impossible because I do not know if there will be desires to place our unconsumed wealth in financial assets, knowing that neither the market nor the price exists and, furthermore, the possibilities of obtaining free and liquid income from these savings. In short, due to interest not existing.

In my opinion, there is a serious fundamental problem, one that Bernácer did not explain, at least not extensively. If effectively no market exists, how will the real financial assets of savers be valued?

## 23.7. PRIVATE PROPERTY IN THE NEW REGIME

One could mistakenly conclude that the elimination of the possibility to freely trade with financial assets, due to eliminating the financial market, would entail a limitation to private property. If an asset, for example financial, belongs to any individual, he can sell it to whoever he wants, and any individual will have the freedom to acquire it in exchange for *his* money. This proof may lead us to believe that Bernácer's reform is totalitarian and socialising. But it is exactly the opposite. Private property dignifies mankind, so much so that without it individuals are slaves, whether the master is an individual or the state. What is being dealt with here is changing the meaning of ownership, not suppressing it. And the best way to achieve that property has a just and noble meaning is that it is obtained via labour.

Bernácer said: 'The only property cession title is labour and savings, and the only form of property is capital or, in other words, that which is the product of labour...' (*A Free Market Economy...*, page 187). I will give a similar interpretation that is inspired in Bernácer. Income (production income  $Y$ ) is born from production (work), which gives us the right to reclaim the ownership of what is produced and nothing more. The acquisition of capital equipment gives us the right to reclaim the potential and present fruits, because in the end this is also labour.

Therefore, what is in question is protecting ownership, perfecting access to it, through the legitimate routes of accession that can only be work, initiative and imagination.

To readers, scholars, scientists, men on the street and also the historic consciousness of the economy, a nervous and sensitive feeling would be with us and endure in our brains when faced with the amputation of interest. They would all ask how the absence of interest will be filled. How can the economy move forward with the savage existence of an institution at which interest has been cut off? It is not filled with anything and will work better since it was an obstruction.

Savings is formed for a wide range of reasons, as mentioned, and one knows that it does not depend so much on interest as income and, even in the absence of the first, it will be necessary and essential to form it.

Since all vacuums tend to be filled and all meaning compensated by another that strengthens it, interest will be compensated for by a percent income that increases. In effect, system savings, when the useless and infertile financial market doesn't exist, will be channelled (and obligated to do so) towards investment and will receive the prize of a part of profits. This profit will be individual in a macroeconomic sense, as well as authentic and social.

If savings has entailed the recovery of income that was received by working, when it is added to production through investment, the original value will remain plus an additional compensation. This prize, part of the profits, is the fruit and consequence of work. Ownership will be accessed through savings, but this ownership that is accessed will belong to work and nothing more.

In an initial phase, only the property titles will be expropriated that their owners wish to sell. In a second phase, other cases will be considered like inheritance, donation, etc., making them liquid immediately via the public sector in collaboration with banks. In exchange, the state will eliminate taxes on inheritance.

Industrial private property must principally turn to its production agents, employees and business owners.

Moreover, the private property that Bernácer respected and proposed and even wanted to strengthen would be extended to consumer and usage goods, like private homes. It would never consist of the speculative possession of goods that entail monetary incomes that were not earned and even less the possibility of increasing them via speculation.

And I insist on the fantastical and unrealistic nature of what our economist proposed. How did he want to eliminate the buying and selling of assets for usage, of sales of businesses, of repurchasing of durable goods like cars, etc.?

On the other hand, Bernácer's sense of justice was very odd, after reaching the homeland of labour. I say it was odd because he not only defended the right of inheritance but even said that it should not be discouraged in any rational economic system, even suggesting that taxes on them be eliminated. The dominant ideology in capitalist regimes (leaving out communist ones) that influences doctrinal concepts of theory that are not native to Public Treasury is that inheritance must be taxed in order to cause, among other aims, equal opportunity.

Productivist Bernácer admitted that one of the most powerful stimuli in the community for production and particularly for saving is the possibility of transferring the assets of inheritance. And if this asset has been earned through legitimate and non-speculative work, then the taxes on inheritance have no *raison d'être*.

## 23.8. COMPANIES' FINANCIAL TECHNIQUES<sup>137</sup>

Companies must comply with some minimum principles of financial health. Savings, coming from production and income, must return to production and income. Thus, companies must capture savings via the issuance of securities that, whenever possible, must be placed among their production agents: employees.

The products from these issuances must be collected in a special account called: *disposable income accounts for fixed capital*. I understand that company savings must also enter here, which will be increased by the savings of agents that helped to spend it. These accounts will also receive the amount necessary to form reserves and amortisations.

This disposable income account for fixed capital must also finance gross fixed capital, which has been created by new capital goods and for the maintenance of present goods where, as you know, the latter expense is technical amortisation or replacement amortisation. I will now set forth a few sentences that fit exactly into the complex Bernácerian analysis. He was deeply concerned that this disposable income account for fixed capital financed gross fixed capital: net capital and net amortisation. He stated clearly that this means that *at no time will this fixed capital account finance working capital*.

*I do not think it is pointless to repeat the Bernácerian argument that savings that finance working capital has depressive consequences for the economy. This statement may appear fantastic to most economists, but not as I will explain Bernácer here.*

Savings that finances working capital has obviously stopped demanding consumer goods and *also fixed capital*. The demand for working capital or investment in working capital entails the incorporation of flows from new supplies (which is also final working capital). But investment in working capital has generated income in the system for the exact amount of its value. In this way, there are two supplies in the system that are added together and generate a demand that is monetarily lower than the supply. The computation of supply involves capital equipment  $K_t$ , in the period when it stopped demanding, plus the



new working capital  $Q_t$  and a single demand capacity, the resulting  $Y_{t+1}$ , derived from investment in working capital. It is elementary that this income  $Y_{t+1} = Q_{t+1}$  can demand  $Q_{t+1}$  or period production  $T + 1$  or  $X_t$ , which is capital equipment, *but not both productions at the same time*.

The new load of swelling supply must be alleviated with new money and leave period savings free to finance fixed capital (which was born in this production).

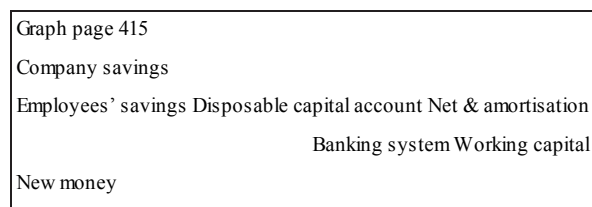
If companies have the *disposable-income account for fixed capital* available for specific aims, then where will the funds be obtained for working capital? Bernácer said: ‘Companies will have a working fund whose origin will be bank credits that the banking system will assure is *new money*. In other words, these credits will entail an increase in working capital and are therefore not granted at the expense of real savings deposited in banks for clients. This will be how equilibrium is obtained between the real and the monetary. Savings will demand production in the form of fixed capital and/or will help create it, while new money will acquire working capital, helping to create new production.

The ideal financial regime is Bernácer’s proposal for company financing.

This system has strategic importance since it is used to measure whether there are excess savings or too little savings at any time, as well as the system’s need for *new* financing to finance working capital.

If business increases, the creation of new money will also be increased and it will contract due to a decrease in money. The banking system must follow uniform accounting standards that in each period, specifically each month, can objectively calculate the balances remaining for fixed capitalisations, including reserves and sinking funds, as well as the resources needed for working capital. Banks in turn will be connected to their issuing banks to meet needs for the creation of new money.

The following graph summarises these proposals:



The creation of money will match the national product. The reason is found in the fact that national product is made up of the sum of intermediate working capitals and this financing is executed with payments between entrepreneurs and merchants with the same monetary mass. This means that, equally to the calculation of national product, the cost of intermediate products are not added twice (or more) but rather their added values. Money will not be missing to add up all the working capitals, but only the *added* ones.

*Note:* Bernácer did not explain why new money must be created to increase fixed capital. It is possible that its intense demand would make period savings insufficient. We must also think about how it is possible that known economic systems do not follow Bernácer's proposal but, nonetheless, are not suffering from crisis. The same thing has happened to past systems that enjoyed good economic health.

What happens is that the economic system, like any living organism, tends to generate its own defences and its own means of survival. I want to add that private banks also happily create money. Furthermore and almost perfectly, economic systems do indeed carry out Bernácer’s proposal, just in another way. Savings that economic agents leave in the bank ( $S_k$ ) are carried to final investors by banks, with which investment needs are satisfied. However, the banking system simultaneously transforms this deposit-savings into money in a multiple amount (banking multiplier), with which financing needs for working capital are also

satisfied. The financial market, which exists and has existed in economies, has absorbed part of this savings and, along with it, has seen the possibilities of creating money diminished. Of course, the opposite has happened when the financial market has drained excess disposable funds in this regard, and there will be excess savings and excess creation of money. This explains economic growth, but also depressions and the calm stability of economies in coming to a halt in equilibrium.

## 23.9. MARSHALLING THE MONETARY SYSTEM<sup>138</sup>

Monetary marshalling, which will let currency be regulated and stabilised, must follow the standards hereafter, which turn around two large accounts: debtors and creditors on the one hand, and Treasury accounts.

1. Firstly, credit accounts will be placed in two different categories:

- a) Those that contain new savings that have been paid with a series of deliveries and periodically debited with repayments to accountholders.
- b) Those that originate in the liquidation of private assets and move into the public domain. These will be paid with the liquid amount of those sold and will be debited via the removal of funds.

The total of all these balances will represent final cash savings since the beginning and its positive or negative difference from one month to another.

2. Company debit accounts for credit for fixed capital. These accounts have been debited with what was drawn down from them, within the credits given for fixed capital. They will have been paid with the allocations for reserve funds and sinking funds, so that the balance expresses the value of fund immobilisations of each company. These immobilisations, which will finance total or gross investment (net + amortisation) will come partly or totally from private contributions. But, Bernácer said, which I liberally repeat here, they will be eliminated from this computation by the corresponding debit or payment.

Until now, I have said nothing more than insisting on the thorough possibility that savings returns to the system (a) and that the sale of wealth created is only liquidated by the state (b) and that this savings finances fixed capital (2). Now we need to look at financing for working capital.

3. Treasury accounts for current spending and deposits that, depending on whether they are debits or credits, will respectively appear in sections 1) and 2). By establishing the difference between 1) and 2) and comparing it to previous money, we will obtain the increase or decrease in disposable savings<sup>139</sup>. This disposable savings will move to the account of extraordinary public investments.

With respect to financing working capital, there will be a banking balance sheet in at banks to measure and finance company working capital. The balance of these accounts, decreased in the preceding period, must equal the increase or decrease of bills in circulation. In other words, depending on whether the banks gave credit for working capital or the credits were repaid, there will have been more or less bills in circulation. In a progressive economy, the general tonic will normally be an increase in bills. Bernácer could have simply said variation of money without specifically using the word bills.

Deflationist or inflationist situations can occur depending on monetary twists of the following types:

A) Deflationary actions:

1. 1) Hoarding
2. 2) The employment of savings or credits, assigned in principle
3. 3) For fixed capital, in working capital

B) Inflationary actions:

1. De-hoarding, applying these hoarded resources to consumption or fixed capital
2. The investment of these resources, credits for example, allocated for working capital, in fixed capital

C) And actions without either effect:

1. De-hoarding, using the hoarded money for working capital
2. The hoarding of resources obtained for working capital

These simple statements set forth in the last section of his last book will be understandable to whoever has read and comprehended his body of work, but set forth on their own; they are not so easy to comprehend, given that they require many accompanying premises to give them greater precision. Thus, for example, when he stated the requirements for inflation, he could have cited full employment; and when he stated that the hoarding of money employed for working capital is harmless, the matter is not so simple. If this happened, there could be deflation.

Perversely-binary monetary circulation has become unique, owing to these reforms and this circulation has a path and a specific dynamic usage. Any infraction is punished by monetary destabilisation, either via deflation or via inflation.

He did not support outside auxiliary measures to help the system if emergency measures are not required. Since he supported low interest or, rather, no interest, he did not support the central bank continually and discretionally collaborating in managing monetary supply. It is the system itself that must generate its own monetary flow according to its own needs. How would this be obtained? And above all, how will monetary needs be coordinated with new money? Well, by private banking activity. To do so, Bernácer stated that:

'Favouring the usage of current and checking accounts for all payments possible, providing every facility possible for payments by transfers and imposing periodic changes of bills by using new issuances that would also entail the annulment of the old bills, imposing a discount for the exchange of old for new bills.'

The utilisation of current accounts and transfers would make greater creation of money by the banking system possible, which has a close relationship to national product or income, which in turn tautens needs for money for transaction motives.

## 23.10. PRIVATE PAYMENTS IN THE NEW SYSTEM<sup>140</sup>

In street and even economist slang, especially for classical economists, capital is money. So, the absence of the existence of interest does not prevent capital from having a percent profitability if we continue with the idea that capital is money or, better, savings. And if we believe capital is a factor of production, I

continue to state that it will receive its recompense for the simple reason that this latter idea of capital has been financed with the first, which is savings. This is what I have been saying.

Savings finances or should finance capital equipment. Its productivity is equal to the payments of savers; if this payment of capital is for example  $B_k$ , and the savings created by capital goods is  $S_k$ , nomenclature used consistently until now, the percent profit would be:

$$B_k / S_k = r_k$$

and expressed as a percent would be  $r_k\%$ , which seems like interest, but isn't happily in this position. And since savings (capital to some) helps take the whole of capital equipment, it is the same to speak of one or the other in Bernácer's reformed economy, when speaking of its payment; conceptually it is clear that capital and savings are different things.

There will be companies in the economic system that obtain small profits, but obviously positive, which is the important thing. With the existence of interest, these companies would be expelled from the market, but not expelled due to the greater efficiency of others, but due to the greater monetary efficiency of the phantom wealth of the financial market. Inefficient companies must be eliminated from the market due to the competition of other better ones. If a company obtains profits, albeit small ones, it is because it has managed to survive and if it has done this, there is no reason for the company to disappear. Only technological innovations made by groups of intelligent men and women, by brave and daring people, will make capital goods increase efficiency and the weakest would be eliminated from the market.

There is not the slightest concession in Bernácer's words to a bland or bureaucratised socialism.

His final words could not be blunter:

'After interest has disappeared as a way as a way for capital to access the fruits of other's labour, labour will obtain the entire product.' A word was missing in his writings, which should have been: ...*their* entire product.

## 23.11. MARX AND BERNÁCER<sup>141</sup>

I have not set forth all of Bernácer's work yet, especially if readers do not know his central body of work, including his criticism of Carl Marx. He said that Marx was in a vicious circle: The value of merchandise is measured by the labour it costs to obtain it and, on the other hand, the cost of labour is determined by the merchandise that workers consume. This is not the point I am most anxious to emphasise, but rather the similarities and differences between Marx and Bernácer. Deep down, they both had a moral concern based directly on the cold analysis of the economic mechanism and indirectly on a type of biblical mental relic.

From the outset, Marx analysed capital, just like Bernácer, as it really is: factors of production that are, above all, accrued labour. It is the labour of others that is used by those who own it, capitalists, to their benefit. But it is the others who, owing to the strange curse of the capitalist system, make it possible for a small few to obtain profits and live off the labour of others. And Hebrew Marx, son of an ancient race born from rigid ideas and morals, felt extremely bad that, with men expelled from heaven on earth, there were some who did not earn their bread through sweat... *their own* sweat.

Bernácer was worried about the opposite, about the formation of capital that the speculative market makes impossible. Social morals pursued him. What is born from labour must return to labour. This is where

morals and economics become threads in a single fabric. It is bad that some live from the work of others, but it is even worse that this singular fact leads to misery and poverty. Not only living without employment and living from the labour of others is bad, but what is worse is that this possibility leads to workers not finding employment in future periods. Here income-based theorists will belong to a bastard caste that, leaving heaven on earth, will steal from the gardens of the other caste, the workers, and will also throw salt onto their fields. The salt is the financial market.

Marx proposed revolution, workers attacking factories, Bernácer's ordinary market, in order to take possession of the fruits of their labour. Bernácer wanted everybody to appropriate the fruits of *their own* labour and, to do so he did not suggest the collectivisation of the economic system, but rather the elimination of the financial market. When there is no salt to sterilise the productive garden of the economic system, he showed himself to be an enthusiast of the opposite of Marx' idea: free competition in a free market economy without crisis and without unemployment.

## 23.12. THE SECURITY OF SAVINGS AND CAPITAL

It is not enough that savings exist for the creation of capital and the existence of capital is not enough to assure prosperity, since while this capital exists in the hands of producers, it is nothing more than working capital. What securely clamps the economic apparatus into place is savings' demand for capital equipment. When this happens, the part of working capital is then transformed into fixed capital in the hands of entrepreneurs, who put it to work. What a different conception of capital goods from the one that manufactures it, the producer, which is working capital, from the other (the very same capital) that is bought to put it to work.

Interest is not needed in the least for the system to operate. Without it, savings will seek profitability that need not be interest, but rather the productivity of capital that, with this savings, is acquired. The worthy compensation for savings, legitimately deserving and socially productive, survives without the existence of interest. This is because the savings that are created do not go to buy salt in the deceitful salt marshes of the financial market, but rather acquire capital goods, which help spread it like an enormous and prolific plough to harvest the production of national product. Through this procedure, savers will collect the monetary prize for their savings via the productivity of capital equipment, whose contribution helped gestate it. If you like, it is simple monetary remuneration via participation in profits. However, and in terms of real wealth, which is goods and services, society collects a greater quantity of goods and services whose initial consumption was renounced in order to save. This little magic trick is possible because capital equipment, which is accumulated labour, has been formed and financed by renouncing consumption.

Via this calm coming and going of savings, stability and peace are achieved that are free from the alarms that the gigantic casino of the financial market make possible.

The economic system and, in particular, savings will also need stability so that this free circulation is possible. Without this stability, which is monetary, savers will get scared and will take this savings to other activities, like greater consumption for example. Instability has a name, which is inflation, and destruction of savings has another name, which is decapitalisation.

*Stability*

Unlike life insurance policies, the economic system is not capable on its own of imposing an insurance policy on savings, in the sense that savers, during periods of inflation, recover their original savings and an additional part in real terms. The only life insurance policy is monetary stability. I will now explain the conditions established by Bernácer for achieving monetary stability and the procedures that violate it.

Due to its sunny clarity, one of Bernácer's sentences seems blinding to me. He said that in the new system, savings will take the form of insurance. This is blinding to me because savings, followed by insurance, means that uncertainty is stripped away from this savings, which is one of the elements that most stops it from forming. And there are so many facets related to interest and savings, like the many sparkles of a diamond. I believe that scholastics established different explanations to justify a certain additional amount that must accompany the repayment of a loan, without this additional amount being called interest. One of them was the loan insurance policy. What did Bernácer mean when he spoke of a loan insurance policy?

To Bernácer, the loan itself is insurance that insures itself and this insurance is simply monetary stability. Thus he stated: 'When all speculative elements disappear from capital, savings and insurance will have acquired a level of security that is unattainable today.' (*A Free Market Economy...*, page 194) The fact that *all* savings is dumped into the system, demanding capital equipment, which is accrued labour, assures that it returns to the system and makes the system stabilise. Seen in this way, there would be no reason for the existence of monetary riots to scare off the natural destination of savings.

Keynesian fiscal policy and the accompanying monetary chaos, a disorder reflected in inflationary ardour, makes savers insecure and makes savings even more insecure, which will not be created. Thus, there will be more money in the system and possibly less capitalisation and less production. More money and less production is inflation.

### *Inflation*<sup>142</sup>

John Law had an ingenious idea that became fantastical to finally end up being tragic. The creation of money would not entail an increase in direct wealth, given that money (and gold itself at times) is not wealth, although there is no doubt that it helps create wealth and stimulate demand. This was an old mercantilist belief that was well founded. And it was also the idea of a projector (*arbitrista*), speculator and famous economist, John Maynard Keynes, who revived it. Bernácer said:

'But the idea is so seductive (of creating money) that, despite it, it springs up now and again and this time it was not a projector, but a famous economist, who has returned to encourage this dreadful trick.' (*A Free Market Economy*, page 195)

Bernácer wrote these lines on monetary marshalling on the other shore of the sea, in the serenity of his 72 years and the peacefulness of 1955, nearly twenty years after the appearance of *The General Theory*. These were the years when the skilful architects and agile bricklayers were finishing their task of creating the complex Keynesian labyrinth, pulling down walls, making this labyrinth stop being a labyrinth. To Bernácer, this complexity did not exist. He had a precise map of monetary flows where income circulated, splitting into two parts. This money is created by the system and is perhaps helped out by new money *created to finance working capital*.

The mechanism to crank the circular handle of the creation of money seemed like a barbaric measure to him, especially when the process for creating and distributing income is not known.

Even when the resources of the economy are unemployed and savings returns to investment, the result of

the creation of money will be inflation. Starting here, Bernácer had to have imagined that readers did not know it so well. This may be the reason why he didn't give a precise explanation of this inflation, given that if we continue with this same line of reasoning, the creation of money to finance working capital does not produce inflation, but rather stable economic growth.

I will now interpret the Bernácerian genealogy of inflation. This will happen in the setting of reality and will incorporate, or already has, the nest of the financial market.

### 23.13. THE FINANCIAL MARKET

You may be tempted to think that the financial market, due to stealing resources from the ordinary market (*net* disposable funds), would relieve the ordinary market of inflationary tensions.

The first thing you may think is that, when monetary income multiplies (not necessarily real), an increase in income would go to the ordinary market and to the financial market. The two markets can grow simultaneously. But, when the financial papers sizzle when faced with the drive of the other paper, money, which are disposable funds, the advantages of the rising prices of these assets largely defeat the expectations derived from obtaining profitability or interest. What does it matter if profit is small, if it is compensated for by the incessant multiplication of prices, which make assets placed in speculation constantly increase? It is the era in which everybody earns, even the shoeshine boys on Wall Street, and everybody loses. Above all, stock exchange agents, brokers and real estate agents win and, to a lesser degree, entrepreneurs and other production agents.

What is clear is that if money is created easily and monetary income increases, the growth of the ordinary market will grow at a slower pace than its potential in full employment. Nonetheless, in the economic system as a whole, *there will be more than enough* money to occupy production, factors and income above full employment. Bernácer broke from quantitative theory a thousand times; everything is not a matter of the amount of money but where it is located. Neither is everything a matter of the speed of monetary circulation nor was his explanation of the variation of interest finished. He was truly interested in monetary flow between the two markets, the ordinary and the financial. Let's see what happens in the latter case.

The unexpected increase of monetary profits, happening on the financial market, makes it possible for economic agents to increase consumption, who feel richer. Others will also believe that the wave of prosperity has come to an end. In any case, part of net disposable funds (*D*) will unfreeze and will be transferred to the ordinary market to be spent there. That is, they will transform into a demand for consumption.

And this is where inflation starts to be produced, as this greater consumption demand or greater amount of money in the hands of consumers, who want to exchange it for more consumer goods, are faced with insufficient supply. This means that there will be more demand for consumer goods than supply, with this disequilibrium compensated via rising prices.

We are forgetting that the ordinary market has grown below its full employment possibilities, even though there is money for everyone in the total system. When part of this money goes to the ordinary market, inflation is generated, which means more money running after less production.

## 23.14. WAR, DEMAND AND INFLATION<sup>143</sup>

The elder Bernácer approved of the young Bernácer from 1916. The experienced macroeconomist greeted the neophyte physicist from the Business Studies School in the province of Alicante. Since he was young, he acknowledged the conflict between the great technological capacity of economic systems, which he understood as a physics student, and the misery reigning in economic systems. Explanations derived from the unfair distribution of earnings were not enough. The first cold winds from Central Europe embarking upon war conflict reached Alicante in 1916. This was when human beings did not enthusiastically destroy and, oddly, the economic system was excited as well and recovered. War was a business. But it is a business and macroeconomic revival that is born sick, since it is accompanied by inflation. In several short and dense lines, Bernácer explained this pseudo fiscal policy and its consequences. It is a shame that he did not devote more lines to explaining this interesting process, and interesting to the economy, to his readers. These lines, albeit short, explained almost everything. The Bernácer who created his monetary theory in 1922 and looked upon the birth of *The General Theory* in 1936, with the Great Depression of the thirties in the middle, in 1955, some ten years after the explosion of the atomic bomb, was more than able to understand the sinister economics of war.

In war, the real economy, factors of production and the integrating zeal of technology are occupied with manufacturing wartime machinery. The ordinary market is occupied with producing boots for Thanatos and providing fodder for his horse. Logically, no consumer goods are produced. In terms of the well-known transformation curve (my contribution, not Bernácer's), it changes direction in favour of wartime industries.

This untiring wartime oven is fed by monetary fuel. Through the issuing bank, the state obtains artificial means of purchasing power to allocate it to financing war supplies. Consumers are not renouncing consumer goods voluntarily, so that after the war they return them to the market via a consumption demand that was postponed. If this happened, inflation would not exist.

I want to stop here to distinguish spending on consumer goods from the consumer goods that are consumed. One can spend more and, despite this, demand and consume less if prices go up. With this distinction made, which greatly concerned Bernácer, I can continue by saying that consumers do not renounce *spending* less on consumer goods. And they may even spend more. But the ordinary market is very busy and exhausted and *does not provide* enough consumer goods, but even provides less, given that it is producing goods that can ironically be called wartime goods and not consumer goods.

Thus, there is a large monetary mass allocated for consumption that does not find the consumer goods it needs. The result is immediate and translates into inflation. I repeat, these two things are different, spending on consumer goods and the consumer goods themselves. If they are equal or matched, there is no inflation. In the first case or, in other words, spending is greater than consumer goods, they end up balancing out due to the increase in prices.

Wartime economy is established in the private economy that produces the resources demanded by the great war machine. But this private economy finds that consumption demands from the private economy attract it. This is when the ravenous and strong leviathan enters into competition, creating money to destroy private sector demand through its superior demand. And this greater amount of money and the rivalry between the two demands, public and private, is what produces inflation.



## 23.15. TAXES<sup>144</sup>

In wartime struggles, it is highly likely that all efforts will be little to be able to satisfy the needs of war. These needs, which are for death and the others that satisfy life, are not sated with money but with goods. The same capital is not money, but production goods. But money is the sign of wealth and consumer and production goods are demanded with money and savings are formed with which to demand the latter.

Bernácer asked himself about the meaning that taxes have as a complementary measure when savings were not enough to finance war.

The question does not rest only on the size of the financing sources, but also on their physiological meaning. Let's see why. After a tax is created, individuals can decrease their consumption to pay the tax and keep the volume of savings the same size, a case which is unlikely. The financial needs of capital will not be altered; taxes will be paid, with the state finding means to be able to maintain its wartime capacity. Only the consumer goods industry will feel the effects but, as I said, this operation does not represent a great evil given that, on principle, the economic system is producing goods that are not for consumption during war.

But this does not happen, given that individuals do not stop demanding consumer goods and taxes are paid by decreasing the volume of savings. This drop dries up the springs that nourish the formation of capital. There is more. Savings are calculated by savers and they try to recover it in the future, since we all obviously save for the future. Part of their labour is delivered over time and space and, of course, in the economic system, so that it will later be returned. This is the payment of taxes that, coactively and reluctantly, is delivered to an impersonal entity without a direct and immediate compensation. This tax return that is much-touted by tax consultants is very indirect, hyperbolic, lacking stimulus for whoever paid the taxes, so much so that it seems like it is working for the devil.

And the question continues that has become a trench for bloody technical, economic and, above all, ideological fights... Does the state create capital goods? Is state spending productive? It is an astute and cynical fight, since theorists and fiscal engineers, who sport Keynesian muscles, say yes, confusing what should be with the reality. They fire blank cartridges. This is the difference from Bernácer, who believed in the market and its ability to create capital equipment. A tax, like public debt, decreases savings in the private economy, depriving it of stimuli and financing. The state disrupts the goods and services market, eliminating information, which is the great advantage of the market. The state also disrupts the money market and makes the economy lean towards collectivisation, like in community countries.

## 23.16. GOLD AND STABILITY<sup>145</sup>

Like Keynes, the primary objective of Bernácer's iconoclastic activities was the destruction of the golden calf. The theoretical destruction of this metal idol was necessary. Bernácer argued that economic stability is price stability. It is not the stability of a single price of a product, but of all of them, and stability is good because it eliminates the dense fog that hides the horizon of the future.

Gold is currency and represents the value of currency on the one hand and, on the other, it is a *thing*, a good or simply a commodity. And since it is a peculiar commodity, due to its constant production and supply, little variable consumption and demand, it is a commodity that is not suitable at all for establishing

the value of currency. A commodity cannot be used as a reference to determine the value of currency that is conducive to being hoarded and whose value continually changes.

The antechamber for international transactions of wealth has another type of transactions, which are those derived from the traffic of currencies and foreign currencies. The determination of the national currency price by foreign currency affects the domestic price level that we try to stabilise. Similarly, domestic price variations affect the international exchange price of the currency. One way to avoid these perverse oscillations would consist of eliminating the gold standard and any institutional remainder of it, both nationally and internationally.

Domestic and international trade is nothing but the production and exchange of surplus production. The fluidity of exchange demands reciprocal clarity between what is bought and what is sold; the enemy of this clarity is uncertainty with regard to the future exchange rate of the currency. And it is strange that in order to assure monetary stability, they turned to a remedy, like customs duties, that eliminates the illness by killing the sick person. The control of import and export licenses, import taxes, trade limits, obstruct trade so much that they asphyxiate it. If uncertainty in currency exchange rates is an obstacle, among others, that makes trade difficult, like the tenuous fog that makes the ship of production move from port to port slowly, said artificial hindrances represent an anchor that drastically impedes the movement of trade.

Prices inform the market, producers and buyers of the abundance or scarcity of production. This information in turn reflects an endless amount of other information, such as needs, income, the market of factors, etc. The same market has the internal springs to provide, when there is scarcity, and eliminate when there is abundance, in a freely competitive market. This is how the ships of production, guided by the lighthouse of demand, supply the market with the intention of them using up their supplies. This activity, as old as humanity itself, is done via the trade route and the compass of prices. And bad trade can be assured when the anchor of the gold standard, albeit a beautiful golden anchor, drags the entire market to the bottom of the sea. The base of this anchor is gold that, through multiple efforts and all of them damaging, has assured a stable value. Price information was made possible by muzzling a slew of other prices, with which the market has lost its most precious value: information about prices.

Conditions in the world have changed, said Bernácer. One of the most noteworthy characteristics is the rigidity of costs, above all, those of wages that are stipulated by law. This inflexibility is transmitted to the economic system in general, placing different countries at competitive disadvantages. Then these countries try to defend themselves via obscure trade policies.

### *The great economic space*<sup>146</sup>

One of Bernácer's books entitled *The Doctrine of the Great Economic Space* has still not been mentioned. In reality, he was commissioned to write it and the book did not entail further developments in his work. It was a type of solitary island in the middle of his theory. Nonetheless, it did develop an idea that is already very old in economics. It was the idea of the great economic space that is so necessary for the specialisation of international labour, for production efficiency, for employment and for international wealth. Since before the mercantilists, this economic philosophy or doctrine has decisively proven its truth. The classicists theoretically sculpted it, until the agile and versatile genius of David Ricardo gave it an unsurpassable analytical precision. Bernácer said about technical progress:

‘Full fruits are not given without the advance of industry, of trade and of transport that, opening up the

trade in each country to extensive zones of consumers, permit large-scale production, the only way that these technical advances can be applied with economies and true efficiency' (*A Free Market Economy*, page 205).

This explains many aspects of the economy and of culture. With regard to the economy, this is because technical progress means production perfection, which translates into volume and quality in end production. If the artificial trade barriers establish economic mountain ranges that are impossible to cross by the caravans of trade, the beginning and end of this technical progress is frustrated. The opposite argument is worth considering. Without the great economic space, the world would turn into small kingdoms of factions or small pieces of a fragmented mosaic in which a multitude of economies coexist without relations. These limited markets lack monetary potential to finance technical progress. With respect to culture, this is because trade connections with other countries bring several goods that enliven cultural traffic. Economic wellbeing means an increase in material wellbeing, including leisure, which is a complementary good to cultural goods. And if a country is a large country, great in natural resources, population and in the density of purchasing power, it will be exposed to economic growth. This is the case that Bernácer cited in the United States, a country that, due to being an enormous market, demands production specialisation and mechanisation. Assembly line production implies that there is a great mass of consumers and each one of them brings their monetary ration to be able to demand these cars. Production, in turn, highly capitalised and technologically perfected, entails an increase in real wages. This is what Bernácer called: *density of purchasing power*. He was referring to the distribution of income that the industrial system brings along with certain homogeneity, without which the progress of Anglo-Saxon America would not have been possible. And I still have one question: How is this highly capitalised and technologically perfected production possible?

Due to savings and mass consumption. Regularly-distributed income spreads great purchasing power throughout the market, allowing for a great saving capacity in domestic economies. And this greater consumption involves high profits for companies, which increase their self-financing or saving capacities. By one route and another, savings is created in the system, permitting the great accrual of capital and technological improvements that are very necessary for mass production.

A small market involves less consumption, less savings, less accumulation of capital and less production. In other words: The sum of savings in two autarkic countries is significantly lower than the sum of savings of these two countries with trade. This idea was not original to Bernácer but, as mentioned, it is indeed a very old idea.

### *Summary of monetary regulation*

The monetary policy or regulation expressed by Bernácer could be summarised in the following points:

1. All savings must be regularly employed in the formation of capital; in a regular period of time an amount of fixed capital must be formed that is equal to accrued savings. This capital must logically be equal to the difference between what is accrued through labour by economic agents and what is consumed.
2. There must be an amount of money in circulation equal to the total quantity of articles in stock or, stated differently, new money must strictly finance working capital and it will be eliminated after products are sold to users.

If these two measures are fulfilled, there must necessarily be *uniform* and regular advancement generated. This means that there will be no backward movements or changes in *acceleration* in short-term economic progress. This advance is owed to the achievement that all merchandise will always have its equivalent purchasing power. Stated more precisely, there will be demand measured in money that will be equal to the *value* of the supplied merchandise. This merchandise will be comprised of consumer and capital goods.

There cannot be inflation because all the capacity created by the creation of production inevitably returns to the market. There cannot be depression because demand cannot acquire more goods than those from current production, due to having eliminated the financial market. If this happened, there will be no more liquidity preference than the preference for the purchase of goods and services.

### 23.17 EMERGENCY FISCAL POLICY<sup>147</sup>

Economic theories, like oral traditions in primitive peoples, have been warping over time until reaching a final state in which the last story has nothing to do with the first. This happened to Keynes, and I do not know for a fact if Bernácer made this same mistake of criticising what Keynes did not even say. Bernácer read Keynes' original texts and quoted them, but he also read the work of his followers, who whimsically distorted his body of work.

A large part of Keynes' thought was created by emergencies and anxiety caused by emergency situations and, possibly, his end policy paradoxically conditioned the first, which was his theory. Bernácer was not indifferent to these situations of economic drama, which are also moral and spiritual. Measures for monetary regulation are institutional measures that have the mission of permanence. These measures are not operative for a violent situation that demands the coming together of imagination and speed.

Spending generously is one solution he said, although it has specific risks. If one spends generously, this money can finance working capital and will leave savings free to finance fixed capital. Even this new money, which is abundantly created on purpose, will finance fixed capital. Savings proceeding from income, which during depression is meagre, will generate insignificant savings. It is highly likely that new money will be lacking with which to finance both working and fixed capital.

An emergency situation does not give you the time to require Herculean reforms of the financial market until it is eliminated. So one must be resigned to its company. The creation of new money can replace disposable funds (non-capitalised savings) for the financing of that market. This will lead to a rise in the market prices there and a drop in financial interest.

Two advantages are obtained in this way. Firstly, savings will not be dismembered or divided to finance capital ( $S_k$ ) and, secondly, to finance the financial market ( $S = S - S_k$ ) but instead, the new money will aid the financial market, leaving savings free for the formation of capital. Either savings will go to the financial market and the new money to the formation of capital or both will go to both markets at the same time. Another advantage would be the drop in financial interest that would make industrial and productive profitability more advantageous comparatively. Bernácer said:

‘The only effective solution is to spend generously; the least important is whether this spending is useful or useless. What is important is that it is something where profitability is not measured, for example, on war and on weapons, where people spend without thinking about it, because it is a matter of life or death or

national honour. Public works also fulfil the condition of distributing new income and their products are not on the market, although unfortunately the securities that have been used to finance them are...' ('The Financial System and Crisis', article 1953-55).

These are ideas born from the extensive breeding ground of *Society and Happiness*; fertilisation from the ashes of the 1930's depression; from Kayn's Multiplier, Keynes' busy and metal multiplier; and the light of death from the economy of World War II.

### *Criticism of John Maynard Keynes' emergency policy*

Keynes and the Keynesians provide emergency solutions for combating depression. There is a rumour that Keynes' ideas, even when difficult to understand, were absorbed by the economic system that, in this way, pragmatically and tragically understood that war would represent efficient fiscal policy. It is only a rumour that undoubtedly is a storybook rumour. The simplest explanation is that war tends to be good business. The pre-war years, above all those at the end of the thirties, are those that economists take great pains in explaining as the failure of monetary policy. If that policy were not in place, it would have been hard for it to have failed.

Bernácer emphasised the incongruence of Keynes' fiscal policy with his own ideas.

Credit money is a central point of Keynesian economic policy. I will quote, one by one, Bernácer's comments about this controversial aspect.

The creation of money for immobilisations and public works and other expenditures entailed an increase in actual demand. Keynes, who theoretically and empirically knew of Kahn's Multiplier of Employment, brought this precious trophy for his doctrine and for the policy he proposed. He still needed to explain how this money is collected to finance public works that would multiply employment and income. He explained it. It would be new money that would finance them, given that if they were financed with taxes, this would do nothing more than take it from some to give it to others.

It was also true that, if it was taken from those who could save to give it to those who didn't save through taxation, total spending on consumption would increase, which in Keynesian ideology was definitely a positive thing, just as frugality was negative. This was another aspect he didn't understand very well. If savings has the uncontrollable task of capitalisation (which Keynes said is born capitalised), then if capitalisation is demand for capital goods, he didn't understand anything of the cited paradox.

A second measure would be to issue public debt securities. Its effectiveness rested in that it involved collecting idle savings and putting it to work. He didn't understand this statement at all, since as mentioned, savings is born capitalised according to Keynes. The equality savings equals investment is his starting point and his death. Thus savings is born capitalised and thus it disappears through capitalisation and, if this happens, it doesn't make sense to collect idle savings.

'From here his idea, which has taken root among his followers, that what must be done is deliberately provoke a budget deficit that, covered by new money, would determine the formation of more capital in order to maintain the basic equation that he considered an intrinsic principle of economics...' (*The Financial System and Crisis*)

It does not support the deficit measure well because its natural accompaniment of public debt securities entails the arrival of one more rank in the numerous armies of financial assets, increasing their supply and

reducing their market price. This reduction in price would increase their percent profitability, which is the same as increasing the interest rate. And this increase would discourage private investment. Sometimes I do not understand Bernácer, since if we have decided that this deficit was financed with new money, we have put the remedy and the remedy for the remedy. Granted that there will be more securities, but also more money, which would make up for the supply of new securities through greater financial demand (of a part of new money). However, forced capitalisation through Leviathan's iron fist of this new money materialising in public works would undoubtedly entail an increase in system demand. Let me explain. Deficit financed with new money means that part of it is capitalised by force by means of demand from the public sector. One part will be distracted via non-capitalised savings, which as you know are called disposable funds (*D*), which would go to the financial market as new demand. It would pair up with the *new* supply of public debt securities on this market that concerned Bernácer, having no reason why security prices should become depressed and make interest drop.

The issue of the type of money and the type of credit remains. In effect, a large part of payments are not derived from or necessary for consumer purchases or for the payment of workers, but rather for authentic capitalisation. The first can be replaced by a short-term loan that is quickly recovered. The second requires money with a permanent macroeconomic connection, which involves a very slow recovery. And this Keynesian policy of give and take can never replace, with the necessary flexibility and speed, the disequilibrium derived from the absence of money owing to the existence of the financial market.

Indeed, the development of credit by private banks, joined with the creation of money by the national bank, has entailed large economic disequilibrium, explaining the nature of the cycles. Similarly, the magic of pulling money out of a hat has not spontaneously involved the heroic deed of pulling out national product. The financial market must be eliminated on the one hand and, on the other, the generation of new money, credits if you like, to strictly finance working capital. In this way there would not be cycles, but harmonious progress. Isn't this solution the enemy of deficit, due to considering the financial market inexistent, of creating money slowly and monotonously, in the Bernácerian style, the same way as monetarists in their purest scientific manifestation?

In the end, I understand that the Bernácerian emergency measure for resolving a situation of quick depression would be generous spending of money. And if it is spent on public works, even better. He stated that you don't have to worry about the profitability of this spending. War is a terrible example, but he didn't suggest it as a definitive fiscal policy, but rather as *an explanation* of how the productive system is started up.

To both Bernácer and Keynes, new money involves the subsequent capitalisation of this new money. Of all savings for Keynes; of part of savings for Bernácer. Of capital goods for the Englishman; of working capital for the second, given that capital equipment is working capital while it is not demanded with savings, and not with new money, by companies. And for both economists in short, new money meant a drop in interest rates, which stimulates investment.

However, what Keynes, and especially his followers, believed was that it was a final measure that must remain in the system, like an engineering operation that changes the structure of the economy based on closing some reinforced-concrete doors and opening others, while for Bernácer it was only a temporary measure. Meanwhile, this change in structures of the reinforced concrete beams of the economy, called fiscal policy, like reinforced concrete aspires to eternal permanence; for Bernácer, should be temporary

supporting beams to prop up the building until the inside of the house is fixed and they can be removed.

Keynesian thought has two mistakes that are more theoretical than practical. One is monetary disorder, which is a disorder in the stability of interest. The other is the replacement of public capitalisation for private, which can never happen in an economy, since capitalisation is born from precise calculations and needs that can never be determined by the state. Public capitalisation would be like state capitalisation, which is an open method of totalisation and socialising state intervention.

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<sup>131</sup> Until this point, any article can be consulted referring to monetary equilibrium; for example 'The Monetary Equation in the Mercantilist World' published in *Anales de Economía* in 1943.

<sup>132</sup> Germán Bernácer: Admission conference as an Academic Correspondent at the Academy of Economic and Financial Sciences in Barcelona. The article was dated April 1959, Madrid.

<sup>133</sup> G. Bernácer, *A Free Market Economy...*; *The Stabilisation of the Economy*, chapter XII, section I; *Conditions for Economic Stability*, page 181. Chapters XII, XIII, XIV of *A Free Market Economy...* contain a summary of economic and social policies, Bernácer's moral philosophy.

<sup>134</sup> G. Bernácer: *A Free Market Economy...*, chapter XII, section III, page 183 'Collection and Gathering of Savings'. This aspect is essential for understanding monetary equilibrium, since savings, child of previous production, must necessarily return to the system.

<sup>135</sup> G. Bernácer: *A Free Market Economy...*, chapter XII, section IV, page 185 'Public Capitalisation'.

<sup>136</sup> G. Bernácer, *A Free Market Economy...* chapter XII, section VI, page 187, 'Private Property in the New Regime'. In this work, he explained the proposed way to defend private property above everything else and, simultaneously, eliminate the speculation of goods that were not productive, but that are private property.

<sup>137</sup> G. Bernácer; *A Free Market Economy...* chapter XII, section VII 'Companies' Financial Systems', page 189, is very important for understanding monetary regulations. In the same book, chapter 11 on interest, sections 8 & 9, pages 33-5 and also chapter V in *The Functional Doctrine...*

<sup>138</sup> G. Bernácer, *A Free Market Economy...* chapter XII, section VIII, page 190-191. 'What will Monetary Regulation Consist Of?' essential because it summarises monetary circulation and the conditions to assure the return of income generated in the system to the system and the need to create new money to finance working capital. Monetary infractions are also specified.

<sup>139</sup> These would be maximum or authentic disposable funds, which in the absence of a financial market are temporary disposable funds, since their immediate end will always be capitalisation.

<sup>140</sup> I use the same title as Bernácer in *A Free Market Economy...* chapter XII, section IX, page 191 'Private Payments in the New Regime'. These private payments in an ideal system with economic justice would exclude interest as a payment for capital.

<sup>141</sup> G. Bernácer, *A Free Market Economy...*, Critical Appendix III, section III... 'The Doctrine of Exploitation of Workers', page 286.

<sup>142</sup> G. Bernácer, 'From Chronic Inflation to Social War', *Anales de Economía* magazine, volume XX, April 1962, no. 270. This article explained the nature of inflation, especially section 11 entitled 'The Values of Money', page 291.

<sup>143</sup> G. Bernácer, *Society and Happiness*, book III, chapter XIV, page 309. Since the beginning, one sees a concern in Bernácer about war conflicts as born from economic causes and also a solution to these economic evils. In *A Free Market Economy...*, he explained how war can be a fiscal and monetary policy that increases demand either involuntarily or voluntarily. See chapter XIII, section 5.10 and 11 of this same book. 'The Financial System and Crisis' (*Anales de Economía* magazine, volumes XIII and XV 1953-1955, no. 2 49-60) textually reads: 'And if the origin of funds doesn't really matter much, then neither does their destination; it doesn't matter if money from any origin is spent on useful works, on employment subsidies or, if they do not want to promote paid idleness, boring holes in the street and then filling them in with rubble...' (page 146).

<sup>144</sup> G. Bernácer, *A Free Market Economy...* chapter XIV, section 15, page 225 'Tax and Forced Work' and chapter VI, section 9, pages 9-3-4.

<sup>145</sup> G. Bernácer, Chapter IX, section 10, page 144; also in chapter XIII, page 201 of the book *A Free Market Economy...; The Functional Doctrine...*, book 1, chapter VI (book), article entitled 'Thirst for Gold', *Española* magazine (Madrid) 1936; Conference: 'Monetary Stability', Madrid 1943 (Association of Trade Actuaries).

<sup>146</sup> G. Bernácer: *The Doctrine of the Large Economic Space*, Aguilar publishers, 1953, Madrid (Spanish and European Economic Studies), a book that while explaining the consequences of the economic space, was not directly connected to the rest of Bernácer's work. *A Free Market Economy...*, chapter III, sections 9, 10 and 11 respectively entitled 'International Trade', 'The Economic Space' and 'Economic Space and Political Space'.

<sup>147</sup> G. Bernácer, *A Free Market Economy...* Critical Appendix, section VIII, page 307, in which he pointed out a criticism of fiscal policy, as well as in the already-mentioned article 'The Financial System and Crisis'.

## 24.1. INTRODUCTION

For economics scholars, it is normal to find a geometric boundary of fine and precise lines where readers roam. The hypotheses and security with which they walk are frequently false. Signs and posters that are overwhelmingly clear point out the road to follow and the unfaltering mathematical car takes us with impeccable security to their destination. This is the economic road or style, where magic and even superstition play a role. The impossible is proved and the elementary is scorned because anyone could understand it.

Bernácer is a man on the street who, standing before the useless Baroque style of economics, confronted it, corrected it and even mocked it. Mathematics does not create concepts; the psychological in psychology remains and what is interesting are the economic acts that psychology finds. On the contrary, physics is revived, as economic acts are developed over time and space. And we always find the calm, powerful and permanent light of an essential and overpowering common sense that guided all his work. This Mediterranean light falls onto Keynesian gibberish, onto the psychological complexity of the Swedes, on the apparent simplicity of monetarism, onto the perverse elegance of microeconomics and wiped away everything that was pointless in these theories. What are useless are useless scientific complexities.

## 24.2. ECONOMICS AND PSYCHOLOGY<sup>148</sup>

Human beings feel needs, try to satisfy them and, indeed, do satisfy them. There are three operations or, if you like, psychological realities. But out of the three, which is strictly economic? Or I could ask the following question: are economic matters always psychological, or are they something more or perhaps another thing altogether? Economics, specifically macroeconomics, is a social science that lacks meaning for a solitary man. And what is psychological is one thing and what is social is another. Macroeconomics falls within social attitudes. And in the end, economics is an activity and not psychology.

The most elementary of economics is economic action and the most ancient economic action is the buying and selling operation. It would be a methodological mistake to start performing a study by placing ourselves on the magic footpaths of human thought; on the mental crossbow that comes directly before the arrow of action is launched.

This section will clarify using the previous example of Walras' desired cash balance, which may or may not coincide with the effective balance. The latter means the money that economic agents actually have. What they want, which is something happening in their minds, may be less or more than what they have. If it is less, they will instigate actions to get rid of the excess and, if it is more, they will undertake activities to take possession of what is missing. In the first case, it is obvious that they will not just throw money into the street and, in the second case, they probably won't steal it. Purchase and sales operations are the only ones that make economic sense and that entail operations to get rid of and acquire money. And these



operations are what concern economists, not the choices that people make.

Buying and selling bring reciprocal and inseparable operations of buying and selling money for buying and selling goods. And even bankers that think they have excess liquidity will undertake activities to decrease it and those with too little liquidity will undertake activities to increase it. If they have excess money or liquidity, they will try to grant loans or financial investments via the purchase of financial assets. If they are short of liquidity, the opposite operations. What leads them to action is not thinking about money or goods, but rather the belief that they need to employ the money.

What is the advantage, then, of this psychology so valued by the Swedish School, and even by Keynes via his famous propensities, and even Walras' cash balance? In reality, there isn't one.

Psychological factors are not economic facts, although the operations emanating from this thought are. The fact that they come from thought does not justify confusing it with its effects, which are economic operations.

### 24.3 THOUGHTS ON 'EX ANTE' AND 'EX POST'<sup>149</sup>

The Stockholm School has cultivated a peculiar analysis style for a long time based on two phases of time that correspond to two situations; one that happens in the mind of subjects and the other that really happens. They are the concepts 'ex ante', meaning forecasts and not actual results, thus happening in subjects' minds, although we don't know how they know what happens in economic agents' brains. The others are 'ex post' concepts and to find out about them, you just need to see what happens. So, economic phenomena are explained by the contraposition of ex ante and ex post ideas. It is the same as saying that economic movements and economic facts are explained by the contraposition between them, and another thing we don't know if it exists or not and if it exists, it is lost in human minds.

Why do the Swedes execute this strange method? Bernácer responded:

'With the aim of proving that, if disturbances occur in the working of the economy, it is because the economic plans of men do not adapt to reality nor what is written about what must happen nor, naturally, what men think must happen...' (*A Free Market Economy*, page 256).

Expressed more simply, the economy undergoes cycles because men make mistakes in business plans. The simplicity of this statement is a sin, since it is so simple to blame the cycles on entrepreneurs or on chance, according to Bernácer. And it is simple because they didn't think about why entrepreneurs make mistakes in making their plans, when this is an activity in which prudence, skill, intelligence and, above all, *experience*, all come together to study and execute the plan. The Swedish statement is simple for the simple reason that it is past experience that determines the future, because entrepreneurs extrapolate their experiences towards the future, like a hiker who, having used a mobile bridge, tries to use it again to cross another river. And if they use the information, passing, for example, over the level or tendency of demand and, depending on this, they make their plans and they fail, the cause must be investigated in the *irregular* operation of the economy.

It is not so much about knowing the consequence of the failure of business plans, but the opposite. Why is the functioning of the economy irregular? This irregularity that makes the plans not be fulfilled. The blame for this Swedish affirmation, which more than mistaken is anodyne, rests in making it float in the air, in

what they suppose is happening in entrepreneurs' minds.

The large part of companies, run by businessmen, are not the consequence of brainy plans made by qualified technicians, but rather the entrepreneurs' instincts, of intelligent improvisation. To the contrary, large companies execute extensive and ambitious plans that, no matter what happens, are done like the elephant that starts walking and there is no one to stop it. Although he did not expressly state it, it seems like Bernácer referred here to what he understood as independent investment made by the large bureaucratised company and the induced investment of income carried out by businessmen. This is also an investment induced by business *animal spirit* (to use one of Keynes' phrases).

And it has importance given that the first, although mistaken in its plans, its investments tend to be so large that they make the plans, despite everything, be fulfilled. They make the system itself. These investments create employment, income and production and make the system recover. The second responds to the echoes of the economy. The first is the 'ex ante', owing to the expanse of its plans, forcing things to happen; the 'ex post' in the second case. The difference between ex ante and ex post explains the irregularity in business operations.

As a whole, economic phenomena that occur, or ex post, as is logical, are born from psychological factors (Why not speak more simply of desires?). And the real result of what occurred is a net result of intentions, wills, etc. of the set of subjects that are set against each other. A group of people will want liquid cash balances and others will want it less. Similarly, some will have more liquidity preference than others. In Walras' case, like Keynes, each group will execute operations to satisfy their preferences. Bernácer said that these operations are what he was interested in. They are purchase and sales operations of goods and/or financial assets and depending on whether these actual operations –not mental ones– are larger than others, we will interpret the economic facts. I will say that supply is greater than demand or that... etc.

Our economist said that the good road is found by applying good metrics to the concepts of supply and demand. Above all, it is about eliminating tautologies that are useless to economic lines of reasoning. What is the demand and what is the supply? Are they this at each of their points or only at the point of equilibrium where they coincide? And, thus, is there a concrete situation at which the sale and purchase have been made? And if this is true, what meaning do the other theoretical and infinite points have that define supply and demand?

As you can see, Bernácer belonged to a special caste of economists or scientists. I dare to think or intuit that he was very similar to the English empirical philosophers, Human and Bacon, and their predecessors like the Scots, Scoto and Ockam, from whom he satiated the sensuality of reality and the daily wonders of experiments. These philosophers fled from the doughy deceit of serious adjectives, of general terms and plurals and preferred to manoeuvre with simple words, the least vague words possible, which represented clear things or facts. In the economic arena, each thing has its precise term and each action has its functional explanation. Things and actions are developed in space and in time and are physical parameters.

Bernácer was deeply irritated by theories that rested on psychological facts, in useless playing with time, in pointless scientific essence. This is how he turned around against Keynes' acolyte, Hansen, and quoted one of his sentences (*A Guide to Keynes*): 'Sterile "ex post" equations that explain nothing'. Bernácer responded: 'Ex post equations are equations that are related to facts and given the coincidence that all positive science has been built using these equations, and anything else doesn't deserve to be called science; it could only be called metaphysics...'

So, the research method and conclusions were criticised, which means that he said they were pure imagination and only existed in the overhead cloud of pure research; but this is not science or reality. I think you will be able to see clearly that specific aspects of economic science are vulnerable to Bernácer's criticisms.

What does not exist can be proven, but not that which is non-existent. I will continue with the reasoning of the curves or functional relationships between supply and demand. I will adopt the line of reasoning to savings and investment curves. According to conventional theory, equilibrium or equality between savings and investment is a truth. It carries the rigid and inviolable law of the simplest maths. It is a simple accounting matter. The savings-investment identity is a reality and a theory. Is there anything better for a theory than reality itself?

Since they are two functions that are each represented by their respective curves, there will be a point where they cross. Now, an identity is an equality where two quantities can never be different ever. However, if they need to be represented by two functions that are different, which is not only possible but necessary, since one represents savings and the other investment, then how can it be an identity? This means that if it is an identity, two functions cannot be established for the two sides of the equation. It would be a single function that would determine their point of equilibrium or equality at any point. As we will know the immediate response of economist readers, we will be safe from Bernácer's irony when he said:

'True that the pretension is set forth that they are imaginary at all their points, except one: at that point that is touched by the magic wand of the other, which can be any of them. This is incomprehensible to me at least.'

I will dare to expand upon Bernácer's comment. If savings is a functional relationship, it is clear that there are different levels of savings for different levels of income. There will also be different levels of investment for different levels of interest. At any of the points at which savings and investment do not coincide, savings and investment both still exist, only they are not the same, so what happens then?

Graph page 440

Incongruity is what happens. If I call investment effected demand (not demand to be effected) for capital goods made with savings, they clearly cannot differ, but they do differ, for example at point B, and savings exists at that level, then it is non-capitalised savings. It is clear that non-capitalised savings cannot be called investment. Figure A shows another graph with different relations, where the same reasoning can be applied.

But at that distance (figure B) located well to the left and to the right of point A, I will give it the name inventory investment,  $I_u$ , and they will be either negative or positive. The equation obviously fits, but badly. It is forcibly matched. Is it only a question of a name? No. Inventory investment is not that investment and what interests us, besides the familiar question of method, is to know at this moment—since the analysis is static- *where savings is located when it is not capitalised?* I also want to know the meaning of negative inventory investment and, furthermore, where the flow of income has gone that has made it possible. In the case of positive inventory investment ( $+I_u$ ), how do we know how to differentiate what has been intentionally caused by entrepreneurs from what has been due to weakness in demand? And it is not a whim to know this, since therein lays the short destiny of production and employment. Weakness in demand must be calculated by the entrepreneur, which means that he made an error in his plans.

And we return to the beginning, which should not be sought in ex ante analysis. Why did the entrepreneur err? This is the question to ask. Another question is the following. If investment is in working capital, we have an evolution of working capital that will have moved from primary supplies to others in process and very possibly to already-finished products. Is this planned investment called investment or not? And if there is a machine constructed with savings there, I know that to Bernácer this machine is not investment while the entrepreneur has not removed it. And it is not investment, as I never said it was. It is planned investment on the one hand –in working capital– and, on the other, it is an unplanned inventory investment, since it is in stock. The same thing is both calculated and not calculated. So what are ex ante and ex post methods good for? For almost nothing. Ex post, or reality, should be of interest, as well as facts and knowing monetary physiology in depth, which is also a fact, and the anatomy of the economic organism, which is a piece of information or, if you like, a fact. We want to know why disequilibrium is generated at each moment and at each moment, whether there is disequilibrium or not, when investment has not taken place, or when it has been excessive, where the fraction of income and savings is located, in default of this excess.

## 24.4. MATHEMATICS<sup>150</sup>

Bernácer was a positive scientist. His education derived from physics made him disposed to a specific understanding of the economy. Physics came of age with the application of mathematics. It seemed as if God had created beautiful math formulas in his spare time and created the universe to fit them. This would undoubtedly be the thought of a Platonic physician. The science of physics took on the precision of certainty with Galileo, Newton and Laplace.

However, Bernácer, perhaps more concerned about knowing what was happening in the great arena of economics, was not so enthusiastic about mathematics. He wanted to know about the laws of economics and their mechanisms which were unclear, in his opinion. I don't believe that Bernácer specifically renounced using maths, but rather the method. 'First you have to know what is happening and then the formulations will come.' In physics, things like weight, mass and movement are found out and then measured and finally expressed in laws. In economics, you first have to know what an economic action is, the role of money, what investment is, etc. and then the formulas will come.

## 24.5 THE ACCEPTANCE OF MATHEMATICS

Bernácer could not escape the great currents of economic thought, including their prejudices and successes. Before 1950 and probably even before 1930, there was a bitter rejection by marginalists of the excessive use of mathematics. In this sense, Bernácer didn't resist this criticism, which was also encouraged by the excessive psychological tendencies of the marginalists. However, in the mid-forties, when the floodgates of math and macroeconomic know-how had opened, when the crisis of the thirties had seen the awkward overcoming of the puberty of economic science, is when what happened to physics in the 15th-17th centuries now happened to economics. And what happened was that reality could be expressed mathematically.

Furthermore, it seemed like what was expressed mathematically is true and what is discovered with mathematical language was even truer. Bernácer knew from the beginning that mathematics could not

create concepts or explain economic relationships. After grabbing onto the concept with a strong hand of understanding after discovering and comprehending the laws, then he would move on to the mathematical explanation. There is a lot of truth in Bernácer's statement, above all during a scientific era like the last decade of the century, in which the math fantasy made it possible to do the impossible –creating concepts and discovering realities. However, it is also true that after discovering a truth and the forces that tie it together, they must be formulated in order to set forth the mathematical equation that explains it all. And if, as I believe, Bernácer made a wide-ranging and compact contribution to macroeconomics, I do not know why he did not establish the simple math ratios. He surely would have provided a solid scientific wrapping to his theory.

Bernácer did have some education in maths and his body of work, like Keynes', was not lacking great feats of exact science. Thus, the formulation of his theory was not difficult. Proof of this was when Keynes expressed the mathematical relations of his concepts, Bernácer understood them almost instantly. So it was easy to explain demand and first-degree disposable funds as dependent on income, similarly to second-degree disposable funds. Maximum disposable funds, or authentic disposable funds, will depend on interest. Investment as dependent on interest, the financial calculation of interest and of infinite income, etc. are formulations that he could have easily expressed. And Bernácer, the business studies student that he was, did know about advanced business calculations, which are nothing more than slightly more complex maths, but elementary in the end. I do not know why he did not deign to give examples or concepts accompanied by specific formulas. It is as if he a priori ignored them.

In *The Interest on Capital*, he spoke repeatedly of calculating interest, of the present value of perpetual income, of Böhm-Bawerk's calculation procedure, which he criticised, without thinking it might be polite to readers to give them a small formula in a footnote.

Furthermore, Bernácer's body of work, page by page, written clearly and simply, is a crafty mathematical work. I dare to say that it is a math work written by a physicist, who in his task of simplification, didn't even write numbers but letters, but not letters as symbols, but rather letters that formed words, sentences and orations. At other times, it seems like his words were written so that a secret mathematical friend could easily do the math formulas.

Bernácer's theory did not lose its strength in the slightest due to the absence of mathematics; it just didn't shine with the expository elegance that characterised advanced sciences.

## 24.6. ACCOUNTING AND STATISTICS<sup>151</sup>

Bernácer's future profession was in accounting. He studied for this and thought he would work in this field. Bernácer was not a physicist or an economist, which were major accidents of his life, just as accounting was a forced story of his existence. On small pieces of paper in his parents' small shop, he saw them doing the accounts from the time he was a small child. His parents, wanting to see their son have a better life, wanted him to become an accountant. Thus he studied accounting and this field educated his scientific senses.

Accounting was a good companion because it provided him with a method of observation and, above all, it doesn't lie.

Bernácer thought a statistical source in economics would have to come from the hand of accounting, which

didn't finish in dry maths. He believed the keys to economic information needed to be sought therein. And, since he didn't start from falsities but rather from observed realities, the consequences obtained would give economists peace of mind.

Bernácer used accounting to criticise the fundamental equation of macroeconomics ( $S = I$ ). Even the accountant, said Bernácer, must be asked for something more than accounting. He must be asked the origin and consequences that were accounting equalities. Accounting, the inseparable friend of order and harmony, is also a friend to names and the homogeneity of names. Every account is an account and a concept. Cash is cash, banks are banks and potatoes are potatoes. Investment is investment, and the account for unsold fabric or radios is something else and shouldn't be called inventory investment. And economists, like accountants, must be asked in which account this part of liquid savings must be that has not been transformed into capital.

Bernácer would say that they are in another book at another company: the financial market.

Long before the first works on national accounts were published (40 years before the French publications, according to Savall), Bernácer had proposed the application of accounting to the country's economy. In any case, Bernácer did not come to macroeconomics from accounting. He arrived by instinct and perhaps observation. He did not glimpse the macroeconomic city from the classrooms of the Business Studies School, but standing in front of the till in his parents' shop, where he mechanically repeated an ancient operation: buying and selling, exchanging money for goods and services or the supply and demand of money. Accounting, that would later inhabit his mind, was a valuable statistical technique for him.

Bernácer, after spending several years in his scientific workshop cutting and polishing the pieces, concepts like investment, fixed capital, working capital, savings, disposable funds, etc., then gave them symbols:  $D$ ,  $A$ ,  $E$ ,  $H$ ,  $Z$ ,  $z$ ,  $M$ , etc. He also carried out the fine labour of assembling these pieces in that workshop. This assembly required a plan: the theory of disposable funds, which he had in his mind since he was young.

Bernácer's theory, despite what I have just said, is a theory that is mathematically connected. However, it uses very simple algebra that does not go beyond addition and subtraction. Remember that income is equal to production and that the depletion of disposable funds in two periods entails their spending on one hand and, on the other, their equivalency in the decrease of sold production.

$$R = P A - A' E - E' \text{ etc.}$$

Bringing together Bernácer's different works and harmonising their formulation, you can see that he faithfully followed the fundamental nomenclature and structure of his equations. However, sometimes it is difficult for me to execute an overall summary. He frequently explained this or that in few words and it was difficult even for a reader like myself to follow him, a student familiar with his works for many long years. This may be due to the fact that there was nobody following his work step by step and asking him to explain it. I am sure Bernácer would have taken the time in that case to create a manual of his body of work.

Henry Savall said that he applied maths more than the majority of economists between 1920 and 40. This is probably true. Savall also said that *The Functional Theory of Money* from 1945 could be considered econometric because of the technique displayed in the models. This is also true. The functional theory is a compact theory like a house of bricks. Each variable is related to another, with the type of relationship

also explained. *The Functional Doctrine of Money* explained the variables and the plan for the construction of the model. The fact that Bernácer did not directly and formally perform the mathematical construction is not important, given that the structure is there. And it is certain that the skilful and precise intelligence of a mathematician could have created them.

## 24.7. ON THE MATHEMATICAL METHOD<sup>152</sup>

An article that will be cited in the following section about the metrics of the economy was published in the first issues of *Arquímedes* magazine. Now we are in the fifties and the waters of economic science are back. With the marginalism of the twenties overcome, criticism on the excessive usage of maths has also been overcome. These are the years of the green harvests of mathematical analysis, grown in the fertiliser of manure from the Great Depression, from Keynesian seeds and vigorous farmers like Samuelson, Hansen, Robinson, etc. Economic science demanded the use of mathematics. Its institutional usage was also demanded for managing the national macroeconomic Accountancy accounts, always one of Bernácer's obsessions. And he could not resist this current. In the golden calm of old age, he understood it. This is also when the Spanish Society of Applied Mathematics was created along with other illustrious mathematicians like Pastor. *Arquímedes* magazine would echo the concerns of its founders. Bernácer's article referred to the method and reflected, more than his longing to apply luxury mathematics, the need for cautious and precise realism in all formulas. You will soon realise this caution.

Maths were born from needs felt by humans and the children of practice. Satisfaction of human needs obligated the exchange of goods and also, subsequently, with the intervention of agriculture, the need to calculate areas. Hence, trading villages and peoples were the ones who first developed mathematical calculations.

Speculation for speculation's sake appeared when the heavens of intelligence were free from the body's bondage. Newly created mathematics was later energetically developed, outside of the true north of merchant calculations. And with maths, other sciences like astronomy, astrology, philosophy..., which were created and formulated by men who I could say were somewhat free.

Mathematical science, child of economics, had broken all types of empirical dependence and had progressed light years, to being considered the model for all of sciences. Furthermore, economic science was erected as the queen of the social sciences, due to its capacity to be proven with sophisticated mathematics and having solid research support in statistics.

Economists were delighted to have discovered instrumental mathematical sizes. They quickly and mechanically imposed the task of applying it, forgetting reality. Reality was what was observable and, from this, what was applicable.

After supplying data on the supply and demand curve, the price of equilibrium was determined. On this point, the long thread of mathematical dexterity can be unravelled, but one can never advance beyond what has been observed. Supply and demand depend on an endless number of factors that form the spool of the human spirit: desires, needs, customs, etc., technology. And mathematics cannot investigate an issue that is not its own, but rather takes data that economists find out to then extend them to the corresponding calculations.

Supply and demand curves are very easy to use. This great comfort consists of a continuous line that is

drawn seriously and easily by researchers and professors, steadily and *without moving* the chalk from the board. No matter how small the goods are, their sizes are discrete and the drawing will entail the chalk shaking voluntarily in their hands<sup>153</sup>. Bernácer said that the same thing happens in physics, the quanta are small, but in the end are discrete magnitudes. These supply and demand curves, unreal, are currently explained with a great display of mathematical fanfare being used in econometric works.

They were born in a romantic era of economics and Bernácer believed they were novelties that had to be rejected. To start with, they only exist in researchers' minds. The same thing doesn't happen with curves, which relate the volume of gas to the pressure it is submitted to. They do exist and will always exist whenever the experiment is repeated. This is the great criticism launched by our physicist, who knew perfectly well how to use maths and physics efficiently and correctly in economics, since they are born in observable events that actually happened. To the contrary, many economists use mathematics with a cemetery full of illusions. They are only hypotheses and cannot be verified by proofs.

Another issue that is specifically macroeconomic is value metrics. In Newtonian physics or classical physics, there are a multitude of measurements and measurement units for measuring distances, areas, volumes, pressures, temperatures, densities, lights, etc. In economics, a measurement unit exists and it is called money. However, it is a measurement unit that is quite difficult to manage, since it shrinks and expands. And if this happens, the values of the things being measured are hotly disputed. The matter becomes even more complex if we are trying to measure the value of the currency itself. Its resolution is as complex as trying to measure the value of the linear metro with the road.

There is a single question. Goods are exchanged for goods through a unique buying and selling operation that links two wishes through an element that both parties want: money. The value of money will measure the value of the good being measured. If the value of money depreciates, this means that it will have depreciated with respect to the thing for which it is exchanged. Thus, more monetary units will be paid for the same good. If money increases in value, less will be paid for the same good, meaning that more goods will be needed to pay for the same quantity of money.

All of Bernácer's caveats, none of them original, lead us to describe a psychological and scientific profile. His scientific precision was extended to the limit and his common sense and way of viewing reality totally lacked the impulses of romanticism and scientific ebullience. Reality is how he saw it, how we all see it, and nothing more. It is a physical fact that is explained in time and in space. If it doesn't exist, he didn't explain it. There will be no more demand or supply than the demand already made, since it coincided with a supply that was also exercised, since it is clear that there will be no demand without supply. All the rest, everything that is imagined, is not real, no matter how much mathematics seasons it.

He did not reject the usage of mathematics, but he asked for common sense in its use, nothing more. As a physicist, he knew about how physics advanced and what physics underwent through the utilisation of exact science. And as an economist, he knew about the fertility of its suitable utilisation. Only that physics exists forever, even in physical-mental experiments; but this is not so in economics.

#### *The psychological and mathematical in liquidity preference*<sup>154</sup>

The same thing happens with psychology that, along with the improper application of mathematics, weaves a useless web of scientific complexities, making it impossible to simply observe reality.

Psychology and mathematics weaken economic theory, as well as being at odds with each other. The most



typical case is liquidity preference. This idea of preference was mathematically imposed and expressed, said Bernácer, and thus  $M = L(r)$ . The birth of this scientific formula tried to explain the real and psychological birth of preference, a basically mental activity. However, acting to fulfil this preference is an economic action.

They are uncomfortable with each other from the time they are made to depend on or *function* directly from a psychological factor, something a mathematician would be unlikely to accept. Here, the mathematician will have to supply data in order to operate with them. Among these data he will have to find the measurement of the liquidity preference, which is highly unlikely.

And what then did John Maynard Keynes propose? He carried around the intention of explaining interest a priori and invented liquidity preference a posteriori to justify this explanation. But liquidity preference depended on interest.

To Bernácer, this methodologically imperfect communion of liquidity preference and interest is an error in analytical procedure. So after criticising it and at the end of his life, he tried to explain it with his typical common sense. Thus, he said:

'Liquidity preference, like desired cash balance, is one of the most overcomplicated methods of expressing the old concept of supply and demand...' (A Free Market Economy, page 291).

It is clear that there will be desires for more or less money or cash balances, but obviously no one will throw money away if he has extra and people aren't usually going to steal or counterfeit money if they need more. Instead, people buy and sell goods to stock up or get rid of money.

Buying and selling activities, as old as humanity itself, don't consider psychological activities (although not rejecting them) but true data. Here is where their complexity begins and ends. And it is clear that not only goods are bought and sold, but also the busy and illegitimate papers of financial assets that provide the allure of interest and profits. People buy and sell for this allure. If goods are not bought and sold, then financial assets are bought and sold. In the first case, prices are born and, in the second, the market price of securities and interest. So much psychology and mathematics was not necessary to explain what has always been known.

#### *The method and counter-method of identities*<sup>155</sup>

In any positive science, after breaking free from its philosophical womb, which is where almost all of them are born, you need to try to define the concepts and relationships that are laws, in the apparent anarchy of observation. Sometimes this anarchy is not expressed, but seems overwhelmingly and apparently regular. This is the case of astronomy, which analyses the movement of the planets. The periodicity of days, seasons and years express this regularity. But tautologies are never created and are actually fled from, because they are an illness of scientific vision. The equalisation between mass and energy in physics is not a tautology. These figures are an equivalency and are manifestations of the same thing. Economic science, perhaps trying to excessively imitate physical sciences and become their brother, has created tautologies in order to be analysed with mechanistic rigor. This is the case of quantitative theory.

Supporters of Fisher's Equation state that it expresses an undeniable ratio. Bernácer said that they are right and maybe even too right. Said equation has overwhelming evidence and overwhelming emptiness.

If the total amount of all transactions  $A$  is divided by the price index  $P$  and we call this quotient  $T$ , then

$(A/P) = T$ , and it follows that  $A = PT$ . If we divide  $A$  by  $M$ , where  $M$  is the amount of working capital, then  $A/M$  equals  $V$ , which represents the circulation speed of money. The value of transactions divided by the monetary mass necessarily indicates the circulation speed of money, which in turn can be expressed by saying that, so much monetary mass circulating so many times will give you the value of transactions:  $A = MV$ , then  $MV = PT$ . I am not trying to improve or criticise this equation, but the analysis method. For better understanding, I will provide a quote by Bernácer:

‘But while the condition for an equation to be true is that it can be reduced by logical transformations to an identity, the condition so that it will be fecund is that the unknown is provided according to variables that are **independent** of the unknown. This condition is not present in Fisher’s Equation. In the market problem, the unknown is the variation in price levels and, in all cases, the variations of market terms...’ (*The Functional Doctrine...*)

The truly dangerous action is if consequences are derived from a truth that one assumes is clear by itself but actually is not clear. Then one proves it through logic, which can then let people fall into serious dangers. If  $A = A$ , then  $MV = PT$ , which tells us that what was bought is equal to the value of what was sold. And thus we have not moved forward.

I spoke before of Bernácer’s cognitive task when talking about mathematics and psychology. Now in the case of tautologies, I will speak of scientific health, which prescribes that we must feed ourselves from many things that, arriving from outside and combined with the organic participation of science itself, move towards the creation of more science or more body. It will never be a question of feeding on itself. The cannibalism of a cannibal that eats himself, if he doesn’t die, which would be natural, would not permit him to reproduce.

The aforementioned dangers lead us to believe that things are tautologies that are not. For example, mathematicians say that production income and production are quantitatively equal, but their natures are different, just as spending on consumption and production in consumption are different on the one hand and, on the other, savings and capitalisation are different.

Equality is a relationship between two figures that are equal in a hypothetical field and in specific circumstances. This doesn’t happen with an identity that is the *same thing* looked at in a mirror. Thus, equality demands the link of a mathematical equation, which is pure logic or, in other words, entails proof. Identities do not require a proof. Equality carries itself to different roads on the diverse road of reality. Identities are railway stations that establish a starting point and an arrival point, but don’t let you go anywhere.

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<sup>148</sup> Bernácer, ‘Metric Economics’ article, section 11; ‘The Measurement of what is Psychological’ page 53 (*Arquímides* magazine, Madrid 1955)

<sup>149</sup> Bernácer, *Metric Economics*, section 11, ‘The Swedish Solution’. The book *A Free Market Economy...*, chapter II, section XI, is of great interest where he stated that even the misnamed forced capitalisation (unsold production or investment) or inventory investments (modern terminology) is in reality voluntary and deliberate. Why? Because capitalisation and investment are different events, starring agents that may or may not be different. The producer or entrepreneur produces and the investor or capitalist invests, with the latter ceding funds (savings) so that production takes place. In this way, funds are transferred for production that later doesn’t need to be sold, it is done voluntarily and deliberately, without it making sense to say that simply because demand has not removed production, it has become involuntary.

<sup>150</sup> Bernácer, *Metric Economics*, section I, ‘The Mechanical Era’, ‘The Geometric Era’, ‘Tautology’, ‘Economic Metrology’... Methodological Appendix 11, page 261.

<sup>151</sup> Bernácer: ‘The Computation of National Income’; I do not know the year or the magazine where this article was published and only had the photocopied text from the Bernácer family. It does not appear either in the index of Bernácer’s works that are listed at the end of the book *The Functional Doctrine of Money*, due to which I suppose that it was published after 1954. The last or most advanced publication cited by

Bernácer in his index is the conference 'The Economist's Mission', Madrid 1954 (Business Studies School).

<sup>152</sup> Bernácer, *A Free Market Economy...* Methodological Appendix 11, Section C 'The Mathematical Method', page 261. Also, 'Metric Economics' in *Archimedes* magazine, pp 49-52.

<sup>153</sup> This is a symbolic example that mathematicians can easily understand. If the chalk trembles, it causes a break in the line, which makes the function not continuous. It doesn't jump, then a brusque movement occurs that is very typical of discrete variables.

<sup>154</sup> Bernácer, *A Free Market Economy...* Critical Appendix III, Section C: 'Liquidity Preference', see section 2 entitled 'Liquidity Preference as a Mathematical Concept', page 291.

<sup>155</sup> Bernácer, *Metric Economics*, section 'Tautologies'; also in *The Functional Doctrine...*, book II, chapter IV, where he criticised the sterility of the quantitative identity. Meriting mention are the comments in the article 'Monetary Theory and the Market Equation', pp. 43-7 *Anales de Economía* (Madrid) 1941.

# Part six

## Conclusions of the work

## Conclusions

Hereinafter, I will summarise the present work systematically and, as far as possible, with clarity. Whoever has reached these pages will find not just a refresher here, but a simplified structure that will help you to comfortably crystallise your ideas about Germán Bernácer's theories.

It is very similar to the section at the beginning of the book entitled 'Summary of the Work', with the difference that the aim of the first was to orient you about the book you were starting and perhaps did not understand, due to the circumstances that beginnings represent. However, this final summary should serve as a hill from which you can stand and look over the work as a whole.

My idea is basically strategic. Reading a book like this can be a weighty task and a dry one, which can only be synthesised after many hours of reading. Both the introductory summary and these final conclusions, each matching different sections, can save you considerable work. Due to this, I advised readers to start off reading the summary and then to jump to these conclusions, or to read the entire book, something I hope you did and that will help you follow this final summary.

1. There are two types of units: producers or companies and consumers or domestic economies. Both of them, regardless of whether they are legal entities or not, are people or subjects. These subjects contribute to production, receiving production income for this labour. Do not confuse production income, which is denoted by  $R$  (which is income and appears in traditional macroeconomic books as  $Y$ ), with financial market earnings that, to remain faithful to Bernácerian nomenclature, I also call  $R$ , although explaining which one is in question in each case.
2. The ordinary market is the *only* place where national product is produced; production income is also generated here and units of national product are sold and bought.
3. To me and to Bernácer, the financial market is the market that trades in securities and property and debt instruments, which we call financial assets.
  - 3.1. According to their legal standing, these financial assets receive different names such as shares, obligations, bonds, public debt, etc. and they carry savings to investment. This function is not why I call them *our* financial assets, but due to the fact that they are bought and sold *afterwards*, operations that are done with disposable funds or disposable cash savings.
  - 3.2. Actual secondary assets also enter into this market. Independently of the fact that they qualify for inclusion in national product, they are traded at a value much higher than their original construction value.
4. Say's Law states that supply generates its own demand. This law can be *partly* understood as the fact that the creation of national product entails the generation of production incomes.
5. Say's Law would be fulfilled if only the ordinary market existed.
6. The financial market absorbs incomes coming from the ordinary market as disposable funds, which are

non-capitalised savings ( $S = S_k + D$ ), where  $S$  is total savings,  $S_k$  is capitalised savings and  $D$  are disposable funds.

7. Second-hand and actual secondary financial assets generate free income for their owners (rents, interest... speculative earnings). This income is not productive, as it does not involve the generation of national product. The creation of national product involves the creation of production incomes.

8. If the financial market exists, which is fed from the ordinary market, Say's Law cannot be fulfilled.

$$R = C + S \text{ or } R = C + S_k + \dots D \quad D = \text{disposable funds}$$

financial market

9. Two types of goods are produced on the ordinary market: consumer goods and capital goods. The first are consumed and the second are used for the production of end products. There is not always a clear difference between one and the other.

10 Initially, end production –national product- is *entirely* working capital.

There is working capital that is not final national product, but rather production supplies.

11 National product or working capital is comprised of consumer and capital goods.

Capital, or fixed assets or investment, receives this name, not when it is produced, but when it is removed by entrepreneurs for their production tasks.

12 National product or working capital is comprised of consumer goods and part of income is allocated to acquiring consumer goods. This operation is called spending or consumption.

Spending on consumer goods is not the same as consumption. One can spend more on consumer goods than in another period and acquire less consumer goods.

13 With the other part of income, savings, capital equipment is demanded and the supplies that help to form it. This operation is called investment.

14 Savers are not the same agents (not always) as investors.

15 The private banking system can create money. The central bank also creates money. New money is joined to the flow of income to finance general spending.

This new money will also finance the financial market.

16 Capital is physically created when a permanent good is created that is a factor of production.

Economically, capitalisation occurs when these goods are acquired and put into operation by their users.

17 When companies create capital equipment, they are not capitalising but producing. Those who capitalise are fund providers, savers and intermediaries who finance the creation of fixed and working capitals.

18 Savings and new money will finance fixed and working capital. This operation is called investment. Working capital –part of it- is transformed into fixed capital or fixed assets when it is acquired by producers.

19 There are two classes of working capital: 1<sup>st</sup> and 2<sup>nd</sup> class. First class is the total of all added values or simply the value of total new production. Second class is the difference between the sum of the entire value of each production phase (not only the added value) that is added and repeated (and

entered into the books twice) minus first-class working capital.

First-class working capital would be the value of the final bread, which is the sum of the value of the wheat, plus the milling, plus the salt... plus the baking. Second-class capital would be the value of the wheat, plus the *total* value of the flour, plus the *total* value of the flour with salt... and plus the *total* value of the bread, subtracted by the final value of the bread.

20Liquid or net capitalisation is the difference between total capitalisation and amortisation done at the same time.

21Working capital is continually re-capitalised.

22Working capital normally relies on bank loans. Discounting commercial papers is one way.

23Fixed capital is consumed in the long term through usage (without detriment to technical ageing). It is replaced via the capitalisation of sinking funds.

24*I can provisionally say that savings must finance fixed capital and new money must finance working capital.*

25*Liquidation* is the act of selling the end product to end users, whether they are consumer or capital goods. The latter is called investment. In both cases, the market is relieved of its supplies.

26The final product, working capital, is *liquidated* –the liquidation act. This working capital is instantly decapitalised by sales, but not fixed capital, which decapitalises gradually.

27If an already-created capital or consumer good is sold to another seller for resale, the operation is called *realisation*. If an industrialist sells another industrialist his capital equipment so that the latter uses it, there has not been *new* investment and supply has not been relieved. In macroeconomic terms, it lacks meaning.

28If legal property or debt securities are continually executed, or actual, secondary assets that generate income, these operations are called financial realisations and will have a negative macroeconomic result. They are operations that are carried out on the financial market and financed with disposable funds or non-capitalised savings and possibly new money.

29*Realisation* operations of consumer and capital goods are carried out on the ordinary market. They are *passive* operations.

30Investment in fixed capital, since it is an expense, entails exercising demand and relieving system supplies, which decrease.

However, investment in working capital involves an *actual* and *real* increase of *supplies* and an *equal increase in demand*, an increase that is *potential* and *monetary*, but not *actual*.

31Financing working capital with savings entails loading the market with supply; on the one hand with supplied capital equipment (constructed and supplied), which must be demanded with savings and; on the other hand with new production, which is working capital that is made possible with this savings.

32Money represents wealth and since it symbolises it, it is used to trade wealth. Commodity money carries with it the value it represents, at least theoretically.

33Whoever supplies money is demanding goods and whoever demands money is supplying goods. These are buying and selling operations respectively.

34 Since financial assets also exist, which although they are not wealth are valued monetarily, money is also used to buy and sell financial assets.

35 Demand is exercised with money. Supply is goods and services, as well as monetarily-valued financial assets.

36 Potential demand is the potential capacity that people demanding can exercise with the totality of the income they have. Effective demand consists of demand that is actually and really done.

Bernácer was concerned about knowing the destination of the money remaining between potential and actual demand.

37 The difference between potential and actual demand is found on the financial market. This difference is demand measured in terms of *net* disposable funds that are operating on the financial market.

38 Potential supply is the amount of total goods supplied in the period and is made up of the sum of current production, goods and services (national product), plus those from past periods. Actual supply is what is truly supplied during the period.

39 Thus, there is equivalence between potential production and potential demand, on the one hand, and on the other, between actual production and actual demand.

40 Potential production generates potential demand capable of absorbing it, which is what Say's Law states.

41 Potential production will be equal to potential demand if the financial market did not exist. This is a proposal that assures static equilibrium. Dynamically, equilibrium in a growing economy requires that, *besides* the absence of the financial market, new money is created to finance working capital.

42 Working capital entails new contribution to products that are supplied and also new income (production), which requires new money to finance it.

43 The flight of disposable funds or uninvested savings to the financial market involves new demand towards this market and lesser demand on the ordinary market. Reciprocally, a supply of financial assets will be eliminated and increased in parallel to the supply on the ordinary market in terms of goods and services.

44 If the financial market did not exist, savings would recapture production via demand for capital equipment. But there would be a lack of financing for the flow of current production, which is working capital. New money must be added to savings to absorb all period production, which is capital goods plus working capital.

45 Consumption and savings are born from income and income is born in production. Consumer spending demands consumer goods and savings is spent on capital goods. Given that savings –as part of income– comes from previous production, accounting equality is assured where:  $S = I$ .

46 The accounting equality  $S = I$  is not enough. One must add the economic meaning of investment, which is demand or financing of capital goods or the formation of new capital goods.

47 Unsold production, whether planned or unplanned, must never be called inventory investment.

48 Continuing with the idea that the function of companies is not to capitalise but to invest, this forced or unplanned capitalisation is really voluntary, since it is done by those who provide funds to carry it out.



- 49Equilibrium is produced at the level of production where actual supply coincides with actual demand, which may or may not coincide with income and production levels in full employment.
- 50Equilibrium in full employment requires that potential demand is also equal to potential supply. For that event to happen, money must be created that is lent to finance working capital.
- 51Excess demand over supply is a situation of disequilibrium that is seen owing to the surplus of working capital formed on loans to companies for working capital.
- 52Human needs are progressive. Satisfaction of these needs is one of the manifestations of social progress.
- 53The satisfaction of new human needs entails the creation of greater wealth and more income with a technical capacity to demand this new production.
- 54Bernácer designed a consumption function in which he related consumption to production. This function was not expressed in an income determination model.
- 55Consumption increases to the degree that production increases, but its growth rhythm decreases.
- 56If income and production decrease, consumption will not follow the same path as when they go up, but will tend to maintain a consumption level that is greater than present and past income levels. This activity is made possible because subjects dissave to maintain the same consumption levels.
- 57Everybody wants money. Money is the commodity that is easiest to sell. Money is a counting unit that is used to determine value. The buying and selling of commodity money (don't confuse it with money-merchandise) explains economic actions.
- 58Bernácer created a monetary theory based on the function performed by money. His interest centred on monetary metabolism, on the operation performed by money and on where the money is, more than on its quantitative aspect.
- 59The basic article expounding his theory is entitled *The Theory of Disposable Funds* and was published in 1922.
- 60He did not only explain the functional activity of money in this article, but also the financial market. Supply of and demand for money does not exist *per se*. There is a demand for money from whoever is supplying goods (and financial assets) and a supply of money from whoever is buying goods (and financial assets).
- 61Disposable funds are a part of income that, in principle, is not spent.
- 62According to needs for spending income and its profitability, there are three types of disposable funds:
- a) Consumer disposable funds, minimum or first-degree, whose life is fleeting, because their immediate destination is to meet urgent consumption needs.
  - b) Producer disposable funds, called industrial or second-degree. They will be spent –and will stop being disposable funds– to meet companies' needs.
  - c) Saver and capitalist disposable funds, maximum or third-degree or authentic disposable funds. They are developed and maintained because, not being necessary for consumption or for companies (this last statement is relative and partly false), they can be allocated to any activity.

Given that they can obtain free profits on the financial market, they comprise part of this market.

63 Economic operations in the economic system entail the creation of production income and the distribution of these incomes. In the theory of disposable funds, economic operations are explained by the flow of disposable funds between economic agents.

64 There are two general groups of operations: active and passive. Active operations involve a movement from one degree of disposable fund to another. Passive operations do not involve the evolution, movement or transformation of disposable funds.

65 Active operations include: consumer spending, the movement of first-degree disposable funds to second-degree ones, since they move to producers' hands. The payment of wages involves the movement of second-degree disposable funds to first-degree ones. If consumers and producers save their income in cash, this represents a movement of first- and second-degree disposable funds, respectively, to third-degree or maximum disposable funds.

If these maximum disposable funds are spent, this is *dissaving*, or their change from third-degree to first-degree. If they go to production, this is called *capitalisation*.

The inverse action of *capitalisation* is *decapitalisation*. There are two types of decapitalisation:

- a) Of working capital through the sale of products, without investing the money from the sale again. This operation is called *liquidation*.
- b) Of fixed capital through coverage, amortisation or saved profits from the gradual depreciation of capital equipment<sup>156</sup>.

If capital equipment is sold to another entrepreneur, there is no change in disposable funds or amortisation or creation of capital goods. This operation is *not active* and is called *realisation*.

66 Passive operations do not entail traffic of disposable funds from one degree to another. There are five types of passive operations:

- a) Payments not requiring repayment: donations, inheritances, etc.
- b) Payments without present repayment: loans, credits.
- c) Payments for realisation operations, like the sale of businesses and buildings. Here it is worth making a distinction between:
  - c.1) The sale of assets between industrialists.
  - c.2) The buying and selling of financial assets and real assets that generate earnings. These operations are very important because they happen on the financial market, where maximum disposable funds are kept in the same initial state.
- d) Payment for advisory services.
- e) Payments between merchants and industrialists.

67 The operations from section 66.c.2 keep disposable funds permanently in that state and entail their blocking, as long as there is no variation in the degree of disposable funds.

68 Bernácer called his theory 'income-based' because everything was explained –including money– by the creation and movement of income.

69Of the different types of money, gold and precious metals in general represent actual and potential demand and, simultaneously, they can also represent supplies. If they represent a supply, the market is in double disequilibrium, since the supply that is added is worth the same as the demand that decreases.

70Interest is the price of money.

71Interest is the result of the supply of and demand for money. This supply and demand splits into two markets: One, the ordinary market in which money is supplied and demanded in order to buy and sell. It is a demand for money for transaction motives. There is another supply of and demand for money for speculative motives and this phenomenon happens on the financial market.

72The meaning of the demand for money for transaction motives (1922) is the following: whoever supplies money is demanding goods and whoever supplies goods is demanding money. Buying and selling operations explain the supply and demand of transaction money. It is a money market explained by the income route.

73The demand for money for speculative motives has the following meaning: whoever supplies financial assets is really demanding money and whoever demands financial assets is supplying money. Money, which is demanded and supplied, corresponds to the part of savings that is not capitalised and are called maximum or third-degree disposable funds.

74The part of income that is consumed  $C$ , and invested  $(C + S_k)$ , is the money that is the object of buying and selling on the ordinary market. Disposable funds, or the rest  $(S = R - C - S_k)$  <sup>157</sup>, are used to trade on the financial market.

75Since the system creates money, this new money will supply means both to the ordinary and financial markets.

76Englishman Robertson knew about Bernácer's monetary theory (at the beginning of the twenties).

77Actual financial assets (income assets) return free income to their owners. This is why they are acquired.

78Actual, financial assets increase their market prices, which are capital gains, the reason why they are bought.

79The public strategically keeps disposable funds to take advantage of speculative advantages, waiting for opportune occasions.

80The percent profitability of income  $R$  (free or non-productive) in relationship to the disposable asset or 'invested' disposable fund is interest.

81Given that actual, secondary financial assets on the financial market generate non-productive income, it is exclusively on this market that interest is generated.

82It is worth clarifying that these financial assets involved the past transfer of savings to investment and real assets involved the creation of wealth. However, both of them are bought and sold, occupying a monetary value greatly higher than their original value.

83On the financial market, non-production income is generated simply by possessing these assets. Their relationship to the disposable funds placed there determines the percent of speculative profit called

- interest:  $i = R/V$ ; given that these assets are financed with disposable funds, interest is the percent profit of these disposable funds.
- 84 Disposable funds come from savings (non-invested savings). Therefore, savings will always be tempted towards obtaining free interest on the financial market.
- 85 Interest attracts disposable funds and the formation of disposable funds depresses the ordinary market, as long as it is a flight of income and of demand.
- 86 The creation and investment of all savings that is capitalised entails the implicit cost of interest on the financial market.
- 87 The absence or decrease of this interest would permit a greater flow of savings towards investment.
- 88 Interest, since it is a price, can also be analysed from the viewpoint of scarcity.
- 89 Savings is scarce and, therefore, expensive, because part of it –that is born in production– does not return to its origins, but escapes to the financial market.
- 90 Capital and savings must not be confused. Savings is a monetary flow that helps in the formation of capital goods. And capital goods are not created abundantly due to there being a lack of savings. This lack is due to the flight of part of it in the form of disposable funds to the financial market.
- 91 Lack of savings helps form its price, which is measured by interest.
- 92 It is not enough for savings to *totally* return to the ordinary market (disposable funds = 0) in order for interest to be null, if the economy grows. Money must *also* be created to finance new production, which is being generated in an economy.
- 93 Investment (productive obviously) generates a percent profitability, measured by the ratio between capitalised savings and corresponding yields. This is called the productivity of investment and is the rival to financial interest.
- 94 Companies with positive earnings, even when they are not high, renounce investment because they cannot overcome the interest barrier.
- 95 One cannot state only that there is a lack of capitals, but rather that capitals are not formed due to the lack of savings, which is measured by interest.
- 96 Bernácer created his theory on interest and criticism of classical and neo-classical theory on interest between 1916 and 1925. Robertson knew of these theories.
- 97 Interest is one of the multiple reasons that lead people to save. There can and do exist multiple reasons for savings without interest existing.
- 98 Collectively, interest does not imply greater future consumption, given that investment, made possible by greater production, is not made because of interest.
- 99 In an economy in unemployment, the existence of interest is not needed as a prize to attract resources towards investment, precisely because there is an abundance of unoccupied resources.
- 100 The absence of interest implies greater future consumption that will be balanced out in *real* terms or in true wealth.
- 101 Totally invested savings (absence of a financial market) would indicate high monetary and real profits.

Financial profit or interest would simultaneously be zero.

10 Bernácer demolished Böhm-Bawerk's theory on interest and revived Turgot's.

10 No effort needs to be made to calculate the value of a real financial asset on the financial market, since this information is continuously announced by the market.

10 The profitability of financial assets is also a market datum  $R$  (non-productive). If these two data are known, then you can calculate interest. The oldest income asset is land for Bernácer.

10 His) Bernácer used the law of marginal diminishing returns, Turgot's theory on interest and David Ricardo's land rent theory in the explanation of his theory.

10 Risk has a part in his explanations about investment, although it is not an important part of his construction. Risk prevents savings from being totally invested, making it scarce. This scarcity is *partly* due to the existence of risk.

10 There is a relationship with the marginal benefit derived from different placements in investments depending on the higher or lower risk they entail.

10 There are different percentage returns (*interest*) on the financial market, depending on the risk assumed for each speculative activity.

Out of total net disposable funds, the riskiest ones are occupied by less disposable funds and the least risky are occupied by more disposable funds.

10 Production investments that are successful, the riskiest ones, will have higher profits. Likewise, financial market placements that take on less risk will have a higher percentage profit or interest.

The pure interest that Bernácer considered corresponds to those financial placements on the financial market that, without any risk, let people obtain income  $R$  (*non-productive*).

10 Financial and banking institutions transport savings to investment either directly or via financial assets. Banks create money during intermediation, which will make interest drop.

11 Nonetheless, interest does not disappear since the financial market does not disappear.

11 An increase in security market prices, owing to speculation, will make the percent profit or interest drop.

11 A drop in interest, owing to crazed speculation, does not make the financial market unappealing, given that capital gains (increase in market prices) balance out this decrease, thus attracting *new* disposable funds.

11 If banks create money, it is also true that the economic system creates more *direct* or primary financial assets in order to attract savings. These survive after performing their transfer task, becoming secondary financial assets.

11 The state assists in the previous task, creating public debt that feeds the financial market and captures more disposable funds. The state does this increasingly more in order to finance its deficits.

11 Individuals separately receive or form disposable funds and they, or others, spend them on the ordinary market and vice-versa. Disposable funds reach the financial market as a whole and also leave the financial market. To overcome this difficult, the concept of *net disposable funds* must be understood.

- 116 *Net disposable funds* are all disposable funds that remain on the financial market on average, while flows of disposable funds enter and exit.
- I say that disposable funds increase if the flow entering is greater than the exit flow and they decrease if the flow leaving is greater than the flow arriving.
- 117 Interest is born outside of production.
- 118 Net disposable funds are outside of production.
- 119 Given that interest exists, the maintenance of cash balances entails a cost. The measurement of this cost is explained by Keynes through liquidity preference. For Bernácer, however, this preference does not explain the birth of interest.
- 120 In the operation of supplying and demanding disposable funds, which is a reflection of the buying and selling of financial assets, the price arises that is interest. Given that disposable funds come from savings,  $D = S - S_k$ , the rest, or capitalised savings, is the object of buying and selling. It reciprocally reflects capital buying and selling operations, with the price of savings or of money arising therein. This latter aspect was not studied by Bernácer. This price would be interest on the ordinary market.
- 121 Bernácer always acknowledged that income and production could be in equilibrium in unemployment.
- 122 He principally believed that income continually varied and that these oscillations were not due to chance, but had periodicity and regularity, which could be studied scientifically.
- 123 There are foundations in the same theory on money that let a theory on cycles be drawn up. There is a theory on cycles that is strictly Bernacerian.
- 124 Cycles are fundamentally explained by the movement of disposable funds from the ordinary market to the financial market and vice-versa.
- 125 Economic cycles are also explained by the rigidity of the employment market, of end products and institutional aspects. There are mainly two in this last category:
- a) The gold standard
  - b) The rigid foreign exchange rate system
- 126 Before the Great Depression and, thus, before the crash in 1929, Bernácer formulated a theory on crisis based on his theory of the financial market (stock market).
- 127 Crisis can also be caused because savings is utilised primarily for speculation and new money in the system that finances working capital. If this happens, new supply is added to the economic system, which is added to the fixed capital that is no longer demanded. Thus, a single purchasing power is created, with the system remaining in disequilibrium.
- 128 The gold standard, far from being a stabiliser, created disequilibrium because:
- 1) The limitation of gold production limited production growth.
  - 2) Gold, due to its nature, was an element or commodity with which people could speculate and since this same money was both a means to and object of speculation, it caused cyclical oscillations.
- 129 Cycles are partly explained by the different flexibility levels existing on the end product market and the supply market or factors (costs), including labour. In reality, cycles are not explained by this

circumstance, but once crisis has started, these different flexibility levels help precipitate crisis.

13 Companies with low profits, albeit positive, will be dragged down by depression owing to higher interest rates. This increase makes it possible for more disposable funds to flee, making the financial market more attractive than the ordinary one.

13 Recovery can occur through factors outside of the Bernácerian system, although explained by it:

1) War

2) Technological innovations

13 Recovery can also take place because end product prices go up more quickly than prices of factors, in which labour is included.

13 Recovery can happen in a situation where the abundance of money collapses the financial market, depressing interest, and making profitability on the ordinary market more interesting.

14 There are two types of circulatory circuits in Bernácer's theory, both with the same *monetary blood* substance: one that proceeds from and circulates on the ordinary market, and the other that is fed from disposable funds and circulates on the financial market. The percent return on profits is given on the ordinary market and the percent return on income-based or speculative activities originates on the financial market, which is called interest. Both of them are *valves* that connect the two different circulation paths. The difference between the openings of the two valves –percent profit and interest– are what mainly give rise to economic cycles.

13 When income and production grow, they do it by a multiplication factor. This is the reason why the ordinary market and the financial market grow simultaneously. If savings grows, there is more savings to invest and more savings for speculation.

If more savings remains for speculation, or disposable funds ( $S - S_k = D$ ), market prices will tend to increase and interest will drop. This may happen, but what tends to happen is that financial assets also multiply to absorb the increased savings.

13 When the economy grows at a sustained pace, transaction needs increase, but if profit decreases on a percentage basis, capitalisation needs are limited and an excess of cash remains. This is when the financial market becomes more profitable and when the direction of growth can reverse.

13 The simultaneous confluence of several malign factors are required for crisis to start.

13 Both the ordinary market and the financial market are aided by new money created by the central bank or by private banks. For Bernácer, disorder in monetary creation has caused cyclical changes in the system.

In any case, the creation of fiat money entails a desired theoretical and practical improvement over the disturbing and restrictive gold standard.

13 There are many significant coincidences between Bernácer's theory and Keynes' theory. Bernácer's body of work was created earlier and given to Robertson at the beginning of the twenties.

14 Despite these coincidences, their concepts are different when analysed one by one.

14 Bernácer complained that Keynes' theory was unnecessarily complex, lacked method, and was contradictory and dangerous.

141 For both Bernácer and Keynes, an equivalent amount of income comes from production (Keynes' value of production  $\pi$  and Bernácer's  $O$ ). Then there must be equivalency between what was spent, what was not spent and sold and unsold production. Keynes' and Bernácer's formulations are identical. Keynes' formula prior to 1936 was  $\pi o = E + (I - S)$  (Keynes'  $E$  is income, while Bernácer used  $E$  to refer to stock).

142 Bernácer revealed the exact analogy between his formula from 1925 and Keynes' from 1930 in his article from 1941 entitled 'Monetary Theory and the Market Equation'

143 Keynes' experience as a stock broker, his work in banking and the fact that he was a student of classical and neoclassical economics could all help explain his monetary theory (which is almost identical to Bernácer's theory).

144 For Bernácer, of consumers', entrepreneurs' and capitalists' disposable funds can be formally and *respectively* identified to income accounts, business deposits  $A$  and business deposits  $B$  in Keynes.

145 Likewise, *his* ordinary market circulation and *his* financial-speculative market circulation are identified with Keynes' industrial circulation and financial circulation, *respectively*.

146 Given that people can obtain profits or interest from the financial market, keeping ready cash entails a cost for Bernácer. For Keynes, this was the cost of liquidity and, for Bernácer, the relative cost of investment.

147 For Keynes, there are different levels of demand for money for different income levels. For Bernácer, the demand for money was defined as the supplying of goods, which are different for different income levels.

148 For Keynes, the supply of money is exogenous to the system and, therefore, inflexible to interest rates. For Bernácer, part is exogenous, since it is institutionally given (by the central bank) and another part is determined by the demand for goods.

149 To Keynes, the sum of the demand for money for transaction, precautionary and speculative motives determines a total sum of demand for money that is equal to a supply of money, determining an equilibrium interest.

150 For Bernácer, it was not possible to separate demands for money into precautionary, transactional and speculative.

151 For Bernácer, all demands could not be added together on one side. Demand for buying and selling motives derived from consumption and investment needs are done on the ordinary market. These demands, which are a supply of goods, match the supply of money, determined by the purchase of goods and services and *partly* by institutional supply (central bank).

I must point out that Bernácer did not explain interest on the ordinary market.

Speculative supply and demand, to which the money created by the central bank is added, determines authentic interest for Bernácer.

152 Quantitatively, interest for Bernácer and for Keynes would not differ, given that the elasticity of speculative demand is very large, which is the main factor determining interest, while transaction demands are inflexible.



154 Given that Bernácer's active operations represent movement from one disposable fund to another, there is supply and demand for them, representing consumption and capitalisation operations. In this sense, an analogy can be established with Keynes' demand for transaction motives.

Given that passive operations (including financial ones) do not entail movement of maximum (or net) disposable funds, this matches Keynes' speculative demand.

155 For Keynes, if (non-production) income is known and the market price of securities, then interest is given by  $i = R/V$ ; this is the same thing Bernácer said.

156 Bernácer stressed the fact that the market price of securities was determined by the disposable funds that, originating on the ordinary market, escaped from it and depressed it. Bernácer did not believe Keynes analysed this point. Keynes believed interest was the determining factor that depressed the market.

157 For Keynes, if there is liquidity preference in the system as a whole, it is because part of overall savings is also liquid. If this happens, it is not possible to keep it liquid and simultaneously keep it capitalised, due to which the identity Savings = Investment would no longer be true.

158 If part of savings is placed financially, in the context of lower liquidity preference (less money and more financial assets) then this savings cannot be simultaneously invested or capitalised and speculating. This also means that the identity  $S = I$  will not be fulfilled.

159 For Bernácer, liquidity preference was general, in the sense that people want money not only to speculate, but for both trading and speculating.

160 For Bernácer, Keynes' macroeconomic equation was:

Payments = Value of production = Consumption + Capitalisation

and since: Savings = Payments - Consumption

Savings = Capitalisation

For Bernácer, the true equation (and thus, Keynes' mistake) would be:

Payments = value of production = production of consumer articles + production of capital articles = Consumption + capitalisation + disposable funds

Then:

Savings = Payments - Consumption

Savings = Capitalisation + disposable funds formed

161 The most significant differences in Keynes' work and Bernácer's work are:

- a) The existence of disposable funds, which are non-capitalised savings
- b) The understanding that unsold production cannot be called capitalisation
- c) The production of capital goods is different than capitalisation, which is the demand for capital goods

162 Bernácer did not study the relationship in his equation of new money created that, according to his own theory, must finance working capital.

163 Disposable funds in Bernácer's work and liquidity in Keynes' work, being cash money, are similar but different concepts. For Bernácer, they were less than money, given that he eliminated the part needed by consumers and producers to consume and produce respectively. Keynes' liquidity included money and easily liquefiable assets.

164 Disposable funds can vary due to banks creating or destroying money and, also, due to consumers and producers converting part of their income into disposable funds. Liquidity can basically vary due to banks creating and destroying money and due to the buying and selling of liquefiable assets.

165 Keynes' theory involved an improvement to Böhm-Bawerk's theory in the context of his monetary theory of an economy in unemployment. Bernácer also gave a broader criticism, which could even be termed psychological.

166 There are different levels of income and of production and, therefore, different levels of savings for both Keynes and Bernácer.

167 Both Keynes and Bernácer believed that equilibrium could exist at each income level.

However, for Keynes savings equals investment at each different level of income and savings, while Bernácer did not believe this always happened.

168 So-called inventory investment for Keynes is the result of investment or placement of savings, while Bernácer believed it was exactly the opposite, the result of not investing savings.

169 The identity  $PNN_{cf} = Y$ , expressed by Bernácer as  $R = P$  ( $Y$  = production income,  $P$  = product) was a static expression.

170 The condition of what was happening before must be expressed dynamically, which was the creation of national product or working capital. Equilibrium requires adding the monetary mass that, along with savings, finances new products and fixed capital.

171 One emergency solution for depression would be generous spending. Keynes proposed fiscal policy, but this measure would mean the socialisation of the economy and market disorganisation.

172 Salary rigidity both for Keynes and Bernácer was essential to explaining unemployment. Bernácer wrote about this issue after Keynes.

173 The function of consumption was devised by Bernácer in 1916, earlier than Keynes. Nonetheless, it was not incorporated into his income determination model, which Keynes did, also developing a mathematical proof.

174 Criticism of the gold standard was done similarly by both Keynes and Bernácer. Keynes understood the monetary system of the gold standard better than Bernácer (and wrote about it before him). The Spaniard, conversely, started his explanations with its pro-cyclical effects, not only depressive ones.

175 Robertson's theory of loanable funds has broad and deep analogies with Bernácer's theory on disposable funds (function and classes of disposable funds), which Robertson knew about long before he wrote about them.

176 Robertson acknowledged that he may have *subconsciously* and perhaps have influenced Keynes and Keynes acknowledged great gratitude to Robertson, above all, in Robertson's book *Banking Policy and Price Level*.

17For Bernácer, liquidity preference was similar to Walras' desired cash balance. There is a methodological difference between satisfied preference and cash balances kept, which is the carrying out of buying and selling operations. Psychology had no place in Bernácer's work. He preferred facts.

17Bernácer maintained a bitter polemic with Josué Sáenz about Keynes. Sáenz translated Bernácer's article for Robertson.

17Keynes never made any comment admitting that he knew of Bernácer, despite the enormous similarity of his work, part by part and as a whole.

18There is no proof that Keynes plagiarised Bernácer.

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<sup>156</sup> I refer only to amortisation or the formation of sinking funds, not to the following operation that is technical amortisation, replacement investment or replacement of the capital goods made using the sinking funds.

<sup>157</sup> *R* can mean production income and financial market income. *D* will always be disposable funds.

# Appendixes

# Appendix 1

## Symbols and clarification of certain nomenclature

It is normal in economic terminology to use specific letters and terms, which due to their repeated utilisation over time and in economics textbooks, have become familiar to readers. Since I have respected Bernácer's original terminology, which is different than the traditional terms, I have clarified the meaning of the terms repeatedly to avoid confusion.

<i>Traditional terminology:</i>	<i>Bernacerian terminology</i>
$C$ : consumption	$R$ : production income
$I$ : investment	$R$ : speculative income (as I will clarify in each case)
$Y$ : income	$O$ : supply
$Q$ : value of production	$d$ : demand
$PNN_{cf}$ : net national product at the cost of factors	$A$ : disposable funds
$i$ : interest	$E$ : stock
$D$ : demand	$K$ : working capital
$p$ : prices	$M$ : amount of money
	$Z$ : money proceeding from savings directly to entrepreneurs
	$H$ : amount of working capital employed
	$z$ : amount of fixed capital employed

*Note:* After setting forth traditional macroeconomic expressions and symbols and then those used by Bernácer, I would like to make the following clarification:

The expressions and equations have been respected as Bernácer set them forth. Now, following his thought, I speak of disposable funds, income, interest, and for greater comfort, I have expressed them as follows:

$d$ : demand

$D$ : disposable funds

$R$ : Income, which is valid for production income and income derived from income-yielding assets, always pointing out which one is in question. However, understanding should be clear from the context of the phrase or equation.

$S$ : Will always be savings

$S_k$ : Will be the part of savings that is capitalised

$S$ :  $S_k + D$  is an important expression that tells us the destination of savings, capitalisation  $S_k$  or investment in disposable funds.

$I$ : investment

$i$ : interest

$P$ : is the price level. However, when I textually quote Bernácer, it means production. In all other cases it will be prices.

Bernácer said  $O = R$ , which means that production is equal to all income generated. It is equal to the conventional terminology of  $Y = PNN_{cf}$

If readers wish, you may skip Bernácer's arithmetic explanations, which are somewhat complex, and simply read the verbal explanation. You could read the introduction and conclusions only if you like. With respect to formulas, it is enough to know my symbols of:  $S, S_k, D, i, R$  (non-productive income).

Abbreviations used in references to works:

Bernácer:

*Society...* from *Society and Happiness: Essay on Social Mechanics*

*The Interest...* from *The Interest of Capital: The Problem of its Origins*

*The Functional Doctrine...* from *The Functional Doctrine of Money*

*A Free Market Economy...* from *A Free Market Economy without Crisis or Unemployment*

Keynes:

*Treatise...* from *Treatise on Money*

*The General Theory...* from *The General Theory on Employment, Interest and Money*

## Appendix 2

# Dictionary of Bernacerian terms (or related terms)

**Savings:** Monetary flow that is part of income and is not consumed.

In a precise and strict sense, savings comes from prior production. This premise and reality can be used to admit traditional economists' claim that  $S = I$ .

**Amortisation:** Accrued savings that are used to replace the wear and deterioration of capital goods.

It is a phase of an *active* operation, in the sense that it involves the change from one type of disposable fund -savers- to another disposable fund -producers- (even if the producer and saver are the same individual).

**Hoarding:** Part of non-consumed income and, therefore, part of savings that is taken out of circulation and does not demand capital or consumer goods. Neither does it involve a demand for financial assets.

**Capital:** Durable goods that aid producers in production tasks. Bernácer acknowledges the existence of durable goods that do not necessarily aid production, but that do however generate a chain of utilities over time. He calls these *consumption capitals* and they do not necessarily or not totally match up to those called semi-durable goods in traditional economics.

**Fixed capital:** The previous explanation can be used here as well. Liquid or net capital is the sum resulting from subtracting amortisation from *total* capital. Its recovery through amortisation is extremely important. Both of them are active operations.

**Working capital:** Concept derived from business economics, consisting of supplies of goods and services being revalued during the production period.

Bernácer was interested in showing that merchandise produced is working capital, even when this merchandise is capital equipment (or fixed capital). For producers, fixed capital 'is working capital just like the wood for the cabinetmaker or flour for the mill owner...' (*A Free Market Economy*, page 31).

When demand unleashes its purchasing power, the producer releases his manufactured machine and, after it is in the hands of the party who is going to use it, it will be called fixed capital.

**Working capital, financing:** Working capital will be financed with new money and fixed capital with savings. Financing working capital with savings is depressive.

**Capital, financing:** Capital is financed with system savings, thus guaranteeing macroeconomic equilibrium and the fulfilment of the equality  $S = I$ .

**Financial capital:** Meaning given to savings and its financial materialisation.

**Liquid capital:** Concept stressed by Bernácer to criticise the theory of interest, pointing out the difference that needs to be made between capital and the monetary flows that finance it (many economists confuse the terms).

**Actual capital:** He used it to differentiate the misnamed financial or simply monetary capital. Real capital

is simply capital (fixed and working).

**Capitalisation:** Employment of savings to acquire capital goods, produced spontaneously by companies, or to finance building capital goods when taking place at the initiative of savers or those who cede their savings.

**Capitalisation and production:** Companies create products, adding value. This operation is production, even when the product is capital equipment.

Capitalisation is a financial operation that lets capital goods be financed with savings.

**Capitalisation and realisation:** Capitalisation is an operation utilising demand (of capital) for *new* capital goods (both net and replacement).

If the same capital equipment is bought and sold several times, it is no longer capitalisation but realisation. It is used for current assets. In realisation, the market does not eliminate the good that continues as supply.

**Cycles:** Periodic fluctuations of national income and production owing to the reciprocal interaction between the real and financial markets, real profitability and financial interest and aided by the institutional rigidity of systems, such as the gold standard, fixed exchange rates, rigidity of salaries, etc.

**Monetary circuit:** Channels through which money circulates in the production circuit. The payment of wages and salaries makes money move from producers to consumers and when consumers buy, money moves back to producers. Since a financial market exists, the money circulates both ways in a single circuit and is comprised of two sub-circuits: the ordinary market and the financial market.

#### **Types of working capital:**

*1<sup>st</sup> class:* Money required for the payment of incomes and product acquisition (value of national product).

*2<sup>nd</sup> class:* Required for payments between companies in the production process chain.

Companies continue to successively incorporate added value until the final product, which is the sum of the final added value. This is also national product: 1<sup>st</sup>-class working capital. Moreover, companies buy all production from the previous company, adding their value and selling it on to the next company. The total of all these payments is 2<sup>nd</sup>-class working capital.

**Bank credit and working capital:** The process of forming short-term working capital in the company's activity period. It is normally an offshoot of bank credits (discounted notes). Apart from this, a condition of macroeconomic equilibrium requires that working capital is financed with new money.

**Crisis:** It is a sporadic accident of depression. It is not necessarily the inflection point between prosperity and depression. A state of latent tension.

**Bank account for working capital:** In monetary regulations, there must be an account for financing working capital, which will be fed by new money (granted by banks).

**Disposable income accounts for fixed capital:** Monetary regulation to achieve dynamic equilibrium. The fixed capital account will receive savings from the system and company savings, along with amortisation. It will *never* be used to finance working capital.

**Actual demand:** Demand and purchases made of consumer goods and capital goods in a specific time period. In this way, money moves from consumers and producers to the final producers.



**Financial demand:** This is the potential or actual demand that gravitates over the financial market to absorb financial assets (and real, secondary ones). Financial potential is equal to the maximum disposable funds in the system. Effectiveness means the purchases made on the financial market. For methodological comfort, the money created will be considered as accruing in disposable funds, when this money is lent or earmarked for speculative aims.

**General demand:** All demands really *executed* on the general market. It is therefore actual demand plus demands executed in the financial market. And therefore, it represents demand for consumer goods, capital goods and financial assets.

**Potential demand:** The total demand capacity existing on the market. Hypothetically, to achieve equilibrium, it must coincide with total income, which in turn, equals the monetary value of production.

**Depression:** Descending zone of the cycle. A drop in national income and a decrease both in savings and in investment.

**Discount of future utilities:** Bernácer's criticism of Böhm-Bawerk's psychological theory on interest, based on the discount of future utilities.

**Market disequilibrium:** Refers to the ordinary market, when the income coming from the market is not demanded from it. If the opposite occurs, the consequence is an increase in prices.

**Money:** 'Money, whatever form it takes, is the symbol of a credit against society' (*The Functional Doctrine*, page 27).

**Money, purchasing power:** The basic function of money. 'If this were not true, it would lose all its utility.'

**Money, intangible nature:** Right to reclaim its value.

**Money from the ordinary market:** Comes from the ordinary market as payment for factors of production and part returns to this market through buying and selling. The other part goes to the financial market.

**Disposable money:** Please see disposable funds.

**Financial money:** With money, there is also traffic with real, dead wealth and financial wealth (secondary). It is possible for a financial instrument to be used as money, which alters circulatory mechanics. It is possible that commodity money, like gold, is used as a financial instrument, which then depresses the economic system.

**Disposable fund:** Fraction of income that, having avoided consumption, is not earmarked for demanding capital goods (it is not invested). It remains in this state to go to the financial market to demand assets on the secondary sector of this market. As a *whole*, buying and selling operations on the financial market do not mean a loss of disposable funds for the system and therefore entail a renunciation or loss of capitalisation.

**Disposable funds, first-degree or minimum or consumers':** In the hands of consumers, they translate into consumption and disappear as disposable funds.

**Disposable funds, second-degree or producers':** In the hands of producers. They are needed to continue production, thus disappearing as disposable funds.

**Disposable funds, maximum or third-degree from savers or capitalists:** See general definition for disposable funds. The net flow of disposable funds that remain among those that are input and output, I have called these *net* disposable funds (Bernácer however did not use this name).

**Disposable funds, net:** Disposable funds in the strict sense or third-degree.

**Complete market equations:** Arithmetic expression of market equilibrium. It is a dynamic balance that lets the step from a static economy in which  $S = I$  be expanded to the economy that is found growing through working capital. Out of this working capital, part is comprised of fixed capital in the hands of *its* producer and its creation must be financed with *new* money.

**Companies, financial regime:** Conditions set forth by Bernácer to achieve dynamic equilibrium.

**Desired cash balance:** Or *encaisse désirée*, a term coined by Walras, that in Bernácer's judgement, hides the supply and demand of goods.

**Market equilibrium:** Situation in which overall supply and demand are equal. Since the beginning (1916), Bernácer admitted equilibrium in a situation of unemployment. Full employment equilibrium for Bernácer required, above all, the disappearance of the financial market.

**Financing:** Payment, demand or purchase of fixed capital with savings and working capital with new money. It is a part of actual demand. Financing is a purchase.

**Fund:** Term comparable to disposable fund. Nonetheless, it does not represent this category when speaking in other economic terms. There are acquisition funds, product funds (includes salary funds, lendable and available, when referring to the disposable funds of consumers, producers, capitalists, savers, etc.).

**Identity:** Cited for tautology. It creates confusion because either two things are originally different so that the identity is excessive or they are the same thing with two names, in which case the identity is superfluous as well. Thus  $Y$  is income from production  $O$  and from this, Keynes did not say that it was an identity (quote by Bernácer).

**Identities:** Bernácer criticised the macroeconomic identities  $Y = C + S$ ;  $PN = C + I$  and  $S = I$ . The only thing that is true is that  $Y = PN$ , which expresses potential equilibrium or Say's Law. In economics, identities would have to include disposable funds on the income side and financial assets in supply. Bernácer's equations or identities would be:

Production: Production of consumer goods + Production of capital goods = consumption + capitalisation + disposable funds, then:

Savings = income – consumption and therefore,

Savings = capitalisation + disposable funds. Expressing the above in symbols,  $S_k$  is invested or capitalised savings and  $D$  are disposable funds and thus:  $S$  (total savings) =  $S_k + D$

Disposable funds  $D$  represent non-executed demand and demand realised in financial assets, then disposable funds must be brought into relationship with inventory investments (unplanned). Remember that all disposable funds are *net*.

**Interest:** The price of money.

**Interest, current:** The money market interest rate. It is the interest that necessarily comes from the

financial market.

**Interest, dichotomy of:** Current interest that depends on the supply and demand of money. On what money? Loanable funds, or disposable funds or non-capitalised savings, on the one hand. On the other hand, normal or real interest (Wicksell) determined by the real productivity of capital. For Keynes, this would be the marginal efficiency of capital.

**Interest, monetary and financial:** My proposal to finish Bernácer's theory. With disposable funds  $D$ , income-yielding assets  $V$  are acquired that let the income  $R$  be determined, with interest thus growing.  $D$  is non-capitalised savings. In this book, this is financial interest, called current, monetary or market interest by Bernácer, Keynes, etc.

The other part of savings, specifically that which is capitalised  $S_k$  ( $S = S_k + D$ ), is the object of supply and demand, a phenomenon that takes place on the ordinary market (not the ordinary money market). This is the monetary interest rate.

There are two types of interest: monetary and financial.

**Interest, origin of:** Monetary interest is equivalent to the interest called current. It is the interest that appears in the economy. It is born on the financial or income-yielding assets market. These assets generate income  $R$  that, related to its market price  $V$ , lets the percentage yield be determined.

Since these assets (income-yielding) are acquired with disposable funds or non-capitalised savings ( $S - S_k = D$ ), interest will indicate the profitability of that non-capitalised income, understood as a deterrent to production.

**Interest, origin and calculation:** The market determines the value of the market price of securities,  $V$ , and the income  $R$  is known, the interest or percent yield can be found. The formula will be  $i = R/V$ .

**Interest, unification of:** There is practically only a single interest rate... 'because the yield of all stock-market securities tend to come into line within the risk differences that marginal fund placement agents attribute to them. All of this unification, within the diversity, occurs on the financial-money market.'

**Interest and savings:** Savings would form even without the existence of interest (criticism of Böhm-Bawerk).

**Keynes:** British scientific economist who is famous internationally. He created and formulated a new concept of the economy, based on a theory of interest, connected to a model for the determination of income (equilibrium with unemployment). The similarity with Bernácer's body of work (published earlier) is enormous.

**Liquidation:** Operation of producers selling current assets to consumers. Here, demand is released to market supply.

If the producer sells to another producer (either current or capital goods), it is called realization and this intermediate demand does not unload market merchandise.

It is said that working capital is continually liquidated, although this is not true of fixed capital.

**Liquidity:** Capacity of certain assets to be converted into money. Includes money itself. Liquidity includes money and other assets. It belongs to banking and speculative terminology.

**Liquidity, preference for:** Desire to keep liquidity. Preference for money over other things without this

condition. What condition? Immediate purchasing power.

To Bernácer, liquidity preference hid the old concepts of supply and demand for speculative goods and assets.

**Liquidity and disposable funds:** Liquidity is a Keynesian term and disposable funds are a Bernacarian term. Liquidity is money and also other assets. Disposable funds are less than money, since it is only that part of income that is neither consumed nor invested.

**Financial market:** Place where the supply and demand for income-yielding assets and actual secondary financial assets are found. Neither national product nor production income ( $Y$  = national income) are created here, but rather speculative income  $R$ . *Savings is not channelled to investment here.*

**Capital market:** Place on which the long-term supply and demand for money are found. It is confused with the capital goods (factors of production) market. According to Bernácer, classical and neoclassical economists confused money both terminologically and conceptually. They equated it to capital goods, but it is really used to demand these capital goods.

**Income or Financial market:** Like consumer assets that are acquired for the services they provide and capital goods are acquired for the chain of returns they generate, income-yielding assets (Robertson coined the previous phrase, correcting Bernácer who simply called them income assets), financial assets are bought and sold for the units of income they produce.

Since the updating of a chain of perpetual and infinite incomes over time is equal to  $R/i$ , which is equal to the value of this income-yielding asset (or simply financial asset), financial market and income market are used synonymously<sup>158</sup>.

**Ordinary market:** Place on which the supply and demand for goods and services are found. In this market, the goods that are offered are manufactured; generating incomes that inevitably and necessarily are potentially equal (potentiality in Say's Law).

**Financial merchandise:** Financial assets or income-yielding assets. Actual assets that represent traffic from former production cycles are included here.

**Irreproducible merchandise:** Products that cannot be reproduced due to their nature. Paintings by great artists, land, etc.

**Ordinary merchandise:** Consumer and capital goods.

**Financial supply:** Supply of income-yielding or financial assets on the financial market.

The supply of income-yielding assets is considered equal to the units of income supplied on the market.

It tends to be elastic considering the enormous possibility for creation and different arrangements. A house (actual asset) that was produced in the past and is suddenly offered represents a new financial supply (financial in the sense I have used). The quantity of profitable assets is much higher than liquid funds (disposable funds) in existence. During emergencies, this circumstance causes their market prices to fall quickly, with interest rates increasing greatly.

Opposite this elasticity of supplies of financial assets is the enormous capacity of the central bank and/or private banks to create money.

**Paying is owing:** Bernácer's phrase when speaking of the creation of cheques, the exchange of money for merchandise on the market. There may be more production and more merchandise and no more physical, institutional creation of money. Currency, whatever form it takes, is a credit against the market.

**Thought and action:** Economic science is the science of facts, not thoughts. These are valuable as long as they are translated into action. 'Psychological factors are not economic factors, which determine action, conditioning and regulating action, but as soon as this happens, economic phenomena arise.'

**Prices, of the authorities:** Taxes. They are arbitrary and distort reality. Even in times of disorder, prices are produced on the market at the meeting point between supply and demand. Authority prices are wrong for two reasons: because they rule out gradual adjustments of the market and because they make all market information that free prices engender be lost.

**Prices, unit of income:** Quotient between actual monetary demand on the financial market and the units sold or traded. In other words, the quotient between what has been paid for a purchase on the financial market and the units of assets bought on the financial market. Stated more directly, how much a financial asset costs:

$$P \text{ (price of the unit of income)} = D/N$$

(amount of demand)/(number of units traded)

**Prices, market:** Result of voting on the market using money. 'They are elections where you vote with money, not with ballots' (*A Free Market Economy*, page 84). It is a social event, the result of a set of desires and free choices. 'A free market is the most perfect expression of democracy' (page 83).

**Loans to producers:** Loans to producers from savers. It does not represent part of actual demand. Money is also received through sales, but they are not loans.

**Productivism:** Erroneous theory about the origin of interest based on the productivity of capitals. Since money was offered to acquire capitals, and capital was used for production, productivists thought that the origin of interest was here. It is the antecedent of Wicksell's real interest and Keynes' marginal efficiency of capital.

**Property:** 'The existence of private property seems to me like a fact inherent with freedom' (*A Free Market Economy...*, page 187). We can only have access to property through labour and savings and the only form of property is capital or, in other words, the fruit of labour. Bernácer prevented free rent from being received without working by the mere fact of keeping a property, an asset.

**Land ownership:** Historically led to interest. The financial privilege of the bourgeoisie gave rise to the origin of interest on capital (remember that income  $R$ , in this case by Ricardo, will be  $R$  and the price of the land  $V$ , then the quotient  $R/V$  tells us the profitability of the market price percentage or interest).

**Realisation:** Mentioned earlier. Passive operation that does not spawn income or production. Sale to another intermediary producer of an already-created good.

**Monetary regulation:** Requirements that private banking and companies must follow to achieve dynamic equilibrium (with growth). It consists of the practice of periodic balance sheets, which let them know the calculation of savings operations and the needs for working capital and, therefore, for new money.

**Income, speculative:** Also called income from financial market assets. This income is *not earned* and is

born by simply owning actual secondary financial assets. This is *non-productive* income (opposite to production income). It is born on the financial market and lets interest be calculated as the quotient of the amount of disposable funds that acquire the value of securities and other assets.

**Income, productive:** It is born on the ordinary production market. Production will engender an equivalent amount of income, entailing the potential fulfilment of Say's Law.

**Income from the land:** The occupation of less fertile lands makes the operating cost more expensive and the product price higher (while the product price on more fertile lands will continue to be lower). This will provide the other lands (the most fertile ones) with greater benefits (for the land and for the landowner). Thus arose the term land *rent*, called territorial income or Ricardian income, because Ricardo developed the theory with great refinement.

This greater advantage is objective and transmissible (by income) and is an interest ( $i = R/V$ ) applied to the active land and that can be enjoyed without working, by the simple fact of being the landowner (it is the tenant who works the land). Its utilisation will be on a level with financial assets, just that land income is ancient.

**Profitability of executed or past capitalisations:** Since they cannot be withdrawn, but are rather used up or depreciate, their value will be adapted to their profitability, with respect to what *free* capitals<sup>159</sup> normally produce whether devoted or not to industry at that time.

**Profitability of planned or future capitalisations:** They are carried out after being calculated where profits, corresponding to their market price, must at least compensate the current capitalisation rate.

**Marginal profitability of capital:** Percentage yield that is obtained from the capital employed after covering the costs of amortisation. Like the calculation of interest, here returns (net = gross = amortisation) are related to liquid assets (savings) employed, which is the value of the capital goods ( $r = \text{yield } K$ , where  $K$  is the value of capital equipment).

**Robertson:** English economist, related to Keynes, who brought Bernácer to the eyes of the international, scientific-economic community in an article published in *Ekonomika* in 1940. He maintained correspondence with Bernácer for many years and received, at the beginning of the twenties, the article on the theory of disposable funds.

**Say:** French economist, who expressed his *théorie des débouchés*, according to which any merchandise represents an output for the rest. Bernácer said that 'This is confusing merchandise with money'. To Bernácer, Say's Law is explained by saying that potential supply and demand are equal. This is a fatal and logical mistake. He said that Say forgot about money: 'Money was created, among other things, so that Say's Law could be better fulfilled' (*A Free Market Economy*, page 298). But with money, financial assets are bought, which are not current wealth. Since this money, which is income, is born from production, a weakness in demand will develop.

**Schumpeter:** Austrian economist criticised by Bernácer. Interest would be a coefficient of technical advances in a dynamic economy. Technical advances increase the profits that the competition eliminates, but not with monopolies. He did not clearly present if the percent profit or interest is the result of the advance and/or of the monopoly. In any case, it is a remainder of productivism (read the productivism entry above) that says that, since capital can be acquired with money and then produce a return, then money entails a reward in the form of interest.

Olgario Fernández Baños espoused a similar theory, which Bernácer by extension also criticised.

**Turgot:** French physiocrat and economist currently recognised as one of the pioneers of monetary theories. Bernácer was inspired by him in his theory on interest. 'Loans for interest is exactly a trade where the moneylender is a man who sells the use of money and the borrower is a man who buys it precisely like the landowner and his tenant respectively buy and sell the use of a rented fund.' (The quote is by Turgot and cited by Bernácer in *The Interest of Capital*, page 96.) Saying that, like land and capital produce yields, if money is lent to acquire money, then this return is renounced, where this is the cause or origin of interest. This is false, because it presupposes the existence of that which is renounced, interest.

Turgot also distinguished between money that establishes interest (the price of money) and money that determines the high or low price of merchandise. The first is saved and the second earmarked for consumers' current expenses. Turgot did not forget that money can be occupied in speculative or non-productive operations (Bernácer's financial market). However, he did not place importance on this fact, thinking that the speculative period and this market were negligible. Turgot contradicted himself given that current money (Bernácer's ordinary market) and reserve money (disposable funds from the financial market) were distinctions he himself created. Turgot's theory is the antecedent of Bernácer's demand for money and interest.

**Value of money:** Purchasing power. If prices go up or down, the value of money decreases or increases respectively. Just like the price of merchandise is established by money, the price of money is established in a market: the money market.

There are two prices of money: the price of money with respect to merchandise or purchasing power and the price of money that is the use of capital-money used to buy machines or capital goods.

**Wicksell:** Swedish economist who differentiated two interest rates: current or monetary and natural. He also related these two to explain the economic cycle. To Wicksell, the monetary interest rate resulted from the supply of and demand for money and the natural rate would be somewhat similar to the real productivity of capital in general in an economic system. His theory used Ricardo's ideas, for whom interest determined the quantity of money and the quantity determined price levels. Bernácer, who had scrupulously studied the history of economic thought, especially the theory on interest, was not aware of (or so it seems) Wicksell's use of Ricardo's ideas. Although Bernácer travelled through Europe for several months and knew languages like French and English, he did not know about Wicksell's theory, which was unknown in the world for many years. Wicksell is the most similar and *recognised* predecessor to Keynes, due to relating interest rates to the profitability of capital (marginal efficiency of capital).

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<sup>158</sup> I insist that readers should not confuse production income or national income, springing from the ordinary market, with speculative or non-productive income from the financial market.

<sup>159</sup> When referring to capital, Bernácer was considering savings-money.

## Appendix 3

# Opinions on the functional doctrine of money by Germán Bernácer

Antonio Montaner, economics professor at the University of Maguncia (excerpt from an article published in the magazine *Kyclos*, Berna):

‘Bernácer’s book on Monetary Theory provides a valuable summary of the work of this important Spanish economist in the special field he sows, whose theoretical research and explanations (like Rudolf Stucken said correctly in summary) are very suitable for falling into stasis, because they do not give, always and everywhere, specific ideal premises that are political or institutional’

Henri Wallich, economics professor at Yale, in *The Review of Economic Statistics* (excerpt from the review):

‘Mr Bernácer has brought together his entire theory, previously dispersed in numerous articles, into a single volume entitled *The Functional Doctrine of Money*. The first part contains the exposition of the doctrine and its increasingly-complex technical execution. The second part is devoted to analysing the work of contemporary Anglo-Saxon economists and to a discussion of several points related to the doctrine. The book, not free from difficulties, reads well and brings to mind the charm of Böhm-Bawerk in many points.’

Virgil Salera, professor in Miami (Florida) in *The American Economic Review*:

‘Those studying monetary economics would do well to consult this volume, given that virtually the entire Keynesian model is subjected to critical research and, at times, highly suggestive. There are also several interesting critical commentaries about the central features of the writings by Hawtrey and Robertson...’

The comments by D.H. Robertson and G. Haberler could be added that were made in the magazine *Económica* (1940) and in the Spanish edition of Prosperity and Depression, respectively. However, they have been cited at other points in the book.



# Appendix 4

## General exposition of works by bernácer, keynes & others (chronologically)

	<i>Bernácer</i>	<i>Keynes</i>	<i>Other authors</i>
1883	Bernácer was born	Keynes was born	Schumpeter was born
1893			Wicksell: 'Value, Capital and Rent'
1896			'Theoretical Analysis of Finances'
1898			'Interest and Prices'
1911			Fisher: 'The Purchasing Power of Money'
1913		'Indian Currency and Finance' (B)	
1915			Robertson: 'A Study of Industrial Fluctuation'
1916	'Sociedad y Felicidad' (B)		
1919	'La Moneda y las Cuestiones Sociales'		
1920		'The Economic Consequences of the Peace' (B) 'A Treatise on Probability'	
1921	'Dos Cuestiones de Actualidad: La Ley del Banco y del Arancel' 'El Problema Monetario'		
1922	'LA TEORÍA DE LAS DISPONIBILIDADES'	'A Revision on the Treatise'	
1923		'A Tract on Monetary Reform' (B)	Hawtrey: 'Monetary Reconstruction'
1924	'Discurso sobre los cambios' 'La Teoría del Problema Social'		
1925	'Interés del Capital...' (B) 'Nuevo Discurso sobre los Cambios'	'The Economics Consequences of Sterling Parity' 'A Short View of Russia'	
1926	'Ciclo Económico'	'The End of Laissez Faire' 'Laissez Faire and Communism'	Robertson: 'Banking Policy and Price Level'
1928	'El Cambio, el Comercio Exterior y la Balanza de Pagos'		
1929	(Stock market crash in United States)	'Can Lloyd George do it?'	
1930	'La Depreciación de la Moneda Española' 'La Cartera de Fondos Públicos en los Bancos Centrales de Emisión'	'A Treatise on Money' (B)	
1931			Khan: 'The Relation of Home Investment to Unemployment' Hayek: 'Prices and Production'
1932		'Essays in Persuasion' (B)	
1933	'Análisis de la Demanda y Síntesis del Mercado'	'Essays on Biography' 'The means to Prosperity'	Kalecky: 'An Essay on the Theory of the Business Cycle' Haberler: 'The Theory of International Trade'
1934	'Etiología de la Crisis' 'Génesis y Peripicias del Ahorro'		
1935	'La Teoría del Mercado Financiero'		

	‘Moneda y Ciclo Económico’		
1936	‘Sed de Oro’	‘The General Theory of Employment, Interest and Money’ (B)	Haberler: ‘Prosperity and Depression’
1937			Hicks: ‘Mr. Keynes and the Classics: A Suggested Interpretation’
1939			Hayek: ‘Profit, Interest and Investment’ Schumpeter: ‘Business Cycles’
1940		‘How to Pay for War’	Robertson: ‘Essays on Monetary Theory’ (cited Bernácer’s work in the Spanish translation)
1941	‘La Teoría Monetaria y la Ecuación de Mercado’		Hansen: ‘Fiscal Policy and Business Cycles’ Hayek: ‘The Pure Theory of Capital’
1942	‘La Expresión Fundamental del valor del Dinero’		
1943	‘La Ecuación Monetaria en el Mundo Mercantilista’	‘International Clearing Union’ (speech)	
1944	‘La Ecuación Monetaria en una Economía Capitalista’	‘Mary Paley Marshall’ <i>Keynes participated at Bretton Woods’ (Keynes plan)</i> Creation of the IMF	
1945	‘LA DOCTRINA FUNCIONAL DEL DINERO’		
1946		‘The Balance of Payments of the United States’ DEATH OF JOHN MAYNARD KEYNES	Samuelson: ‘Lord Keynes and the General Theory’ Tobin: ‘Liquidity Preference and Monetary Policy’
1947	‘El Déficit Presupuestario, la Inflación y Mr. Kalecki’ ‘Disquisición Keynesiana’ ‘Sobre la Concepción Keynesiana’		Samuelson: ‘Foundation of Economic Analysis’ Tobin: ‘Liquidity Preference and Monetary Policy’
1948	‘El Bimetalismo. Revisión de su Causa’		
1949	‘Il Concetto di Statico e Dinamico nell’Economia’		Harrod: ‘The Life of John Maynard Keynes’
1950			Hicks: ‘A Contribution to the Theory of the Trade’
1952	‘Keynes, Kritisch Gesehen’		Baumol: ‘The Transaction Demand for Cash: An Inventory Theoretic Approach’
1954	‘¿Cuál es la Corriente Monetaria que Mejor Conviene al Interés General?’ ‘Sparen, Capital und Zins’		
1955	‘Teoría e Política del Interesse del Capitale’		Haberler: ‘A Survey of International Trade Theory’
1956	‘La Tendenze Restrictive nell’Economia Capitalista’ ‘El Sistema Financiero y las Crisis’		Cagan: ‘The Monetary Dynamics of Hyperinflation’ Hicks: ‘A Revision of Demand Theory’
1958			Tobin: ‘Liquidity Preference as Behaviour toward Risk’
1965	DEATH OF GERMÁN BERNÁCER		

*Note:* The letter (B) in the columns for Keynes and Bernácer mean books. The rest are articles, pamphlets and conferences. All of Keynes’ and Bernácer’s publications are not set forth here, but only the most important ones. Bernácer's works are set forth much more proportionally than Keynes' works.

# Appendix 5

## Economic theories of Bernácer and Keynes: a general summary

AUTHORS	MARKETS		INTEREST	
Keynes	MONETARY  Meeting of the supply of money and demand for money (transaction, precautionary & speculative motives)	FINANCIAL  Demand for and supply of money that securities supply and demand.	MONETARY  Appears on the stock market. Liquidity preference.	REAL  Marginal efficiency of the ‘investment’.
			$K = R + (R / 1+e) + R / (1+e)^2 + .... + R / (1+e)^{11}$  $R$ : yields  $E$ : efficiency  $K$ : accumulation of capital by period (1+e)	
Bernácer	Trade derived from the ordinary market (goods). Money is demanded by industrialists and money is supplied by buyers requesting goods.	Securities that produce income and are exchanged for money from disposable funds ( $S_d$ ).	Appears on the income market (including the stock market).  Disposable funds on this market.	Productivity of capital
DIFFERENCES BETWEEN Keynes & Bernácer	Concepts of liquidity and disposable funds Concepts of investment and disposable funds The securities or speculative market is larger for Bernácer than Keynes		CALCULATION PROCEDURE  Keynes: $R/V=i$  Bernácer: $R/V = i$  Classical: $V = R * 1/i$	
Neoclassical	And in full employment $S=f(i)$ $1=f(i)$ $R$ = chain of financial returns that generate a fixed-income security $i$ = interest $V$ = security market price <i>And full employment</i>			
AUTHORS	CYCLES	INFLUENCES		
KEYNES	<div><div>□</div><div>Hoarding <math>S &gt; I - \Delta</math> Demand</div><div><math>-\Delta</math> Production □ Demand</div><div><math>-\Delta</math> Prices</div><div><math>\Delta</math> Disposable fund □</div><div>Financial market</div></div>	<div>Josiah Chile (1630-90)</div> <div>I.R. Malthus (1766-1834)</div> <div>Wicksell (1851-1926)</div> <div>Malthus (1766-1834)</div> <div>Turgot (1727-1781)</div> <div>I.R. Malthus (1766-1834)</div>		
BERNÁCER	<div><div><math>\Delta</math> Interest □ <math>-\Delta</math> Investment</div><div>□</div><div><math>-\Delta</math> in income and production</div></div>			

<p><b>NEOCLASSICAL</b></p> <p><b>WICKSELL</b></p>	<p>⇒ <math>\Delta</math> prices <math>\square</math> – <math>\Delta</math> demand</p> <p><math>i_R - i_m</math></p> <p style="text-align: center;">{</p> <p><math>&lt; 0</math></p> <p><math>&gt; 0</math> <math>\square</math> <math>\Delta</math> Production <math>\square</math> – <math>\Delta</math> Prices</p> <p><math>&lt; 0</math> <math>\square</math> <math>\Delta</math> Production <math>\square</math> – <math>\Delta</math> Prices</p> <p><math>i_r = \text{interest}</math></p> <p>real</p> <p style="text-align: center;">{</p> <p><math>i_m = \text{monetary interest}</math></p>	<p>Basic common influences in Keynes &amp; Bernácer:</p> <p>1) Incompatibility between Say's Law of the market and quantitative theory. Conclusion: Creation of new monetary theory.</p> <p>2) Rejection of the neoclassical theory on interest. Conclusion: Creation of a new theory on interest.</p> <p>3) Lack of actual demand (Malthus). Conclusion: Fiscal policy compensates this insufficiency.</p>
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## Part seven

### The life and work of Germán Bernácer

## The life and work of Germán Bernácer

### 26.1 MY INSPIRATION

Germán Bernácer Guardiola is the son of Germán Bernácer Tormo. He had just arrived from Chile, where he works as a technician for UNESCO and is a trained physicist like his father. Germán Jr came over to me and introduced himself. A white bridge of letter writing had brought us together. It was a sunny morning. I immediately took him to meet Emilio Figueroa Martínez, a retired professor of Political Economy and Germán Bernácer's former student at the Business Studies School, as well as a technician in Research Services at the Bank of Spain, where Bernácer had been assistant director. Figueroa, who was partly handicapped and felt tense due to his excitement, met us at the door to his home – me and the son of the man and economist that he most admired. Clouds of memories rushed in. Thirty years had gone by. Both of them, with different emotional bridges, brandished their passions and wove together a brief history. The man, the extraordinary scientist that he was, had close relationships with both of them, and it enhanced memories when trying to form a biographical portrait. I looked on silently from a corner. And suddenly the oblivion to which our economist was subjected and the conspiracy of silence, referred to by Figueroa, dissipated.

Another day, an even sunnier day in the city of Alicante, I met Mrs María Guardiola, the widow of Bernácer, at her home, at German's home. The paintings, of course, by Varela; the objects and furniture spoke a language from the past with voices cracked by melancholy. Her children, Eda, Germán, Ramón and Ana María, and her grandchildren accompanied María. Afterwards, I visited the small house on the beach ravaged by wind and sea. Several pine trees withstood the onslaught. The little house in the mountains, its internal and external structure changed, surely made its original state unrecognisable. It was beautiful, but undoubtedly deprived of its natural and ancient poetry.

With all of this baggage of data and figures hanging in disorderly heaps in the asymmetrical hollows of my memory, I began to write Germán Bernácer's biography. The help provided by Oliver Narbona's book, skilfully written and quite precise, as well as by the systematic, comprehensive and geometric book by unflagging Henri Savall, helped me organise my natural chaos. I was further assisted by the fact that I lived in Madrid and had retraced Bernácer's footsteps step by step and had gone through archives and unorganised libraries. But above all by dealing with an invisible Cyclops: that of the indifference, the methodical indifference of *many*, and the conspiracy –if there was one– of dense silence, if not hostility. I do not know why Germán Bernácer continues to cause problems!

Moreover, it was very helpful to know what no one else knew, not even his family or Figueroa or Prados Arrarte or Henri Savall, which is that Bernácer is more important than they think. This secret that I have tried to yell out in the desert is what, surprisingly enough, in my impossible loneliness, has urged me on. The secret is that modern macroeconomics classes can be found in Bernácer's work, work that has yet to be written. This is the secret, the drama and the glory of Bernácer and perhaps my own.

## 26.2. THE EARLY YEARS IN ALICANTE

In the Mediterranean city of Alicante, in the restless year of 1883, Germán Bernácer Tormo came into the world on 29 June. For those that know the city, the exact place of his birth was number 10 of what is today Altamira Street, which used to be called Princesa Street. His father's name was Antonio Bernácer Pérez and his mother's Francisca Antonia Tormo Iborra. This was his father's second wife, with whom he had two children, Germán and Julio<sup>160</sup>.

Due to varying circumstances, the year 1883 was abundant in sowing many interesting people and events. In economics, this was the year that brought death to the prophet of the death of capitalism, Karl Marx, and birth to who, according to some, would save it: Englishman John Maynard Keynes.

Neither geography, nor science, nor education nor the restless stars in the sky propelled destiny; nothing, I say, to make these two infants appear who were determined to be born in the same year and obligated to repeat one another as twins in economic theories. As an invisible mirror in a Platonic universe, like the images of words said by others, whispers of Alicante were repeated in the hard crystals of the Levantine sky to illuminate and repeat what had already been said in the English mist, where an ancient race of giants – classical and neoclassical Englishmen – rocked the cradle of the sleepless Keynes.

Another man, a scholar of dynamic economics and an economics scholar to the fullest extent, was born this same year: Austrian J.A. Schumpeter.



Germán Bernácer, adolescente

*Germán Bernácer in his late teens*

Bernácer's mother devoted all of her efforts to the education and upbringing of her two sons, Germán and Julio, and her daughter, Isidora. The common seed, in the form of efforts devoted to education, intellectual

and artistic stimulation, resulted in the two brothers having an insatiable appetite for the two branches of knowledge. Julio and Germán were born on different planets under the auspices of muses that were not remotely similar. Julio was a lover of words; he was emotional and subjective in his assessments. Germán was precise and rigorous in his observations; he touched what he saw and only believed in what he touched. Germán Bernácer was before anything, before even an economist, a vocational physicist, and it is known that phantoms of subjectivity do not play a part in physics. And their character traits were also opposite. Julio was always likeable and extroverted up to his early death in the thirties. He was a brilliant conversationalist, timely and wise, a skilled writer, lively and descriptive. He was possibly a seductive companion and an attractive person. Germán, on the other hand, was an introvert, discreet in his relationships, quiet and prudent. Maybe his most important trait was his crippling shyness, which made him appear untalkative -which was true- and perhaps unfriendly. His writing and literary skills were subjected to the millimetric rigor of the watchmaker, to the steadfast patience of the accountant, and it was, nonetheless, his astoundingly simple and sometimes even funny style that *frequently* twisted rumours into a crystalline and non-aggressive irony. Many times his family and I have thought that the difference in character between Julio and Germán was similar to that between John Maynard and Germán. Keynes was the opposite of the man from Alicante. Keynes had it all, even luck. He was politically skilful in the internal politics of the astute British Treasury technocrats; seductive, ambivalent, cunning, clever, shrewd, snobby, elegant, a clever publicist of his own publicity, a great writer, and so on.

Julio wrote several literary works; 'Infantilia' was the most popular, precisely because it was the least objective of them all. They are memories painted with the watercolours of childhood fears in the setting of the family home, which is also described. 'Infantilia' was published in 1928, the year his father died, and dedicated to the person who may have known him best: his brother Germán. The book's subtitle is 'Emotions from Childhood'. You will understand why it seems important to me.

Julio Bernácer died in a foolish event during the Spanish Civil War. It was not an act of war that caused his death. Apparently the bus on which he was travelling was stopped by militia members and all occupants were shot.

Germán, as a *scientist*, was a stray sheep in the compact flock of *scientific* disciplines. First of all, he was an accountant who studied accounting mechanics and who slipped through the fields of Physics to escape through the window of the Food Industry. Without ceasing to be a physicist and professor of physics all his life, he was an economic scientist by vocation and this was how he was known. Fate or the inexplicable game of life wanted a Renaissance man to be born by chance in 1883.

However, furthermore, he was an untamed sheep that left the boundaries of classical and neoclassical economics. Of course, another sheep was doing the same in England. Keynes was a natural child of his time and of his profession. He was cradled by classical economists and hidden vice remained in his thoughts and doctrines. And they were awoken by the madness of stock market speculation and the roar of monetary inflationary and deflationary variations. Thus he ceased being classical. If some tried to let him sleep, others tried to awaken him. And thus Keynes created Keynes.





Germán Bernácer

*Germán Bernácer, lecturer at the School of Trade in Madrid*

What I mean is that Keynes was a child of his time and his environment. But Bernácer was so unorthodox – although he didn't know it – that he was nothing more than the biological child of his parents and nothing else. We do not know whose child he was in his economic scientific education. There were no resources for studying in the beautiful and provincial city of Alicante. There is no comparison with Cambridge. Spain was not home to the Smith's or the Ricardo's, Marshall did not walk its streets; his father was not John Neville, but rather a humble shopkeeper. His work was not in the *activity* of high finance or on the stock market or in the esoteric meetings of international economic organisations. He was also not a trader or an agitated speculator awoken from an impossible slumber by the death of the economic manuals that circulated during that period. Nor was Bernácer awoken from his slumber by the colossal uproar of the great crisis of 1929. Bernácer woke himself up with the marvellous stimulus of his own intelligence.

Man is the child of his environment, but he was not. However, this biography attempts to study Bernácer's environment and the influence it had on him. Let's continue with his childhood and adolescence. Alicante was not, like today, a city that lived from tourism; it lived from its commercial activity, maritime and fishing activities. Small, beautiful, it was surrounded by chunks of colourful landscapes: the blue blanket of the Mediterranean Sea, and a small mountain range surrounded by pine trees. Its climate was mild in winter and in summer and its streets were filled with an assortment of small family shops (one of which belonged to his father); a city of lively plazas with passing carts filled with goods, of wholesale fabric shops, of cafes where people talked about politics, bullfights or business, where they gossiped. They spoke of their simple lives and were pleased about everything from Alicante. The port received products from other parts of the world and Spain's products were sent to other parts of the world. Everything travelled on uncharted routes, on the infinite destinations of the sea. The ships, untiring and slow, arrived and left bringing and taking things, ideas, and thoughts. Alicante by day was dazzled by a peaceful and powerful light with its blinding fires of creation that would be brazenly painted by Sorolla and, judiciously, by Varela. The light never rested, not even at night, a time when the giant oil lamp of the

Levantine moon illuminated everything, as it always illuminated those that arrived there: Phoenicians, Greeks, Romans, Arabs, Moors and the last privateers related to the Tower of Babel of tourism.

In the surrounding area, Alicante was decorated with a beautiful landscape filled with vegetation and serene, harmonious and luminous mountains. The creator forgot to turn the light off in Alicante and, day and night, light soaked into the skin and *bones* of the city, unlike in England. This light has marked the soul of its inhabitants, of its writers like Miró, of its musicians like Oscar Esplá and of its physicists and economists like Bernácer.

As was said earlier, Bernácer was born on Princesa Street and from the time he was little he lived with his cousin Tormo Bernácer. The inverse relationship of the surname Bernácer Tormo and Tormo Bernácer is explained by a marriage that joined the two cousins. Among the cousins, Manuel Tormo was Julio's and Germán's best friend. The common language was Valencian and Spanish in a family surrounded by the ethnicity and culture of the city of Turia. Germán always kept his tendency to speak in the language of his parents (and I had the good fortune that one of my articles on Bernácer was fully translated into Valencian).

The two families shared a flat at number 6 San Bernando Street, which reached up to Princesa Street (Altamira nowadays). On Princesa Street there was a lane that connected the home to the family business. The family business was a grocer's called 'La Tienda del Gat', which, like all grocers in the town, was a family business, a small bazaar where you could buy a little bit of everything on your way home. The business sold rice, nuts, spices, toys, needles, thread, starch, soap, candles, ribbons, groceries...; in short, it was a small piece, a microcosm of gross national product. This shop and his home must have been the macrocosm where Germán existed and Alicante must have been the rest, the microcosm, and his 20 odd years of existence in the capital, Madrid, a small and confused anecdote of his life.

There is a belief, said by I don't know who, that geniuses are really not as intelligent as we think; they just ask different questions. Elementary questions about the most elementary things. One wonders about the shape of the thing that is being stepped on which, except for small reliefs, is normally flat. This was a question formulated by Aristarchus, of Thales of Miletus, until reaching another man that stubbornly tried to verify it, who was named Christopher Columbus. Another, more incredulous and more elementary, wondered why the moon doesn't fall and why an apple does. Newton would take some time (1667) to build the foundations of universal gravitation. Galileo looked at -surely with his eyes facing upward and his mouth open- the oscillation of the lamp of Pisa. Young Bernácer speechlessly contemplated the oldest and most tenacious operation of humanity, looking amazedly at what did not astonish any man that we know of: what astounded Bernácer was the operation of buying and selling that happened on a daily basis at the small business. His gaze went from the hand of the buyer to the hand of the seller. Behind his father there was something desired by the buyer -goods, threads, food, soap, etc.- and in the hands of one and then the other, there was a fleeting moment, an eternal moment, because it lasted nearly throughout all of history; something was exchanged: money. Their hands didn't touch -thought Bernácer- they were joined by money. In reality, what both of them really wanted was money. There was a difference between the goods sold and money. From time to time, the person buying wanted a portion of what he was buying, and his father, the seller, did not want what he was selling; to some extent it was excess. Why, then, was it excess? Well, as a pretext to *buy money*. His father bought money with goods, and whoever bought goods supplied money to acquire them. Subsequently, he would repeat this many times in his economic manuals,

in his research. 'Whoever demands goods is really supplying money and whoever demands money is really supplying goods'. As to the rest, what he would say about the Englishman and those of his cultural ethnicity, including Spaniards who followed English economic thought –this idea about the supply and demand of money is not nonsense, but rather a meaningless statement. To say that money is demanded without knowing what is offered in exchange and to say that money is offered (monetary supply) without knowing what is demanded is an assertion that totally defies logic. It is not for literary embellishment that this work insists upon the environment surrounding Bernácer; it shaped the first concern of his life. In reality, everyone demanded money, although everyone used different means to get it. His father accumulated goods. The husband of the women buying sold his labour. Young Germán probably asked himself why money was not dispensed with; and he himself replied that it was because of how uncomfortable an exchange would be without it. In the same way that the alphabet brought over thousands of years ago by the Phoenicians favoured the exchange of words and ideas as well as communication in general, money, also invented by them, favoured trade and with it, production, and with production, the division of labour, as Adam Smith would put it. And the Phoenicians, the Greeks, the Romans, the Arabs, the Moors, the pirates, the kings, and even domestic thieves all did the same: they supplied money in exchange for goods, and they supplied goods in exchange for money. Alicante and especially the Levantine coastline have forever witnessed the trade carried out continually in the grand wet marketplace of the Mediterranean.

But when Bernácer was young and went to the port, he already found himself, along with his brother, astonished at the fact that the currency of Spain was one, and there was another currency, foreign currency, which was different, and that this complication was connected to the ships that were lost on the horizon. In addition, all of this was joined with a serious problem in the young boy's mind, which he endeavoured to resolve. A special coin or some coins were made up of gold or silver. This was correct and properly understood; if the currency represented a value, it was logical that the coin itself had a value, and nothing could be better than if the coin were made of a valuable metal. Julio wondered if life were not a ship that gets lost in the sea of life. The brothers were different.

But he was also interested in payments made with paper. And paper had practically no value, like the paper that his father used to wrap up goods. Where was the secret? Once again he asked himself about the most elementary matter. He soon knew that the paper represented a sort of promissory note or acknowledgement of debt that banks held against its owner for a quantity of metal that the latter had left at the bank. If it were a credit instrument or an acknowledgement of debt, it would have a value, and as a value it would be exchanged for another value, which was a good. And if the unstoppable machine of trade and technology, the work necessary to produce it, demanded more money, there would be no problem if *paper was created freely*. This would not only be an economic sin, but also heterodoxy. And so what if there were no gold to back the paper? International trade carried out by these ships that he saw required a prior trade. This was unheard of! In the same way that salt cod was bought and sold, pesetas were bought and sold against sterling pounds and sterling pounds were bought and sold against pesetas, all of which was done to then trade Spanish wine for English cloth. Behind the English pound and the peseta there needed to be gold that preserved the pound and the peseta. And why did this golden backing exist? For no reason at all, to make trade more difficult. The *true backing of the currency, or currency equilibrium, is not gold or silver, but rather production or goods*. There was something more; the currency itself activated the creation of wealth. On the other side of the sea, in England, in 1913, young Keynes published

a discourse on the functioning of the gold standard (Indian Currency and Finance). Keynes was 30.

Julio, Germán and their cousin Manuel would go up to the roof of their house during the day where the clothes were hanging to dry and they could see the mountains in the distance faded by so much light: Cape Huertas and the Dome of the Collegiate Church and of Saint Mary. During the star-filled nights, Julio and Germán would name the different constellations. Perhaps in the same way as Phoenician sailors in times past looked at them to reach Spain. And adolescent Germán was probably inclined to think that the Phoenicians, the Canaanites, who brought so many things from so many places, did not also bring the demon of other Chaldean gods like the golden calf that perpetuated, through the gold standard, its malevolent influence.

He practically never changed tastes. What he liked as a child, he kept when he was old and loved even more. And what he loved was a quiet, family-oriented life frequently altered by the greater calm of nature, of the country, of the marvellous Aitana mountain range and of the sea in the company of his inseparable friends Oscar Esplá, Gabriel Miró and Varela. Germán penetrated deeply into nature, with the nature of his land, the nature of Alicante. At night he liked to examine the skies. During the day he liked to swim and he swam so deep into the sea that he was lost from sight and his family members worried about him.

His finances, which were not abundant, were stretched to make small, humble, country houses that allowed him to be closer to nature. He had a house built very close to Juan Vidal's house in the land of Aitana, which is today naked and degraded by housing developments. According to family members, in that time, without a car and without current healthcare resources, the trip to Colot was an adventure. In San Juan, in front of the sea that was sometimes calmly and sometimes furiously whipped by the wind, he built a small home. The Germán from Alicante and the Germán that lived in Madrid can always be found alternating reading, meditation, a peaceful life with walks in the mountain and swimming. Miró, Esplá, Varela and Bernácer were what are now known as environmental enthusiasts. This piece of parochialism was always acclaimed by the three friends and was faithfully reflected in their works: Oscar Esplá in his music, Miró in his books, where he talked about customs and scenery, and Varela doing what was impossible - painting the eternal flash of the Alicante light that was never extinguished.

Childhood emotions, intuitions, fears and its endless curiosity gave way to adolescence, and along with it, the overwhelming reality that enters your home like a corpulent tenant. This neighbour was called economic reality. The shop went from bad to worse and I believe it had to shut down. Bernácer was forced to help his family out financially by giving classes in the morning, reserving nights to study by the light of an oil lamp. For many years, the oil lamp would be German's silent companion in an Alicante that had no electric lights at the beginning of the century.

## 26.3. PROFESSIONAL LIFE IN ALICANTE

Germán began practical studies that allowed him to earn a living in a city of merchants. He studied to be a technical accountant, a branch of accounting that precisely tracks reality with as much monotony as accuracy. The mathematics involved in such accounting only amounted to adding and subtracting, but it would serve to keep him rooted in crude and frugal reality and not dreaming about things other than observable and observed reality. It would also help him to defend his own criteria with respect to general macroeconomic accounting. He began his studies when he was 14, the same year in which his Business

Studies School was elevated to the rank of higher studies by Royal Decree. Although 'higher' may seem to allude to grandeur, it was not a university, but rather a simple trade school.

In the 18<sup>th</sup> century, the city of Alicante began to dispute with Valencia for an autonomous consulate, which was obtained in 1875. Thus, the Council of Commerce, the Consulate and, obviously, the Business Studies School were formed.

The business studies there had two levels: elementary or expert (certified accountants) and higher or professorship (business professors).

The following disciplines were taught: Arithmetic and Business Calculus; Accounting and Bookkeeping; Commercial Law, Customs and Trade Practices; Political Economy and Modern Languages. Logically, since it was a school, it did not require a high level or much depth in studies. It was also normal that a school that was not the Faculty of Economic Sciences (created approximately 45 years later) in a small city did not have a well-stocked library. Two things, however, should be stressed. The first is that the elementary political economics studies rapidly attracted Bernácer attention. The other is that language studies also caught his eye, and the languages that drew his attention were French and English. As for the other disciplines, business calculus, arithmetic and, even less so, accounting should never be looked at with disdain; they are true gymnasiums where the ever-so-necessary musculature of logic is exercised.

The second group or level was comprised of the following classes: History of Commerce and Industry, Geography and History and Recognition of Commercial Products. Bernácer would later come to teach the latter subject and not the field about which he knew the most: Political Economics.

German's superb ability of abstraction rose above the small jungle of homogenous disciplines, and it was this ability that resulted in his elemental and compact logic to understand what was happening in the uproar and clamour of street trading, fish auctions, banks, ships and agriculture. Thus, his impeccably solid scientific style was simple to the point that it irritated economic scientists that played and play with the mystery, the magic and the hypocrisy of useless technicalities. His childhood curiosities undoubtedly increased at the school and there, and in the street, especially in the street, and in the mysterious solitude of the oil lamp the answers became weaker. The Alicante Business Studies School seems to have had all of the resources necessary to develop his activity. The City Council and the Provincial Government and the support of other institutions helped the school to mature and develop. It is necessary to understand that in a small city, business professor studies, which were practical, were tightly intertwined and connected to the economic reality of the provincial city. Job offers were quickly filled by capable students. The Business Studies School was a natural part of the business life of the Levantine city. According to Oliver Narvona, who has meticulously studied the environment and the history of end-of-the-century Alicante, Gironés de Puerto, Professor of Economic Geography, directed the school. The Registrar was Campos Vasallo and the faculty was composed of: Campos Barrera, of the Development of Consumption and Industry and Complements of Geography; Soler López, of Natural History and Recognition of Industrial Products; Enrich, of Accounting and Bookkeeping and Business Operations Practice; Domínguez Navarro, of Comparative Merchant Law; Leveroni Morales, of Italian; Olivares Gil, of French; Fornier Padilla, of Arithmetic, Business Calculus and Calligraphy. The assistants were: Campos Vassallo, Santonja Gil and Sellés González.

From these disciplines, it is necessary to take a closer look at 'Recognition of Commercial Products' and professor Soler López, because they would have special meaning in this future scientist's mind. This

subject, which would later be called 'Industrial Technology' and later, most likely, 'Testing and Evaluation of Commercial Products', clearly revolved around 'Physics and Chemistry'. The accountant Bernácer, although as far as I know he was never an accountant, was in reality a professor of Physics and Chemistry, as subjects that shaped his shapeable and alert mind. As a researcher, he was an economist. Economic reality and economic theory are not physical facts and this, above all, was something that Germán knew. But there is an aseptic and pure rigour in physics that lifts it above other sciences. Observation, the incorporation of this observation in theory, the theory of observation and the mathematics linking logical events, all make physics and the physicist an almost perfect scientific fit. As for the rest, concepts like velocity, acceleration, elevations and flows, elasticity, etc. are similar to economic concepts: the speed of circulation of money, etc. Germán also knew that many things were different in economics than in physics. The most important thing is that wealth and money, unlike matter, are created and destroyed. And he also knew that alchemy was not such a mysterious matter, that it was a matter of chemistry and physics and that economics had something similar to alchemy. It was pure alchemy. And he wanted to one day understand this matter, this economic alchemy. What was the chemical process that Germán wanted to comprehend? What was the philosopher's stone? It was simply how wealth was created. How wealth was created in factories, at workshops, in fisherman's nets, in orchards. The issue was contemplated as follows: the alchemy to be explained was the transformation of money into *real* wealth, i.e. assets. Bernácer later found the answer.



*Germán Bernácer, Oscar Esplá and Agustín Irizar*

Soler López, professor of 'Recognition of Commercial Products', greatly influenced Bernácer. Bernácer was the teacher's aide in López's official chair where he gave classes and conducted practices and

experiments. Germán was appointed teacher's aide according to his personal record dated 31 October 1901, which was the year he received his degree. According to a subsequent certificate 'he was appointed by the Honourable Chancellor of the University of Valencia and at the proposal of the Faculty of Professors of the Business Studies School as a temporary free Auxiliary Professor'. The aforementioned certificate says that on 18 November 1902, by agreement of the faculty, he was appointed: 'Personal assistant of the professor of Physics and Chemistry, Natural History, knowledge and application (illegible) of business and recognition of commercial products...' <sup>161</sup>

Physics labs had to be conducted at the municipal laboratory located at number 3 Cádiz Street, which had been set up by chemist Soler Sánchez. Insistence and hard work made it possible to improve the school laboratory between 1905 and 1910. The chemistry laboratory was created at a slower pace until 1903, when splendid instruments arrived from France.

From the beginning of his time spent as an assistant professor, Bernácer carried out physics experiments, which fascinated him. He liked the seriousness of the science called physics, which never failed and could be represented mathematically on paper like a second lab. Strangely and inevitably, the two unrelated trainings would complement one another in Bernácer: accounting and physics. Accounting is a way or recording what exists and nothing but what exists, and physics experiments with facts that also exist. And these two sciences (physics overwhelmingly exceeds accounting as a science) shaped Bernácer's scientific personality, where there was no room for useless metaphysics or fallacy or unnecessary learning.

But Germán was truly an economist, although his degree was not in economics, and as an economist he wanted to understand the economic events around him. He wanted to understand the explanation of misery; how misery was created, the same way that the gold block of wealth originated from the philosopher's stone. Physicist-accountant Germán wanted to understand the other transmutation and how it went the other way: How could heavy shiny gold be turned into ash? Or laughter into tears? He wondered why physics and its new discoveries, minted in the engraved glory of technological innovations, told him that wealth was easy to create and that as humanity advanced, poverty would be banished. And since it wasn't banished, there was an asynchrony between the capacity to generate wealth, the same wealth and poverty. The answer does not have to do with the unequal distribution of wealth, as the late Marx would explain it. There would be a much more profound internal explanation.

On 18 June 1901, he earned his degree to become a certified accountant with a grade of outstanding. This was the same year that he enrolled at the school. He was 18 at the time.

For nine years Bernácer had been trying to heal his spiritual scar created by the death of his only sister Isidorita (1897+), who had been loved by all. This was an event that wounded the entire family. His mother was deeply affected and never really recovered.

Since 1899, Spain had been living horrible years that affected its dignity, its politics and its economy. The empire was drawing to a close and the glories of the crown were crashing down. Cuba, Puerto Rico and the Philippines left to never come back. The Caroline and Mariana Islands were sold to the highest bidder. And all of this was combined with the new yet faltering reign of Alfonso XIII; the labour unrest of 1901 and the problems with Morocco the same year that were undermining an already-outdated economy. Like other ports, Alicante received the influx of the fall of the national economy; and like other families, the Bernácer family saw a decline in income, production and trade at their shop. They moved to Bazán Street.

Bernácer's mother, whose health had been poor since the death of her daughter, got worse. Bernácer, as the eldest brother, was called upon to assume responsibility, to rescue his family from the precarious situation they were in. Thus, he began giving private classes to students at the school. In the darkness of his personal and family situation, there was a glimmer of light via a call to take official exams to become a professor of Industrial Technology, which was also called Study of Principal National Industries. There was an opening in Alicante itself, and it would be given to the person that earned the highest mark.

The exams were held in April and May 1905. Bernácer, at 22, was named tenured professor of 'Industrial Technology' at the Business Studies School, per Royal Decree of 19 May, with a salary of 3000 pesetas, ordering the undersecretary of the Ministry of Public Education and Fine Arts, the Count of Albay, to give him possession of his post. His long-time friends Miró, Esplá, Castillo, Irlés, etc. were ecstatic about the news and according to Oliver 'they went in droves to the Encina Station to accompany him from there to Alicante, joyfully congratulating him for the victory'. A few days later, Bernácer officially took over his position as professor in the presence of School Director Manuel Gironés, with Hipólito Domínguez acting as registrar. He turned 22 the following month.



Despacho de Germán Bernácer

*The diminutive study of Germán Bernácer in the seafront house of the San Juan Beach in Alicante*

He was already a part of the faculty of professors, further developing, now as a professor, his relationship with his friend and teacher Soler López, who would later be the school director and to whom Germán owed so much. His salary allowed him to more easily attend to the needs of his family. The efforts put forth for the exam made it possible to see another of German's character traits: his enormous sense of responsibility, which he showed first as an older brother and later as a father.

He was from Alicante, in his character, his culture, his feelings and his passion. That explains why he stayed in Alicante, working as a professor, for 25 years, five months and 27 days, according to his personal record (and the biographical and precise accounting of Oliver). His primary co-worker was, inevitably and happily, Martínez Soler, with whom he worked on laboratory tasks as well as on the lab's expansion. Another interesting figure was Vicente Martínez Pina, degree-holder in Political Economy and Comparative Commercial Law, because Martínez Pina's education on economic theory made it possible for him to closely look at German's work and evaluate it according to his knowledge of economic

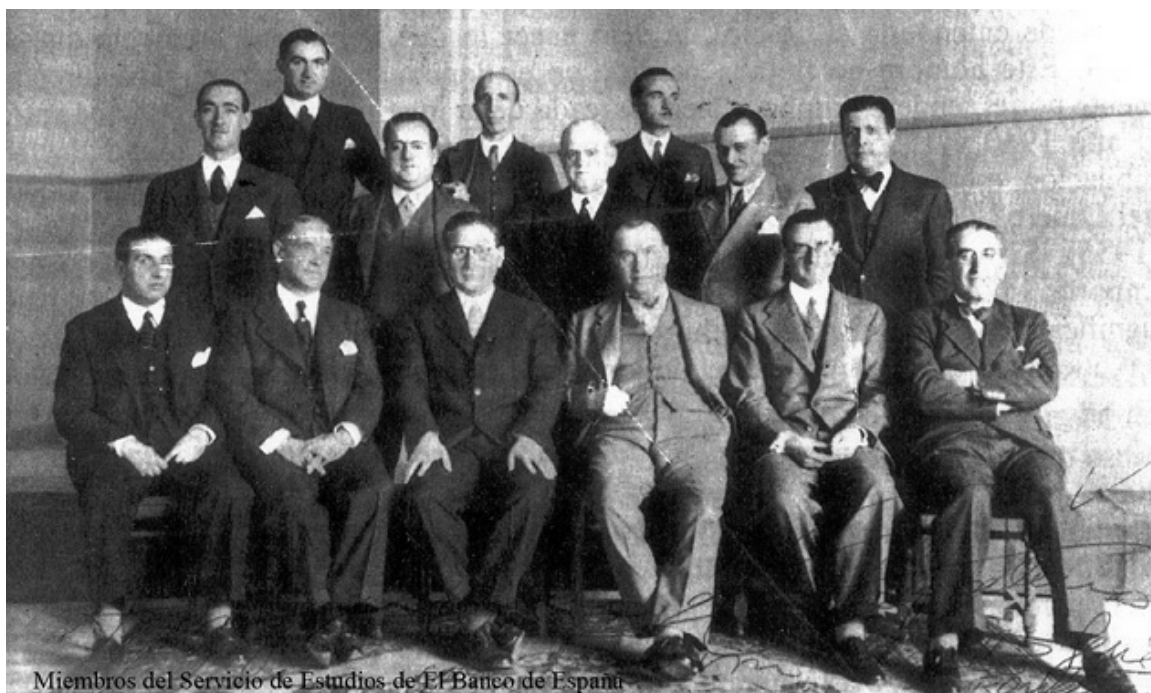


doctrines. The conversations the two held must have been interesting; it is a shame that they didn't live in different cities, because the letters they would have written one another, if kept, would have given valuable information about Bernácer's thoughts regarding this subject. Another faculty member was his restless and cheerful brother Julio, who was a Professor of Modern Languages from 1912 and was associated with the School's Department of Sciences. His brother was fluent in English, French, Italian and German, as was Germán. Julio prepared to take official exams in Business Accounting and gave classes at the Iborra Academy and at the French School. Afterwards, he worked as an administrative assistant at Tabacalera S.A. in Alicante and later in Madrid, after 1932, just a few years before his absurd death.

Bernácer was fully dedicated to his work as a teacher and to preparing laboratory experiments. He even managed to prepare interesting textbooks for the Business Studies School between 1906 and 1936. There are references to a physical methodology book around the year 1932.

Such information may lead to the belief that Bernácer as the hidden researcher was always in the shadow, in total anonymity. This is not true. He held positions of a certain level of importance, but he never tried to arrogantly flaunt this fact. In 1906-1907, when he had been working as a professor for one year, the school registrar, Hipólito Domínguez Navarro, resigned and it was necessary to fill the position. A vote was held and Germán Bernácer was chosen. He began occupying the Registrar's Office on 28 January 1907. He took over the position on 5 February and left it on 22 August 1909. He was once again appointed registrar per Royal Decree of 21 April, and he resigned on 31 December 1916.

His education at the school opened the windows of his understanding to discover the enigmas of his childhood and his adolescence: probably the enigma of buying and selling. Accounting and commercial law taught him what he already knew: businesses asked for loans to fund their activities. The economy was a marketplace in which voices wanting to buy were crossed with voices asking for loans. Business owners who contributed money from their pockets were also lenders of their own businesses. It was clear that companies, as legal entities, owed money to their shareholders, as individuals. In both situations, debt-based relationships were formed for those who owed and credit-based relationships were formed for those who lent, and all of this was formally and legally documented by means of beautiful papers decorated with the trumpery of strict protocol: they were shares, securities, bonds, certificates, vouchers, etc. Germán soon advanced as a silent sailor through the hidden monetary circulation of the economic system. It will be clear later that this is not just a blithe sentence. One loans what is not consumed; savings are lent. Thus, the savings of some -capitalists- fund investments of others, the producers, entrepreneurs and businesses. In theory, savings should be the same as investment. And what is investment? For Bernácer, it was the use of savings to fund the acquisition or formation of capital goods.



Miembros del Servicio de Estudios de El Banco de España  
*Germán Bernácer seated third from the right. It is very likely the group at Research Services of the Bank of Spain.*

At a later time, in the physics lab, physicist-accountant Germán realised two things: that these papers called shares, securities, bonds, etc. that provide a record of a simultaneous credit-debit relationship are the ships that carry savings to investment, in the same way that when he was a child looking out from the balcony of his home he saw the ships carry goods abroad.

Nonetheless, he was astonished when he understood what the man of the street, the great business owner, the grand banker and the humble innkeeper had known for some time: there is a market in which these securities – these stocks called financial assets – were bought and sold. At the stock exchange, in a loud voice according to internal rules, securities were sold and bought; just as in his parents' shop, where the fishermen, knife sharpeners, greengrocers, barbers, ice-cream vendors, etc. cried out, announcing their goods. The value of these securities was bought, or what may be better understood, buyers basically bought the capacity of these securities to generate (non-production) income. These types of assets were combined with real assets such as land, buildings, plots, the mere possession of which entailed the ability to obtain income. It was a lesson that came from the past and reached Bernácer's eyes with uncommon energy. The lessons learnt from commercial law and accounting about matters such as liabilities, equity, non-depreciable fixed assets, stock portfolios and so on, were ideas seen differently by whoever was different. The shouting of street vendors and the scandal of white collar salesmen in the stock exchange and the continuous disorder of the souks of the ordinary and of the financial market were interpreted and translated like a magical order that was only understood by Bernácer.

This is the work and findings of scientists: to find a logical order, the law that governs movement in an entanglement of apparent disorder. He noticed that a common activity coordinated this ruckus: everyone demanded money and in the middle, some supplied it and others asked for it; it was supplied by those who bought goods and it was demanded by those supplying these goods, whether these goods were tomatoes or soaps or shares in tobacco companies or chemical industry bonds. But, there was something else. There were traders that didn't shout, but with the most absolute discretion and outfitted in dark suits –scribes and distinguished gentlemen– carried out an ancient task in the world, especially in the Mediterranean. They were bankers. They remained silent because their goods, money, were in such high demand that they

advertised themselves like an organic claim -hunger, thirst- in the minds of men. In addition, this money was not theirs, it was others'. Their business consisted of negotiating this third-party money with others, charging interest. And here is the word, interest, the concept, the poisonous reality that preoccupied him scientifically throughout his life and that as a secret curse spilled into earthly paradise, tormenting mankind... interest. The price of things being a quantity of money for a unit of goods also worked for money; money also had a price, and this price was interest. Without a doubt, a remarkable thing.

In the small city of Alicante, like in most Spanish cities, in the towns and large metropolises, a day-to-day reality full of bitterness, of terrible family tragedies, closed in upon men, and it was seen as the most natural thing in the world. Bernácer contemplated the existence of pawnbrokers, the evil aggression of usury that cleaned away wealth with a sharp scythe. The problem was not the usurer, but rather the interest of money. For this reason and for others, a moral concern hounded Bernácer in his scientific projection, as capital hounded Marx. The interest of capital, of money, had to have come from a perverse root and not from wealth. It did not come from production, as was believed by producers. Production, through the *ordinary market* (as it was usually called by Germán), created wealth and not misery. Moreover, interest was the door that closed the passing of the flow of money to the productive garden; then, interest is located *outside* production, out there, very far from earthly paradise. In the city of Alicante, when the empire fell with the tragedy of Cuba, the Philippines, etc., as in most of the emerging Spanish nation when it was created in the times of Philip II, the usury loan was an everyday reality, and it is not certain whether his family suffered this reality. In an economic collapse, when large and small businesses fall, like his parents' business fell, the hyenas of the system leave their dens to satisfy others' need for money and then, when the money is not returned, they keep everything. There was a psychological, personal and moral environment in Bernácer's surroundings that made him look back to analyse this evil creature called interest. He couldn't bear to contemplate how someone could accumulate wealth without working, i.e. with the monetarily (not socially) productive parasitism of interest. These issues were contemplated by the certified accountant with knowledge of political economics, accounting and commercial law fresh in his mind while he carried out physics experiments and while he strolled in the bustling city of Alicante. Around him he saw that there were people who lived to work and those who worked to live, and there were others who wanted to work but couldn't find work in the market, and there was a parasitic cast that lived without working thanks to comfortable non-production income. Financiers (those that lived from investment income) were not workers. They lived from the work of others, because if they consumed goods that they had not produced, it meant that they had been appropriated from others. The mere possession of financial assets, of homes, of fertile lands, allowed them to obtain convenient, free and secure income, due to a peculiar confirmation of the economic system. And since these assets were acquired with savings and had a value, the percentage yield of the savings invested financially was the result of buying this value with the income that it provided. This meant that if an asset was acquired for 1000 pesetas and yielded 100, its percentage yield was 10%. This is where interest comes from, not from anywhere else! Outside of production!

It was necessary to show that these financial assets were not social and productive wealth, contrary to the teachings of economic textbooks and, later, Keynes, his followers and the entire legion of untiring macroeconomists. The issue was quite simple. After taking savings to investment, after forming equity, after financing the productive system, financial assets, securities, bonds, etc. do not die like bees after stinging. And it would be logical that these papers –simple acknowledgements of debt and a promised

yield— remain recorded in a book and nothing else. But what happened is that these papers were bought and sold, and to do so, it was necessary to have much more savings than was needed in the beginning. The same thing happened to quiet and bored landowners that dozed in the colonial cafes of Alicante and to landowners who continually bought and sold. And, for such activities, society as a whole required huge quantities of savings, well above the savings needed for the original financing and service provided.

From the crazed chaos of blood, Servet knew how to notice order, and others were able to channel this order and discover not the flow of blood, but two flows: one in the veins and the other in the arteries. Other scientists discovered the mystery of air and blood: one flow gathers oxygen and carries it to the cells where it is burned, taking the carbon dioxide that is expelled by the lungs, resulting in another flow. Bernácer, in the tremendous chaos of the ordinary market, of the quiet and underground banking where there was a confusion of grocers, bazaars, vegetable sellers, fishmongers, gunsmiths, hairdressers, stockbrokers, speculators, financiers, functionaries... was able to understand the order that, although perverse, was indeed order. One market was the ordinary market, where true goods were produced, where production compensation known as production income (wages, salaries, etc.) was produced and sold. This is where wealth and income was generated and where the wonderful alchemy of the biblical and sacred transmutation of money into wealth occurred. The other market was where signs of wealth or artificial wealth were bought and sold, where financial assets were bought and sold. Both markets, the ordinary and the financial market, needed the common blood plasma of money. Yet, financial assets were not wealth, but rather an illusion of wealth, an illusion of the wealth that had been generated. It would be like if next to the shops, fruit shops, etc. there were mortuaries that did not shout to sell their goods, but sold them nonetheless.

The physicist realised the obvious, which is that the gift of being in two places at the same time cannot be found in the physical world of mortals; only in mystery novels; and in the economy, there were no possible secrets. If savings *were in the ordinary market, they could not be in the financial market and vice versa; this meant that the financial market stole money from the ordinary market.* Of course there are flows of spending and buying from the ordinary market to the financial market, which give rise to different yields of capital goods, and there are inverse flows, which make income go from the financial market to the ordinary market. This reshuffling of *net* flows is explained by the theory of economic cycles.

According to statements made by Bernácer, in December 1905 he had an idea made up of discovering monetary circulation in the mechanism of the circulation of money, more exactly through the organs of the economic system, specifically three main arteries: consumer spending, spending on capital (investment) and disposable funds; the latter would be spent in the financial market and would not stop being disposable funds. *This idea was the secret code of German's entire work.* Maybe it was luck, or maybe not (luck is sought). The truth is, it was a colossal idea. Bernácer stated ‘...Regretting, not least on my part, that my work will not find in its day an environment better suited for its dissemination, because that would have given this orientation of monetary theory, which I think successful, the help of the best brains, which would impress it with quicker momentum. I think I can prove, even without the advantage that a competent critic would have provided me, which I have been lacking, that the poor seed that germinated one day in December 1905 has now reached momentum in its results, that it may go hand in hand with those obtained by other more or less academic economists, who have also stopped thinking in terms of perfect equilibrium...’ (concerning Robertson’s quote). These words were expressed verbatim in his book *The Functional Doctrine of Money* (1945) when Bernácer was 62 years old.

He looked back and found himself in the centre of an infinite market, astounded by the shouting and disorder, and suddenly, on his feet, he was astonished, since he had found the key that explained it all, the theory of money and of circulation. This young man in the infinite and eternal souk of the market immediately found a way out. He was 22 at the time!

It is common for good scientists to arrive at the city of the truth without following the arduous and prolific path of demonstration. This happened to Germán, who, aware of his achievement and of the need to pave the intermediary path, devoted the rest of his life to doing it. He would finish this feat 50 years later, with a vast amount of work along the way, in his book *A Free Market Economy without Crisis or Unemployment*. The young astonished man of 22 would agree with the wise man of 72. The obsessive observation of economic reality and the constant reading of related works, which in fact were scarce, and the repetitive and almost fanatical note taking, matured into a great book that would be handed over to the printing press in 1915 and would be published the following year. This book had sprouted in 1905 and it received moral strength in the wake of a trip around Europe.

He had the opportunity to take advantage of a scholarship in Belgium, Germany and Italy for eight months. There is no doubt that eight months is little time to study. If, in addition, it is coupled with the difficulties of the spoken language (not the written language, which Bernácer knew), moving from one country to another is difficult. His personal record states that ‘as per Decree dated 25 September 1911, he is granted a scholarship lasting eight months in order to study Technical Sciences in Belgium, Germany and Italy’. The scholarship lasted from 1 October 1911 to 31 May 1912. Certain experiences marked the will of the researcher, and this was one that stirred Bernácer. As stated before, this was little time to learn technical sciences, but a man whose mind was restless and fed by the rich minerals of economic theory knew how to draw conclusions from this interesting trip. The truth is, more than conclusions, he ended up with concerns and questions. He knew about the circulation of money and began to understand the origin of interest, and this origin was found in the perpetual income provided by land to its owner. The ordinary market of Europe, the production market, was lit by a number of flares coming from human minds. These flares were the technical advances that brought together the economic idea of classical economists and made the productive workshops of mankind much more productive. The emergence of synthetic rubber, the first submarine, colour photographs, the use of large machinery that intensively multiplied capital and, more slowly, the appearance of the theory of relativity, which, as a physicist, captured his attention, let him know that mankind had found the path that went from the valley of tears of misery to earthly paradise. The horn of plenty had been found, and he was worried that mankind was getting poorer without knowing why. The creation of greater wealth was starting to be distributed to the horde of workers, and jobs were wanted by those who didn’t have them. Great political and economic units suffered internal and external tensions during those times. Political agitators promised paradise on earth (where else?). Emerging wealth allowed everyone to dream about good things and not about the horrors that were soon to be, the horrors of the First World War. The conclusion drawn from this trip was the understanding of the asynchrony between the capacity to generate wealth and the misery on the other side. Production capacity is capital goods funded by savings, and these savings are captured. This is the cunning of interest and what leads to the decapitalisation of businesses.

He finished writing *Society and Happiness* in 1915 and it was published in 1916. The title, which was very misleading, diverted the attention of researchers of Bernacerian works, and they did not give it any importance. I have inventoried and closely examined Bernácer’s monetary construction beginning with

‘The Theory of Disposable Funds’ from 1922, and after that time I worked with subsequent publications. Nonetheless, the book from 1915-1916 was not forgotten, because I didn’t even bother to flip through it, due to a meaningless alleged common sense that believed that a book with this title would discuss utopianism, literary fantasies of a learning economist between 32 and 33 years old who must therefore not have a solid background. The title, I stress, *Society and Happiness* was followed by ‘A Test of Social Mechanics’, both of which I instinctively rejected for the same reasons. A lagging physicist from the past century, as so many other learning sociologists, utopian socialists, steeped in the modern dress of neopositivism, undoubtedly wanted to construct, as Comté, a sort of social engineering.

Common sense and instinct failed. The subsequent reading –pure effort of scientific decency of having to read it out of obligation- let me be doubly astonished by this work, *Society and Happiness*. It was an abstract and profound work that sowed the harvest that would be collected years later. An interpretation of David Ricardo’s income appears in the first pages, the origin of interest, the circuit and monetary equilibrium and, also, the balance between real return on capital and money, matters that are subsequently discovered. It is a book on macroeconomics when well read, a book on morality when properly understood. It is, moreover, a work that, being the first, is abstract, complete, comprehensive, unlike the rest of his books, which were more enjoyable and more specialised. The creative strength of the young man of 33, a physicist and certified accountant, annihilates those scientific concerns that had bothered him for years. It is a robust tree that grew from his happy intuition in December 1905, watered by immutable springs of hours of reflection and by his brief but fruitful trip around Europe.

The book was published in Madrid at the Modern Library of Philosophy and Social Sciences by Francisco Beltrán. According to the book, a previous work had already been written by the untiring physicist that was entitled *Food Industries*, which was published in Alicante 10 years earlier, in 1906, when Germán was only 23 years old and was just beginning work as a professor.

His mother, who he respected and worshipped, died in 1917. It was the second blow after the premature death of his only sister. Two years later, in 1919, and as a result of much thinking, that great tree of *Society and Happiness* began to bear fruit. He published his first economic article in the journal *Revista Nacional de Economía*. The article was entitled ‘Currency and Social Issues’, and in 1921 it was followed by ‘Two Current Issues: Banking Law and Tariffs’ and ‘The Monetary Problem’. The plan was designed in his mind, but he lacked something that allowed him to connect economic operations and their impact on income: consumption, savings, capitalisation, decapitalisation, the genesis of disposable funds, all of which are made with money and, given that they are made with money *right there*, they should comprise the monetary market: the supply and demand of money. The plan was designed and published. It was the theory of disposable funds, the master key to the work of Bernácer. It was published in *Revista de Economía* and sent (most likely in French) to many economists around the world, including Robertson. It is not certain what happened to this work in the hands and understanding of Robertson, if Keynes read it or not; what is certain is that its echo took 16 or 17 years to be *answered*. Robertson brought attention to Bernácer and to his article in the journal *Económica* in the year 1940.

Germán began to enter cultural circles in Alicante. He joined the editorial committee of the magazine *Literaria Local*. He was later appointed secretary and subsequently vice-president of the Alicante Literary, Scientific and Artistic Cultural Centre. Alicante and its weather formed a peaceful space where he felt comfortable. He had time to work and to think. His life was calm and tranquil while taking care of

his mother, elderly and ill, resentful since the death of her daughter Isidora until she died, and taking on the financial responsibilities of the family. Teaching and research used up his free time. He was a man of few friends; he only spent time with Miró, Esplá, Varela and a few others who, unlike other Spaniards whose national pastime was to spend time at cafes, preferred the solitude of the beaches and the secret noise of nature. He was 34 when his mother died. Bernácer was still single. For a shy and quiet man like him, it must have been a considerable problem to perform the ritual ceremony of the wedding party.

They were prolific and tragic years for Europe. Englishman Robertson was pondering his *Money*”, and the other Englishman, Keynes, published his *Treatise on Monetary Reform* in 1923, a work in which, like an angry Moses, he knocked down the gold standard, the guilty cause of the sin of unemployment, something that Bernácer already knew. Keynes was an advocate of paper money (that is, without metal backing) to finance economic activity, since equilibrium was required, not between *currency and gold*, which was absurd, but between currency and the wealth created, which was logical. This is what Germán Bernácer had clearly said in 1917 and throughout his life: that new currency should be created to finance working capital and that savings should finance fixed capital, since working capital, when clearly understood, is nothing other than the wealth created or national product. As Lucas Beltrán Flores<sup>162</sup> said (not the editor of *Society...*), the years from 1870 to 1930 were bountiful ones for economic science. After the contribution made by Wicksell, there was Hawtrey, Shumpeter, Hobson, Clark and a long and fruitful so on. Doctor Schacht in Germany managed to defeat the thousand-head serpent of frightening German inflation, creating the Reichsmark. This important economist and well-known German banker had read Bernácer’s works in Germany and when he was invited to Spain, he asked to meet him in person, at the surprise of his trip organisers, who didn’t know who Bernácer was.

## 26.4. HIS MARRIAGE AND CHILDREN

The circumstances of scientists’ personal lives surely condition their science. An unfortunate event –and a bad marriage is one– can destroy scientists much more effectively than someone finding an error in one of their math proofs. Bernácer was still single at that time, with marriage in the future. This marriage, which was a lucky and good decision, would chart a sunny and warm path through his scientific research. María Guardiola would not only be his lifelong companion and the mother of his children, she would be the glass house where Germán could hide away, unaffected by the perpetual drizzle of domestic problems.

The period of dating, of courtship, of asking for her hand, the complex and *ceremonious* ritual in those times is something that I will never know about, because I cannot imagine introverted Germán going through this emotional and social relationship without a great blush on his face. Nonetheless, I will hazard some assumptions.

José Guardiola Ortiz, María’s father, was a renowned and prestigious criminal lawyer and an indomitable Republican. He was a councillor as an independent radical-socialist in April 1931. He became Civil Governor of Valladolid and was appointed ambassador in Portugal. He had a strong character and always had a strong curiosity about intellectual matters. This is seen by his conferences and his broad education, which not only included intellectual subjects, but also encompassed the sensual culture of cuisine, which is one of the undeniable manifestations of a people’s civilisation. He was a great connoisseur of Alicante cuisine and also a good cook. His love of food can be appreciated in his book *The Cuisine of Alicante and Wartime Dishes*.

He was friends with a mutual friend of Germán's, writer Gabriel Miró, who he admired and whose writing he loved. A second book was evidence of this esteem. In fact, *Intimate Biography of Gabriel Miró*, published in 1936, was kept by his daughter María and by Germán as a precious relic. This book, filled with rich and colourful fabrics, also had beautiful illustrations, some of which were done by the hand of another friend, Varela. One of María's uncles, her father's brother-in-law, was journalist Emilio Costa, who died after the Spanish Civil War in a concentration camp (Orleansville) near Orán. A group of friends, including Germán, collaborated with this director of *Diario de Alicante* newspaper.

Young Bernácer was at the home of his older, talkative and well-spoken friend José Guardiola. It is likely that through José's brother-in-law and mutual friend Gabriel Miró, Bernácer got to know the Guardiola family and was introduced into the family environment of this cultured dynasty. Another site of intellectual debate was the Huerto de los Leones in San Vicente, which was a meeting place of the friends of José Guardiola, then President of the Cultural Centre, called by G. Miró: 'La casa Hidalga y amiga'. According to Oliver, in addition to a fondness for conversation and reading, they were joined by a penchant for sunbathing and swimming (Germán even sunbathed in Madrid, when this trend had not yet caught on in society). They held long conversations at the 'Belvedere' chalet in Muchavista, which was in front of the sea.

The truth is that wherever Don José was, his daughter was generally there as well. And thus, the love and affection that would later unite the two in matrimony was born. I believe that the secret romance, so secret that the couple didn't even know it, evolved through a loving and silent plan coordinated by Miró, his future father-in-law José Guardiola and other friends who, knowing Bernácer's reserved and shy nature, wanted to complete the impossible mission of finding him a girlfriend. The plot, which was secret, since it was surely never spoken about but was understood in the invisible and spiritual language of friendship, did not lack difficulties, given that María was 20 and Germán was 42. A 22-year age difference! At a time when masculine sieges, calculated and managed by the bride in the outlines of baroque formalism, were titanic feats, I do not know how Bernácer managed to end up at the altar on 17 February 1926. I refuse to explain what I don't know, which are the details of the courtship. It is enough to say that Germán's shyness prevented him from following the insurmountable protocol of asking for her hand.

Germán not only married late, but he also arrived late for the wedding, as a result of his incurable shyness. On his wedding day, Germán was fulfilling his promise to listen to 'La Pastora' by Ernesto Halffter at Oscar Esplá's home. The music was good, as well as very long. Time went by and as the wedding hour drew near, causing shy Bernácer impatience and nerves, he remained in his chair due to a combination of politeness, shyness and embarrassment. It was surely his friends who finally realised it was Germán's wedding day and turned the music off, accompanying him to the church. At the church, an uneasy and happy José Guardiola waited nervously for his scatterbrained son-in-law, whose defects he already knew well. Who knows how many times José looked at his watch.

There was a way of doing things among the young intellectuals of Alicante, who, to some extent, wanted to do things and ceremonies, but in a different way, without the baroque oppression of customs and manner. One of these things was the wedding, which was celebrated at the Collegiate Church in the small communion chapel, where María Guardiola Costa and Germán Bernácer Tormo got married in an intimate and informal wedding surrounded by close friends.

Four children were born from the marriage: Eda, Germán, Ramón and Ana María. One of the boys,



Germán, inherited his father's fondness for physics, and he earned his degree in this discipline. Ramón, or Rom as he was called by his father, earned his university degree in Economics and Exact Sciences and studied to be a Business Professor.

He was a responsible and selfless father who always knew how to provide his family with the financial security that makes a home peaceful. He was his children's father and teacher. As a capable man or, better said, as an economic man, he never stopped being a government worker, whether as a professor or as a technician at the Bank of Spain. His psychology was somewhat that of a government worker who knows that his limited salary is as sure as it is unsubstantial. It was this security that gave him a certain peace-of-mind, and it was this limitation that always caused some anxiety, although not much, in caring for his family. It appears as though this was true when he retired late in life. The great economist did not know how to hold on to earnings; he lacked entrepreneurial spirit and the adventurous impetus natural in a businessman; he didn't know how to deal with unexpected situations. He only knew how to bring his wages home and give them to his wife. He didn't earn money with economics, nor did economics give him a special status. His wife María, or Maruja as he called her, handled the family finances and, to make matters work, she constantly struggled to make sure that Germán, the everyday Germán, carried money for his expenses. When she was careless, it was possible to find a lost Bernácer on the street or on the subway, frenetically looking in the depths of his pockets for a single coin. Not carrying money on him was one of his character traits, a revealing one at that. How different from John Maynard, for whom money was a part of his life and his entertainment! He handled cheques and foreign currencies with the skill of a swordsman. I can imagine him, happy and content, going to the bank to ask for loans in order to go to the stock exchange and buy and sell shares, surrounded by the excited shouts of brokers, winning, losing, returning loans, riding his toboggan up and down the peaks and valleys of the preferences of public liquidity in the City of London.

When Bernácer got married in 1926, he had just published the memorable article 'The Economic Cycle', which was the prolific child of the third part of *Society and Happiness*, a book that gave him his nickname (created by Gabriel Miró) Germanazo (or Big Germán). Afterwards, the book *The Theory of Interest...* and the article 'The Theory of Disposable Funds' were also spawned by *Society...* He understood the hidden route where monetary rivers flowed and the steel floodgates that held them in and the silver keys that, as capricious as they were, opened and closed income, and the desert of salt and saltpetre where savings disappeared and where humanity, the unemployed, income and wealth died of thirst, far from earthly paradise. He understood economic cycles in an idea that was born in 1905 and published in 1926, just after he got married, an idea that prophetically foresaw the cataclysm that would come three years later, in 1929. He found another epicentre of human misfortune, just like killing machines, in a human activity, stock market speculation. And he also found the path of this moral criticism

His wedding did not affect his relationships with his long-time friends, which included a circle wider than Miró and Esplá. He was also friends with Rafael Altamira, José Martínez Ruiz, Arniches, Chapí, Emilio Varela, Figueras Pacheco, Vicente Bañuls and Adelardo Parrilla, although he was not as close to them as with Miró and Esplá. Other people sporadically joined this circle of friends. His father-in-law José Guardiola Ortiz, Eduardo Irles, José Chapulí, José and Juan Vidal, Manuel Tormo Bernácer, his cousin Julio Bernácer, his brother Emilio Costa, Rodolfo Salazar, Eufrasio Ruiz, Heliodoro Carpintero, Rafael Bas, Esteban del Castillo, Agustín de Irizar y Góngora, Edmundo Ramos, Salvador Sallés, Luis Cánovas, whome were also joined by his friends born and raised in Madrid. During this stage of his life, the time

when he was married and living in Alicante, he found peace of mind, just another child of the landscape, of the yellow and warm sun of friendship and of the astral king of his land. He saw happiness as a haven of peace and reflection, far from the frenetic pace of hasty pleasures and of the blinding lights of quick success. He liked nature and especially sunlight, the diffused and golden light that illuminates things, not directly looking at the blinding sun that damages one's eyes. A natural product of this peace and this light are the works written with amazing simplicity and with transparent syntax, fleeing from the unbearable litter of useless scholarly syntax and blinding empiricism. He moved his home from Joaquín Costa Street (Reyes Católicos) to Alfonso El Sabio Street in front of the market and then to Plaza de los Luceros. Newlywed, among his varied economic readings, he found time to enjoy the work by Ibsen 'Edda Globber', which touched him. Meanwhile, Maruja became pregnant with their first child, who, when born, received the inevitable name of the protagonist of the novel: Heda, only with the Spanish spelling, without the invisible and soundless H: Eda.

Oscar Esplá, to whom he dedicated *Society...*, was Edita's godfather, demonstrating his intimate friendship with Esplá and Miro. Eda would be the depository and guardian of these wells of family memories and would always accompany her parents during their lifetime. The second of the children, the first male, was Germán, who was named after his father in the customary way. This child was cheerful, open, outgoing, much like his father's brother and diametrically opposed to his father. He remembers the people his father knew personally and through letters. Jokingly, he used to reread the letters from Robertson to his father, giving them a haughty English tone that caused spasms of laughter. He has worked for UNESCO in Chile for many years.

The third of his children was Ramón, the last to be born in Alicante. He was shy and physically resembled his father, especially his personality. He has brought together his father's works and he prudentially centralised relationships with the researchers who have worked on his father's scientific doctrines. If *Society...* was dedicated to Oscar Esplá, Gabriel Miró would have a place of honour in the enduring affection of Germán, proven by the fact as that Gabriel Miró's *real* self, *Ramonet*, which German and Maruja knew, was bequeathed to their third son: Ramón. This child has retained an endearing affection for the now devastated and bald Sierra Aitana, spending time in Clot del Pi.

His youngest daughter, Ana María, was the only one born in Madrid, the second to last stage of German's life. She studied to be a pharmacist, although she left her studies when she married Raimond Baineé. She lives in France, where she has started to translate the great book by Henri Savall *Germán Bernácer: L'heterodoxie en Science Economique*, since her siblings lovingly look over their father's work.

Let's go back to Alicante, where the married couple still lived. His father lived with them, but died two years after the wedding. The year was 1928 and two years later, another painful death occurred, the death of a close friend, Gabriel Miró. The year was 1930.

In 1923 he was appointed Secretary of the Alicante Chamber of Commerce, Industry and Navigation, a post held along with being a professor at the Business Studies School. In Alicante he was a prestigious man whose science was admired and recognised by educated people in society. His research work was reaching beyond the small borders of his province as he began publishing in economic science journals. In 1929, after publishing *The Economic Cycle*, he published *Technique to Return to the Gold Standard: the Problem of the Price of Money*. Both he and Keynes were obsessed with this matter. It was necessary to get rid of it. That same year, England had its issues with the gold standard, which, according to what was

said, was one of the reasons behind the unforgettable fall of the stock exchange on Wall Street. The year his fraternal friend Gabriel Miró died (1930), he published an article in his friend's honour in the magazine *Sigüenza*. The same year, he participated in the course organised by the Section of Economic, Financial and Monetary Issues of the Spanish Association of International Law. His specific contribution consisted of the conference 'The Physiology of Money'.



*Emilio Varela artist, and Gabriel Miró and Julio Bernácer, writers, member of the Alicante Circle*

## 26.5. THE MOVE TO MADRID

The second stage of Germán Bernácer's life began in Madrid. His hiring at the newly-created Research Services of the Bank of Spain was irresistibly appealing for the economic scientist. The position was so attractive that even though he loved his land, the place where he had lived his entire 48 years, and had three children, and cherished his talks with old friends and was committed to his lab and his university chair, he nonetheless went. It was a painful move that he never got over. Any opportunity was a good one to go back to Alicante, and when he retired early, he went back to Levante.

The Bank of Spain was increasingly aware of the enormous importance of monetary issues. Regardless of the progress of economic theory, authorities were aware that assessing the economic situation, changes in magnitudes, calculations and so on were important insofar as they related to the skilful handling of domestic and international monetary issues. This work, entailing research, statistical and legal infrastructure support, was carried out by research services in other countries. The Banking Law of 1921 entailed greater complexity in the Bank of Spain's task to handle economic issues and international relations. Thus, the creation of Research Services was imposed.

Research Services at the Bank of Spain was established in December 1930, at the initiative of Governor Federico Bas, and operations began the following year in January 1931. Approximately 12 months later, Bernácer was appointed head of Research Services. His appointment is on record on 7 December 1931 as per a resolution of the General Council. Julio Carabias was governor of the Bank at the time<sup>163</sup>. It is clear that it would be an interesting experience for any scientist to practically inaugurate Research Services, thus creating the model for this new administrative and technical unit according to his image and likeness. However, this assertion will be discussed later on.

Research Services began to operate in quite an interesting way. There were two shifts, one in the morning

and one in the afternoon. The first shift was led by José Larraz and was in charge of translating and classifying laws and bank statutes. The afternoon shift was led by a future great friend of Bernácer's, Olegario Fernández Baños, and was in charge of creating index numbers and technical financial studies. Before the year ended, Larraz gave up his position, which was quickly requested by Germán Bernácer. *Thus, in a strict sense, I can't say that he was the first Head of Research Services at the Bank of Spain.* At the time (1930), Bernácer was working as a professor of 'Industrial Technology' and in the position of Secretary General of the Alicante Chamber of Commerce, as mentioned above. When hearing that Larraz had left a vacancy, Bernácer quickly wrote a letter to the first Deputy Governor of the Bank, Mr Pedro Pan Soraluze, on 30 November 1931. The letter read: 'Economically speaking, the position I would like is not any sort of improvement for me. My request is only a response to my interest in better satisfying my penchants and in finding an environment suitable to my favourite studies...' The request was well-received by the Bank. On 7 December 1931, the Bank General Council agreed to his appointment. The agreement stated: 'The management of Research Services is the responsibility of two heads..., one of them is Olegario Fernández Baños, who is currently deputy director, and the other is Mr Germán Bernácer Tormo, who is appointed to occupy the vacancy due to the resignation of Mr Larraz, agreeing that his duties will correspond to his degree of seniority at this bank...'. Bernácer, with much regret and much excitement, packed his bags and said farewell to his land and his friends; leaving his childhood, adolescence and maturity behind. He had a difficult time coping with the problem of his professorship, which he couldn't attend to and which created a professional, emotional and economic void. However, he soon filled this teaching and professional space.

Meanwhile, many things happened in the world. The most important was the bonfire that quickly consumed the Pagan temple of Wall Street, the flames devouring other adjacent buildings. The market in general was destroyed by depression, which decreased production and consumption. Upon the still hot embers of the fire, it was possible to hear the voices of lost economists like Fisher, an economic genius, trying to find north with his stone compass. They were years of tragedy, offspring of tragedy, like the Second World War was the offspring of the first, which ended with the madness of Versailles. Meanwhile, the lone sailor Keynes unravelled his work in 1923 and published another *Treatise on Monetary Reform* in 1930, which discussed a theory of cycles and gave a clear description of the role of money in the economy of his time. The reflection and the precipitation that emanated from the anguish and terror of the depression encouraged him to write. This was still six years prior to important events like the Spanish Civil War and the emergence of *The General Theory of Employment, Interest and Money*. They were years of ignorance for Bernácer, who did not know what Keynes and Robertson were doing or the whereabouts of the article he had sent to Robertson in 1922-3. He neither knew nor cared at the time. The thirties was a triumphant decade for this theory and for Keynes' theory and it was chaotic for the world and fraught with impatience for a world that sensed tragedy looming. And it was a decade in which the evil disease of doubt was born in the mind of Bernácer caused by a virus that came from England.

Thus, he became Head of Research Services at the Bank by appointment dated 7 December 1931 and he had resigned from his post as professor of Industrial Technology in Alicante. Germán quickly found the solution by taking official exams in Physics and Chemistry at the Business Studies School in Madrid. His mind, which had been devoted to pondering economic issues, now had time for research into food industries, physics and chemistry. These circumstances, the long years of teaching (some 27) and the status he obtained when he was young, all influenced his obtaining the chair in Madrid. He was appointed by

Royal Decree of 12 November 1932, *his post as lecturer in Commodities in that of Alicante being annulled*. Despite the different names of Physics and Chemistry at times, 'Industry and Food', 'Industrial Technology' and 'Testing and Evaluation of Commercial Products' at other times, this professorship can be summed up in teaching Physics and Chemistry and laboratory work, activities that Germán carried out until he retired in 1953. He taught for a total of 48 years, since he passed his first official exams in 1905 in Alicante. He was not happy at this school; there was not much space and very few instruments to work with. There was a noticeable difference with Soler Sánchez' laboratory in Alicante. I found a letter in which he emphatically requested a laboratory for the school in Madrid, a request that seems to have been fulfilled. At this school, which was located on Rey Francisco Street and then very close to Plaza de España, he would receive students who would later become university figures, professors, experts, etc. He worked with young Emilio Figueroa, who would later be his colleague at the Bank of Spain and his successor. Fernández Pirla and Marcial Jesús López Moreno were also there. They would later be professors at the future University of Economics in Madrid. He spent many years, 21 in all, devoted to the school, years he always remembered fondly. They were years of simple work and full devotion. Despite his full devotion to Research Services at the Bank of Spain, he found time to write two volumes about 'Testing and Evaluation of Commercial Products', which were published in 1935-36, as well as two treatises on physics and chemistry methodology, which were never published. Upon entering the school, he gave a lecture in Saragossa at the Business Studies School. It was 1932 and I believe this was a significant event, as it was the first time (the first of only two times) a business studies school gave a lecture on economy, since classes in this discipline were never taught there. Indeed, very few students were aware of his economic wisdom, although his colleagues and friends at the school were aware of his huge contribution to economic science and they always remembered this reputation. Alicante was not a big city and Bernácer wanted Madrid to be like it, small and peaceful... and he succeeded. He settled down on Ferraz Street, surrounded by the Parque del Oeste Lake, by Princesa Street a few streets up and by the Plaza de España. His school was in the area and only a few subway stops away was his work at the Bank of Spain. His life, which was always peaceful, was still peaceful. His movements, sheerly motivated by work, took him to the bank in the morning on foot and, in the afternoon, just around the corner from his home, to the school. He later moved to another house that was even closer to school and the bank. The building was located on a triangular block delimited by Seminario de Nobles Street, Mártires de Alcalá Street and Princesa Street. Germán lived on the fourth floor in a flat with windows looking onto the Palacio de Liria. He kept up his habit of sunbathing on the terrace of his home.

Germán and his family arrived in Madrid and were received by the professional and urban environment. He was still a man of few, but true, friends. He didn't often go to cafes or public places. He met his friends at home. Edmundo Ramos and José Fuentes Ruiz became frequent visitors; the latter a co-worker at the bank who worked as head of translations. At his home he welcomed more than one important personality from abroad who wanted to talk to Germán.

At the Bank of Spain, from the time he occupied the post left vacant by José Larraz, Research Services was managed by Germán Bernácer and Olegario Fernández Baños. This long period, not only in his life but in his profession, was not only important for his personal and professional life, but also for his life as a researcher, seeking to untangle the skein of human relationships and policies on the one hand and on the other, withdraw from subjectivism and passion.



*Calle Princesa de Alicante between 1890-1900*

Research Services was a fruitful seed that had grown to become technical support for the bank and a strategic enclave to learn about the national economy. In the beginning, however, it was small and its work, although extensive, was somewhat disperse and encompassed the different, but not opposing, territories of bank needs and its clients' concerns. Statistical material began to be gathered in order to produce monetary series; reports were written about the Spanish economy; and annual reports were drawn up at year end. There was also administrative and bureaucratic work to be handled, inevitable in all research services, which became tightly linked with the Administration. It is not hard to imagine that he felt comfortable at the institution, because, on the one hand, he could empirically analyse changes in the economy and empiricism was a subject that was absent in his publications, which were theoretical. On the other hand, he was allowed some downtime within an institution that, with its translation service, libraries and publications from abroad, made it possible for him to do research. Neither do I think that he was bothered in his research work nor that the political struggles and the desire, not shared by him, to broaden administrative functions, would have prevented him from developing his studies.

When he arrived at the bank, he was already pondering the fundamental patterns of the movement of income, his theory about the creation of money and the money market, his dichotomy about the ordinary and financial markets and, above all, his idea about interest. *These theories were not born in the comfortable refuge of the Bank of Spain*, but arrived with him from Alicante along with his suitcases. And it was at the bank where he was able to analyse the monetary flows that emanated from it like a torrent of gold that comes from the throat of a mysterious God beyond the Bank that is located in the Plaza de Cibeles. It was the other market, the child of another God, that ate the monetary food of the ordinary market. This other market was the Stock Exchange located in the Plaza de Neptuno, just a few metres from Plaza de Cibeles, and within it, the cries that he had heard as a child at his parents' shop and in the auctions and street markets of Alicante were repeated.

I think it is necessary to repeat the date that he began working at the Bank of Spain: 1931. Why? Because the 1929 crash had generated, *not* in the ordinary market, (at factories and shops), but in the financial market, in the stock exchange that infected the real and productive economy of North America like a plague and from there, the rest of the world. This didn't happen immediately but over time and when he began working at the bank (1931), the alarming reports and news could probably be heard in its vaults and corridors. It must have been an unforgettable experience, given that his suitcases contained various works regarding the crisis that was beginning in the financial market.

Bernácer undoubtedly found a vantage point for analysing the economic world and studying theoretical economics. It is highly likely that he was not part of all the administrative activities that would have hindered his research. In any event, Bernácer did not have the ambitious and deft character of a politician who aspires to move up the administrative ladder. He was not made for that. He was a profoundly scatterbrained man. He was well-placed in the complicated maze of economic theory and knowledgeable about the guidance of the stars, about the keys of the economy, and he was usually lost in the real world, in his own economy, on the streets that he walked, among his co-workers. There are endless stories about his absentmindedness.

For his part, the restless John Maynard in England had attended the Paris Peace Conference (1918-1919) in his capacity as Technical Advisor to Lloyd George, who was the Prime Minister of England. A brilliant record as a technician at the Ministry of Finance (1914-1918) preceded him, making him recommendable for a position as important as advisor. After the conference and upset about how it went, since it required Germany to incur impossible and ruinous burdens as war reparations, he wrote a premonitory political and economic book: *The Economic Consequences of the Peace*. It was published in the year 1919, and because of its quality, it was a book that was read by a large, not necessarily economic, public. It was the anticipation of a funeral for a death that started to occur 20 years later in World War II. Keynes, once again, showed an added facet of his brilliant personality and extreme intelligence.

## 26.6. THE CIVIL WAR YEARS

Spain moved forward in the world conflict and got locked in a fratricidal war. There were two governments and two leaders, but while the war continued, the Bank of Spain logically followed the Government of the Republic. It set up provisionally first in Valencia and then in Barcelona along with its precarious administrative organisation. The Bank of Spain followed the government and Germán Bernácer went with it. He initially was in Valencia, due to its proximity to Alicante, where he still had some family. He chose nearby accommodation, visiting once a week. The separation was final when the national troops severed the Mediterranean coast by cutting off communications between Valencia and Barcelona.

I have several questions about this period and the subsequent period. They are not always in order. The first is that usual currencies of payment had to have been a serious problem for the national economy (on both sides), since bread was bought by both the Nationals and by the Republicans. And if the Bank followed the Republic and its Government, the factory for printing bills didn't do the same. Jesús Prados Arrarte, who knew Bernácer and who in his youth became a colonel in the army<sup>164</sup>, explained about the variety of currencies that existed. He meant that the war that had split the national geography into mosaics of occupation, which resulted in towns on one side (normally Republican) being occupied by anarchists, by socialists, by communists, etc., each imposing their own currency. These experiments were dead from

the beginning; they acted as irrational criticism against the capitalist system, which some fought against and saw as a child of money, albeit a monstrous child. Then something occurred and I'm not sure whether it was ridiculous or entertaining: money vouchers were created that were worth something like a day's work or an hour's work. There is no doubt that Bernácer would have criticised this meta-economy or economic irrationality.



Eda Bernácer, Oscar Esplá, Agustín Irizar, Emilio Varela...  
 Member of the Alicante Circle in the Aitana hills outside Alicante. Kneeling is the artist Emilio Varela. The man wearing the crown is Óscar Esplá, with member of his family

The other questions are in line with the vicissitudes of Bernácer at the Bank of Spain before and after the war. In *El Banco de España 1931-62: Una Historia Económica* (Madrid 1970)<sup>165</sup>, Juan Sardá said that the administration at the Bank of Spain followed the division of the administration in the war. In the area of Madrid, the position held by Pedro Pan, who was deputy governor, was handed over to Julio Carabias and the position of second deputy governor was taken over by Suárez Figueroa. That was in the government in Madrid. In Burgos, the national government appointed Pedro Pan as the principal figure of the Bank of Spain Foundation. At the same time, Antonio Goicoche was appointed Governor (March 1938) and Ramón Artigas was appointed deputy governor. This clear and emphatic decision at the two banks that affected bank administration did not leave room for those who were neutral or non-belligerent, which is important to remember, since it marked the composition of bank staff after the war.

Said transfer of the Government of the Republic to Valencia occurred in November 1936. The Bank of Spain and its Research Service followed the Government, and Germán Bernácer moved with it in accordance with the Government Decree of 7 December 1936. The year 1937 had yet to begin and he was already in Valencia. Almost a year later, in September 1937, the Central Administration of the Bank moved to Barcelona and Bernácer preferred<sup>166</sup> to stay in Valencia, close to his family in Alicante, working for the Delegate Board of Administration and for the General Council of the Bank in Valencia.





*Juan Vidal, engineers and member of the Alicante circle*

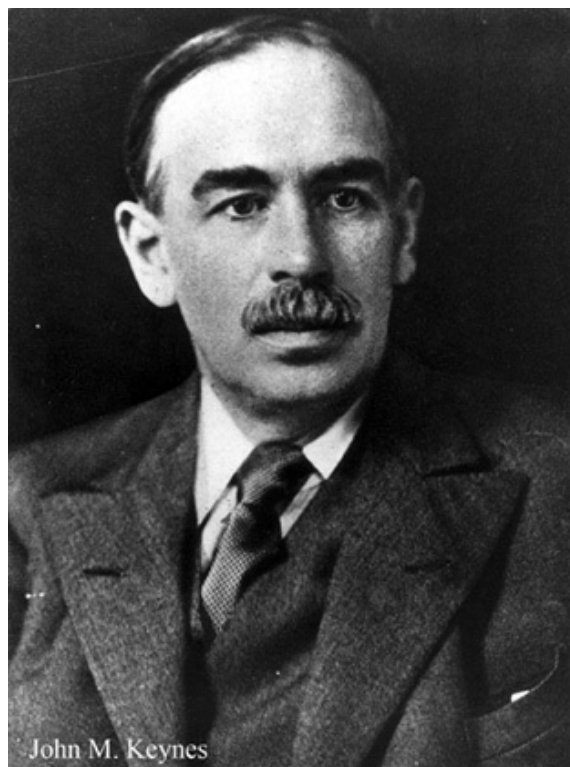
It was not a split administration, but two parallel administrations. The end of the war entailed the provisional validity of this single administration, which logically encompassed the administration of the Bank of Spain. The victory of the National government over the Republican government led to the purging of the defeated and/or non-sympathisers. Henri Savall said that ‘the end of the Spanish Civil War almost meant the end of his career at the Bank of Spain. Indeed, the victory of the *Movimiento*<sup>167</sup> of General Franco was followed by a period of purging that, in varying degrees, reached those in charge at all levels that did not align spontaneously with the *Movimiento*’. This assertion by Savall explains why Bernácer was liable for political purging.

This is a very delicate matter, since to a large extent this book aims to clear up false information that exists about darkness enshrouding Bernácer as a scientist in Spain and abroad (if the Englishman copied or plagiarised his ideas) and as an official at the Bank of Spain.

All civil wars tend to have two phases. One is the fight, where two blood-related sides face one another. The other is an execution, which means that one assaults the defeated, with no possibility of defending themselves. This second event shows the desire to find an ideological purity of blood, the aim of which is to assert power, and those that are not in the seats applauding (or at least this is what the winners think) are in the group of enemies. Since Bernácer did not openly show affection to the winning regime or for its ideology, he was immediately subject to purging. On the other hand, there is no evidence to indicate that he applauded either regime or any political ideology that wore a specific colour. He was always a free thinker who tried to find a regime of freedom for himself and everyone. As an official, he did nothing other than fulfil his duties, which consisted of loyally following the administrative unit he was in and obeying orders he was given. This is the only plausible explanation to indicate why he followed the Republican government in Valencia.

What is known about the purging? Very little. It was just a gust of wind following the hurricane of the second act of the contest: the political purging. He was saved as a result of the friendship and honour of two of his good friends: Olegario Fernández Baños and Ramón Artigas, who occupied management posts at the Bank of Spain. In addition, if he had been openly Republican or anti-*Movimiento*, it is unlikely that he would have been able to continue with his duties at the bank. I don't know, but don't think that a supporting argument is that Bernácer always believed that a regime that permitted private freedom would ensure freedom in the market and in the economy and political freedom in general. This was an argument that was diametrically opposed to the socialising endeavours of the opposite side.

Another explanation will help to understand the freezing of his administrative career: the appointment after the reorganisation of the Bank of Spain in 1946 of the new director of Research Services, Mariano Sebastián Herrador, who was more committed to the regime. According to Savall, Mariano Sebastián, professor of Public Finance, intervened between the board of directors and Bernácer. Until the war broke out, the duties of Bernácer were active and involved full influence in the governing bodies. After the war, this influence diminished like a drop of water in the ocean. This statement is not only difficult to sustain but also difficult to verify. One thing is certain; Bernácer at the Bank of Spain after the war was a shadow of an official, roaming around unappreciated by anyone except his acquaintances. In 1948, two years after the bank was reorganised, he was appointed deputy director of Research Services, a position that he held until he retired in 1955. I don't know if it was Bernácer, with his reserved and introverted character, or it was the position without dynamic functions that turned the man or the administrative position into a spectral figure without defined activities. To stage the romantic scene of a heroic scientist, it is sometimes necessary to magnify the figure of the persecutor or castrator, in this case Mariano Sebastián, to wound more people than the hero. Let's do the opposite. We'll take apart the apparent floorboards that seem to have been built upon this stage of Bernácer's life.



John M. Keynes

*John Maynard Keynes.*

While it is true that bank reorganisation eliminated the grand official (that he never was), it is also true that

the scientist that could do what he wanted to do with regard to research was gained. At the Bank of Spain, despite the marginalisation to which he was subjected, including losing his physical office space, Bernácer was never sidetracked from what he needed to do, and what he had in his hands was neither more nor less than the development of the great assembling of macroeconomics, of his macroeconomics, not the nonsensical scaffolding of Keynes' *General Theory*. Facing a continent to be discovered and colonised, he did not have time or interest for anything except the overall assembling of the theory of disposable funds, tied in the middle with the theory of interest rates, linked to the theory of income and crowned by the theory of cycles. If the assembly of the theory of Keynes occupied hundreds of careful economists in England and the United States who used the best years of their lives and their untiring efforts to understand what was difficult to understand, imagine the huge work of this humble man who constructed his own theory. He didn't have time for anything else. It was impossible. And to think that he resented their systematic alienation is incomprehensible.

Mariano Sebastián, who took over Bernácer's position (those who want to believe he stole it can understand it this way), let Bernácer freely do what he wanted to do. Bernácer did not meander lost at the bank; he walked directly on the wide and clear path of research. It is important to remember that between 1940 and 1955, a time period that encompasses the end of World War II and his retirement, he wrote nothing less than 33 articles and the book *The Functional Doctrine of Money* (1945), finishing with *A Free Market Economy without Crisis or Unemployment* (1955). Whether meditated or not, Mariano Sebastián's indifference is not very important. This administrative and bureaucratic freedom did not significantly hamper him and it was not based on aggression. However, it was the key to understanding the development of Bernácer's enormous body of work.

Martín Aceña provided a valuable explanation to understand the twilight of Bernácer's activity, an explanation that was simple. After 1940, Research Services not only decreased its activity, but also reduced its staff. In 1935, it had 22 officials, and after the reorganisation that took place in 1940, it had only 11. While perhaps not proving its loss of recognition by the authorities, it did display its reduced capacity for action. It was after the year 1950 (Bernácer was 67 years old) when the service began to regain its influence and activity.

## 26.7. HIS WORKS

History is not necessarily lineal, but rather oblique and horizontal. From 1936 until, for example, 1950, a waterfall of events occurred that were interlocked in the same time, many of which were simultaneous. Some were worldwide, belligerent and scientific, others were institutional and others, small ones, involved Bernácer's life. Some occurred on the same date.

Human burden, which is broad, complex, intellectual and emotional and defines the vessel of life, was poorly stowed in Bernácer. Faced with a silent storm, adrift from the early death of his sister and the later death of his mother, he ran from his burden and let the vessel list. Bernácer was a good man, an exemplary father, a dear friend to many and, above all, focused on and fully devoted to research. Another event demanded his urgent attention: the publication in 1936 of *The General Theory of Employment, Interest and Money* by John Maynard Keynes. It was then that the suspicion about the British plagiarism spilled the contamination of bitterness upon the beach of his soul. Since this work aims to be objective, with such intensity that perhaps reality is distorted, this point, if possible, should be clarified. This book was not a

continuation of his 1930 book, *A Treatise on Money*, but a change of direction. This was a beacon of suspicion that led Bernácer to write many articles on the subject, but he didn't talk about his analogy and much less about the plagiarism, an issue that is hugely delicate, but about the labyrinth of mirrors between his and Keynes' works. The general outline dealing with the determination of income in its broad and complex design, in each of its small details, is the same in both works. It is not a single concept, which could be explained by simple coincidence, but each one of the pieces and the work in general. Income, he said, comes from production; and potentially and fatally, income and production are equal (Say's Law). But there is interest that comes from speculative activity and limits the flow of the potential investor river and, therefore, conditions future production. There are, furthermore, various types of potential disequilibrium, one of which is unemployment and another full employment, etc. Too many to be coincidental. It was then that he realised that all parts of the maze of income in his and Keynes' theories mirrored each other. But it is a deformed mirror, since Keynes did not understand a lot of details and he escaped his ignorance with premeditated cunning. It's as if a secret plan that he didn't understand very well had fallen into his hands, and the Englishman, who had extensive knowledge about economics, reinvented it to patent as his own. It resembles Bernácer's famous key article about disposable funds that was sent to Robertson at the beginning of the twenties, and although we know of the ongoing correspondence between Robertson and Bernácer, we do not know for certain what they wrote to each other during the approximately 17 or 18 years that went by between 1922, when the theory of disposable funds was published, and the year 1940, with *The General Theory*... in the middle. Nonetheless, something happened between 1936 and 1940, the period in which Keynes' book became popular and was read and understood. It is necessary to stress that in the circumstances of the year 1936, it was not easy to understand this book with the knowledge held at the time. And something happened when Robertson's agile and precise pen published an article about Bernácer's work in the twenties in the prestigious magazine *Económica*. The article was called 'A Spanish Contribution to the Theory of Fluctuations' and it made Bernácer known to Spaniards and to the international scientific community. It is a seemingly honest and noble work. It was an acute Robertson who, in those years, dissected Keynes' ideas and criticised them, as he also criticised Bernácer. In the end, in Part III of the article, he acknowledged the analogy between Keynes' and Bernácer's work with regard to interest.

What happened before 1940, the year in which the article was published? What made Robertson hastily explain Bernácer's theory when the ink of *The General Theory* was still fresh? I don't know, although it is easy to imagine. *I think* that Bernácer became irritated and rebuked Robertson about Keynes copying his theory. It is also possible to imagine that when critically reading *The General Theory*, Robertson suddenly remembered Bernácer's work. Maybe out of solidarity between Englishmen, between Cambridge graduates, Robertson reviewed Bernácer's work and made it known to the world by discreetly talking about it in passing and in a clever way left it aside and consolidated *The General Theory* of his countryman. *Or maybe absolutely nothing happened*. Reading Bernácer's entire work is a long and difficult task, despite the fact that the ease of his simple prose makes it entertaining to read, and furthermore, it is written in Spanish. Had Robertson only read the article about disposable funds, or did he know the entirety (up to 1936) of Bernácer's thinking? I am inclined to think that the first hypothesis is the most probable, and if it was indeed this way, then the theory of disposable funds, although key, was not enough to understand Bernácer's conceptual framework. The hypothesis of Keynes copying Bernácer is thus destroyed (assuming the existence of the hypothesis given).

Theories often occur in the disorganised order of scientists' subconscious, where reports on scientific theories and observed realities arrive in a haphazard manner. And the works of classical economists and the fine work of a modern Alfred Marshall bounced around in the mind of John Maynard Keynes. In addition, ringing in his ears was the bustle of the stock exchange, the scandal of speculative activities and the dead silence of banks, and this silence was wrapped up in the noise of the requests made by the public at teller windows. They ask for what others have (monetary supply), and what they are asking for are three types of money: income deposits, business deposits and saving deposits. The first two are similar to demand accounts and the third is similar to fixed term accounts. His mind was also filled with the words of Pigou, and the rush of blood of what should be done in practice also arrived from the depths of his speculator instinct: save money to speculate at the best time. This was how his mind came up with a theory that broke away from Fisher's quantitative theory, and he developed another theory that related money to the desire to maintain a certain purchasing power. This linked the book from 1922, not with the book from 1930, but with a subsequent book published in 1936. His mind and his subconscious were reached by the multiplier work of Kahn and the deceased voice of the vigorous Malthus and Swedish Wicksell.

All of these ideas intersected, jumped in the mind of Keynes and demanded the sacred order of a logical theory, and who knows if in the middle of this happy and distressing situation, he heard the secret whisper of his friend and colleague Robertson on the bucolic lawn of Cambridge, speaking to him about a secret plan found or that had arrived by sea from Spain, from Alicante, a plan that was the theory of disposable funds. That would be when he found the order in his disorder, aided by a foreigner, and when he proceeded to write *The General Theory*. And, understanding this suggestion helps to explain *The General Theory* as an idol admired and revered by many economists that was sculpted with the melting of the metal from other gods, some British, others foreign, such as, without a doubt, Wicksell and possibly Bernácer.

Before, it was stated that time and history, besides being complex, are not necessarily linear. This statement acts as an excuse to once again go back to the years before 1936. In Alicante, just like in the rest of Spain, the voices of political instability and economic crisis echoed as a result of the unequal distribution of wealth. Everyone was a Democrat and everyone was a Republican, even those who rose up against the Republic did it with the Republican flag in front of them. In Alicante, there was a Republican tradition in which Maisonnave, Rico and Altamira stood out. They were Reformists, Federalists and Radicals. The others, those on the other side, were Centrists and Nationals. The Reformists expressed themselves in the newspaper *Heraldo de Alicante* and the Centrists in the newspaper *Diario de Alicante*. Germán Bernácer's father-in-law was among the Radicals, as was his uncle, Costa. The rest, who were close to the Radicals, such as Azorín and Figueras Pacheco, showed inclinations that, more than political or ideological, were a progressive, democratic, regenerationist philosophy; they were lovers of political and, especially, social reform. Germán likely thought in this way, a way of thinking that saw inequality in income distribution as a source of economic instability. The group of Republicans followed another moderate and cultured political group of Madrid that promoted intellectuals like Ortega, Pérez de Ayala and Marañón, among others. This political group, which served the Republic, disseminated a manifesto in 1931 that was signed by various people from Alicante, including Bernácer's brother Julio.

His close friend and companion Oscar Esplá, acting in the *Círculo de Empresarios* (Circle of Entrepreneurs) and encouraged by a reformist political desire, played one of his creations called *Canto Rural a la República Española* (Rural Song to the Spanish Republic) with text by Manuel Machado.

According to Martínez Mena<sup>168</sup>, in light of news from the Alicante weekly *La Raza Ibera* for the constituents of the year 1931, a candidature was formed that was *assimilated* to the Republican left-wing made up of *independents* like Azorín, Germán Bernácer, Figueras Pacheco, Oscar Esplá, R. Altamira and J. Guardiola, among others. A political evening was held at the Teatro de Verano on 26 June 1931. They did not seem to obtain popular support.

Bernácer, like many intellectuals, was not a disciplined and fanatic follower of specific political factions, but instead formed part of a group of people who, out of their anguish over a critical political situation, demanded reforms of all kinds. And it is not certain whether this sort of activism, more intellectual than political, acted later, after the war, to fuel the purging actions that followed him. I believe it was due to his following the government and the bank administration during the war. As mentioned earlier, he followed the legitimate power and the administrative apparatus that he was part of.

Now I will jump to the beginning of the forties when the first faculty of economic sciences was starting to be managed. It was a sign of the times. Most European countries had created faculties of economics and research services at their central banks some time ago. On 29 May 1931, in the dawn of the Second Republic, the lucid mind of philosopher Ortega y Gasset wrote: 'I have always believed that one of the greatest crimes of the defunct regime was not creating a school of economics'. Savall said that the Faculty of Economic Sciences was developed by friends of his (for the most part) that were friends of the new regime.

I once again am tempted to create the legend of the persecuted hero and the scientist that was not given access to universities. Indeed, what person would have been more suitable to become a university professor in those days, when there was a lack of devoted or at least trained candidates, than Bernácer? In those years, he had already written two books and a countless number of articles. In addition, Robertson, in 1940, had already made Bernácer known to the international scientific community. In 1942, Haberler's book entitled *Prosperity and Depression* appeared and in the prologue he mentioned Bernácer's contribution. The fact of the matter is that he did not become a professor at the university and he stayed at the younger sister institution, the Business Studies School. There is true and accurate information about what happened. Bernácer, like many other professors at the school, was asked to teach at the university. Bernácer didn't accept the offer. It seems as though there were two groups at the school: one group wanted to teach at the university and the other didn't think it was appropriate. Bernácer was part of the latter group. According to what is known, in principle he believed, to begin with, that the level of such faculty must not be very high and, furthermore, that the job possibilities of economists educated there would not be very promising. Eighteen years later, in 1959, he was offered a professor position at the University of Buenos Aires, a position that he also declined. He was 76 at the time. I believe that this was a dark point in Bernácer's academic life and the Faculty of Economic Sciences against which many prejudices were held for a long time. Many times reality is much simpler than it seems.

As an aside, I will recount a story here. The Faculty of Economic Sciences was located in the old Caserón de San Bernardo building. One of its rooms was used to hold official exams in which París Eguilaz concurred with his former student and companion at the Business Studies School and at the Bank of Spain, Emilio Figueroa Martínez. It is possible that the latter asked his friend and teacher to attend the exams, which Bernácer did happily. According to his son, who accompanied his father to the university, he was invited by the court to sit in the first row, which Bernácer refused. In the end, the chair was for Emilio

Figuerola Martínez.

The beginning of the forties, when remnants of our national war had not yet run their course, was when the destruction of the Second World War began. His book *Society and Happiness* from 1916 talks about the origin and causes of World War I; they were years in which the first velvet wrapping around Keynes' *General Theory* appeared, and according to many authors, they were years in which politicians and the rapacity of businessmen understood that effective fiscal policy would be a second war. In a serious conflict in which national honour is compromised, there is no time to look for lengthy excuses to finance spending. Savings, or rather savings that fund the deficit that war causes, are taken from wherever and spent urgently, and if that is not enough (or is not sufficient), money is created. Thus, the economy, which was at a standstill, since it had been covered in mud during the sad swamps of the thirties, stopped producing consumer goods and began producing capital goods and *goods* of war. It was a war in which there were few swords and little metal from bayonets but much density of fire and capital. Behind, there was nothing more than the secret and titanic struggle of industrial systems, which resolved wartime conflict in the end. More than anything, it was a struggle between machines that in turn created killing machines. The war, even within the apocalypse that it entailed, contributed to the economy's ability to overcome, as a result of construction, what was to be destroyed and the re-building of that which was already destroyed. It was the tragedy and the mortal anecdote of the system that Bernácer knew when he travelled throughout Europe in 1911 amazed by so many technological advances.

Say's Law, as fragile and beautiful as glass, was destroyed in three episodes: the first was the work of many economists before the crisis of the year 1929. The second was breaking this law, which defends supply generating its own demand and states the impossibility of economic crises. This assertion was trampled by the soles of thousands of businessmen that desperately galloped when the stock exchange fell in the last quarter of the fateful year of 1929. The third revolved around a hammer that gave two blows: one, *The General Theory*, and the other, fiscal policy in action (which was furiously active) that facilitated the way to the Second World War.

Once Say's Law was destroyed and another was created on paper –which would in time be modern macroeconomics- the intermediate solution to solve the problem of unemployment was fiscal policy, a policy that was comprised of the technique for handling taxes and public spending, sometimes to revitalise the economy, sometimes to reduce its force when there was inflation. The Keynesian message was understood according to the point of view of increased public spending, a public spending that was strong, purposeful and bold and that would compensate weakness in private demand. It is clear that increased spending using a small amount of taxes resulting from small incomes makes system loans necessary. That is precisely what was needed: unlock savings lost who knows where, perhaps in the drains of the Great Depression.

Bernácer had understood it very well. He stated the following in an article entitled 'The Financial System and Crisis': '...the only effective thing is to spend generously; what is least important is whether people spend usefully or uselessly; what is important is that this spending cannot be governed by profitability; for example, in war and in armaments, on which spending is carried out without thinking too much because it is a matter of national honour. Public works also fulfil the condition of distributing new income and their products are not sold on the market although, unfortunately, the securities used to finance them are...' This article is reminiscent of Keynesian fiscal policy and, despite being published in 1956 (20 years after the

appearance of *The General Theory*), it is the result of other articles of his that appeared in the twenties. It was a dramatic solution made for a dramatic situation, but in order not to permanently stay –become institutionalised– in the economic system; it violated market freedom and all advantages such freedom entails.

He prophetically said on the last page of his last book (*A Free Market Economy...*): ‘The policy advocated by Keynesians leads to monetary disorder and to the replacement of private capitalisation for public capitalisation, which marks a strong inclination towards state capitalism, i.e. a regime similar to Russian communism.’

In the mid-forties, mankind, Keynes and Bernácer had all learned many things. The Great Depression, the Second World War and the atomic bomb (tested on human beings for the first time) had taught humanity a great deal.

Bernácer consolidated his fundamental equation in the face of the macroeconomic equation that said that savings is equal to investment. He passionately defended that savings should finance fixed capital and new money should finance working capital. Fixed capital is working capital when in the hands of entrepreneurs, becoming fixed assets –an accounting term– when demanded by entrepreneurs. Then, it is not only a matter of its nature why it is called fixed capital, but rather the financial function of buying that the demanding entrepreneur has carried out. In this way, he asserted that, on the one hand, fiscal policy hinders the market and, on the other hand, *new* money must always be created to fund this working capital. Since the market shouldn’t go mad about the arrhythmic and capricious creation of money, this growth must be orderly. This is the same assertion that was made later by a critic of Keynesian theory, the apostle of monetarism, Milton Friedman, who he never quoted, since he didn’t know him, and whose theory paradoxically censures Bernácer. Friedman said that fiscal policy should be outlawed and that only a monetary supply that continuously grows at a constant rate should be used.

Bernácer was one of the critics of quantitative theory and of any kind of radical empiricism. As a good Alicante man, he did not look directly at the light, since this light blinds just like ineffable and unstoppable data on the empirical relationships of quantitative theory, which axiomatically relate the amount of money to prices. It is better to look to the side in order to be able to channel statistical and empirical information wisely. Light as food and medicine should be taken in doses. He criticised radical liberalism, though he supported economic freedom.

In the mid-forties and until the end of his days, Bernácer was famous, and he wrote and related to the great economists of the time. He maintained correspondence with Hayek. In Madrid he spoke to Dr Shaach, the Minister of Finance of the Third Reich, to Jacques Rueff and to Swede Johan Akerman. In 1952, he was invited by an admirer, Professor Francoise Perraux, to give a lecture in Paris at the IESA on 1 April, a lecture that was published the same year in the journal *Economie appliquée*. Professor André Piatier wrote to him and said ‘I would like to congratulate you again on your brilliant lecture and tell you how much it impressed us economists who heard it’.

In the forties (1945-7), he had a strong but civilised dispute with Professor Josué Sáenz from Mexico in the journal *El Trimestre Económico*, which served to clarify the thinking of Bernácer and Keynes. Professor Sáenz was Keynesian, which at the time did not strictly mean being excessively rigid or not; it meant knowing economic anatomy and monetary physiology. It simply meant understanding economics, given that it comprised matters like the savings-investment identity. Bernácer said that consumption is not



the same as consumer spending and Sáenz responded that it is impossible to consume without having spent. It seemed to be a ridiculous issue, a problem merely of terms, when a fundamental issue was cleared up after reading the appendix of his last book *A Free Market Economy*... This issue was that a person can spend more on consumption in one period than in another and, nonetheless, acquire and consume less. Bernácer was not thinking about the destruction of consumption, but the quantity of goods that were taken away from the market. In any case, for a reader who did not know Bernácer's work, the dispute that tilted in favour of Bernácer would tilt in favour of Sáenz, who was Keynesian like everyone else. Sáenz was the person who translated Bernácer's work on the theory of disposable funds for Robertson; however, although key, this was not enough to understand his work. If more is spent on consumer goods in a period or the same as in another and due to prices one acquires less, unsold products will be left, and if the part of income that is not spent or saved does not demand or fund all capital goods, then this savings does not have a place to go and, therefore, savings can be equal to investment, unless we cheat and say that the unsold production is what it is not, capital goods, the misnamed inventory investment. It was necessary to *explain where non-capitalised savings were* and Bernácer knew it, but Sáenz, Robertson, etc. needed to know his work on the theory of interest rates in the financial market. That was the big problem for Bernácer and for economics: nobody read *all* of his work while almost everyone read all of Keynes' work.

Bernácer's name was known in the international economic community, but it was never valued at its true worth. He exchanged letters and commented on and received suggestions from important figures in the economy. These included Jacques Rueff from Paris, Aldo Scoto from Genoa, Stuken from Erlangen; Emil Küng from Zurich; Vito and de María from Milan; Professor Montgomery D. Anderson from the University of Florida; Eirich Schneider from Aarhus; Andrés Pedrhol and Walter Hoffman from Kiel; Piatier from Strasbourg; Diehl from Fribourg; Howard S. Ellis from Berkeley; Jassen from Berlin; Carlos Souza from Lisbon, etc. and, of course, honourable economists Robertson and Haberler. He was a figure who shone with his own light in a constellation that was beginning life like a galaxy just starting to explode. It was the galaxy of macroeconomics. John Maynard Keynes was not needed. In the forties, he was extremely busy with the replies to his insistently famous book *The General Theory of Employment, Interest and Money* from 1936. Hicks, the developer of the IS-LM curves, the bars where macroeconomic students would work out, was already fluttering on one of his sides with the article 'Mr. Keynes and the Classicists: a Suggested Interpretation'. And on his other side, there were the academics, the scholars. They were Robinson J., A. Hansen, Kaldor, Beveridge, etc. And just by reading those who read him, the untiring Keynes was overwhelmed with work; nonetheless, in addition to his work in the private economy, in 1940 he had time to publish the book *How to Pay for the War*. He still had to publish ideas about the future international monetary order and about the past experience of the prejudices of the gold standard.

The World Conference was held at this time at the Bretton Woods Spa, a conference that gave rise to the International Monetary Fund and another conservative American plan, which soon became obsolete. Keynes worked tirelessly like a comet in the middle of the modern world that had just appeared, which was the economy. He illuminated the economy and was illuminated by the economy and he became, I believe for the first time in history, a famous and popular scientist on the subject of economics. Amid the maelstrom, Keynes didn't listen to his already sick heart that seriously warned him about his health. And why should one think that this famous, skilful, intelligent, multifaceted and seductive man, besieged by fame in the capital of the British Empire that was collapsing, would agree to meet a man he had heard of in

passing, superficially perhaps, almost whispered by Robertson? Could it be that perhaps the theory of disposable funds subconsciously influenced the minds of Robertson and Keynes? If Keynes simply didn't remember him, and since he didn't remember him in the Tower of Babel of economists from different places, logically he didn't quote him. But, in light of this fact, there was a Robertson who, in 1940, actually said that Bernácer's theory resembled Keynes', implying that he knew about the theory years before the forties and that, obviously, he must have explained it to his friend and colleague Keynes, who already knew that in Spain, the underdeveloped and exotic Spain of that time, there was a man who was ahead of him: Germán Bernácer<sup>169</sup>. John Maynard drank up the knowledge of Swedish Wicksell and he quoted him with his mouth somewhat closed. It was necessary to remain respectful. Then, what happened to Keynes when Robertson explained the theory of disposable funds to him? And if he barely explained it, mustn't he have at least mentioned that his theory had a predecessor in Spain? And if he had to act properly, even if it was only a matter of scientific policy, of diplomacy or of grace, why didn't he do it? Why didn't he quote Bernácer, not even in passing? Is it possible that he didn't read the article in the journal *Económica* in 1940 written by Robertson in which Robertson spoke about a thesis that was similar to his?

Many facts, events and developments that are true or easily learned by knowledge are difficult to prove to others. This is what lawyers call evidence in trial proceedings. Bernácer could not show plagiarism between Keynes and himself, and neither can I. There is no proof, but there are solid indications. They explain the low probability that two puzzles scattered in pieces, each one with exact and well-defined conceptual pieces, put together according to an elaborate economic plan coincide. It is frequent in science that a discovery is found by two or more people, but not a set of pieces and much less the plan that combines and organises them. Apart from the content rich in monetary issues, *The Functional Doctrine of Money*, when it speaks about similar doctrines, yells with its mouth closed and with contained anger about the suspicious change of course of Keynes, who in 1936 turned around completely and changed the direction of his theory. The suspicion was always hidden in Bernácer's soul.

After the Spanish Civil War, Bernácer was recognised in Spain by a handful of friends. Around him there was a cold silence that froze the field of economic culture that acted as a bridge to Spanish scientists. The indifference with which they looked at his work was similar to the silence on the moon. To the contrary, abroad they repeated his name. Perraux and Henri Wallich from the Board of Governors of the Federal Reserve acknowledged him as a great economist. The financial genius from Hitler's Germany, Dr. Schaachft, wanted to meet Bernácer when he was invited to Spain. Bernácer's direct friends at this time, or rather his friends from Madrid, were those at the Bank of Spain. They knew about his merits and about his serious and introverted personality. They were Olegario Fernández Baños, Ramón Artigas, José Fuentes Ruiz, etc., the same friends that helped him during the time of political purging.

It is not possible to understand such a great intellectual effort if it is not accompanied by a series of parallel deformations of intellect. Germán Bernácer lived solely for research, with the invisible but energetic help of his wife María or Maruja, who isolated him from the buzz of immediate domestic work, and with the relative comfort of his work at the Bank of Spain and, before going to Madrid, with the bucolic peace of the joy of Alicante. Isolated in his research, he became nearsighted with regard to the reality around him. His absentmindedness became popular among his friends. Thus, one time at the Bank of Spain, a friend came up to him and, confused, asked him: Hey Germán, what is that shoe doing on your desk? What shoe? Bernácer replied. Well, this one that is on top of your desk... It's true. Well, I don't

know who could have left it there, Bernácer responded while he looked around for someone to give the shoe to, when he himself was barefoot.

Other times, feeling nervous while standing before the ticket office of the subway, he would search frantically for money to pay, as a result of the fondness of this specialist in monetary matters to not carry money on him. Sometimes he would travel forever on the subway, skipping stations without arriving anywhere. And it was not strange for one of his children to run after him to bring him a tie that he hadn't put on or for someone in the street to let him know that he was wearing his slippers. It is the price of abstraction, of the loss of vision for everyday life, like what happened to Adam Smith, Albert Einstein and so many others. This same thing didn't happen to the clever David Ricardo or to the intelligent and practical businessman John Maynard Keynes, who was a brilliant scientist and an effective 'trader' who always carried money on him and was always impeccably dressed in accordance with the strict label of the English gentleman. Bernácer's intimate and good friend, the deputy governor of the Bank of Spain, Ramón Artigas, took him to his properties in Saragossa for several days to talk to him about monetary matters. Taking advantage of the occasion, they visited the Church of Pilar, and once they were inside, they realised that Germán was wearing slippers. He didn't react at all. This is a detail that shows Bernácer's personality and truly exemplifies that he was careless about anything that wasn't scientific truth. Perhaps this clarifies so many things without much mystery. He wanted an economic livelihood to care for his family and to research freely, and as for the rest, he was truly indifferent about his position and promotion at the Bank of Spain and his entry into the recently-created university.

There is no record of scientific controversy in Spain with his colleagues. There couldn't have been one, because nobody could compete with him. That's the way it was. What was most aspired to in Spain was to boast about knowing works by different scientists, and Bernácer was a scientist competing in the same category as renowned scientists. Especially in the forties, when Keynesian belief was lodged in economic science, people boasted about having read Keynes and about having studied with one of his followers, while Bernácer knew that he was far above the Briton.

I believe that this book throws the salt of scepticism onto the thicket adorning the scientific hero who stealthily researched in the face of the conspiracy of silence that imprisoned him in his surroundings. However, there is still more. Savall spoke of the *wall of silence* that was built around him and his friend, disciple and colleague, Figueroa. He wrote about the *conspiracy of silence* that was carefully woven around Bernácer. These assertions aside, what is true and what is not explained is how Bernácer's work, which at the time was anticipative of modern macroeconomics, was so forgotten.

I don't know of books, of articles, of anything in his day that talked about Germán Bernácer's monetary theory. It is inexplicable. It is traditional for the Spanish to disdain what's theirs, and in the economic sciences of the time, when economic studies were just beginning in Spain, there wasn't even anyone to disdain, since there were few who were educated in economics. Admiration for anything English or German was instinctive. But what is surprising is that there were already macroeconomic books written by a Spaniard, articles, etc. And it was work, especially that from the forties, which destroyed an idol that was not yet created and that was a harsh criticism of Keynes. The community of Spanish economists knew it and was amazed when it saw how a provincial man, *without a university degree*, dared to shake the new genius of economics. And these economists (some at the bank, some at the faculty and the rest embedded in national scientific economy) read letters, articles, etc. that, like international couriers,

brought them news about the Spanish economist. Robertson's article from the forties (from 1940 to be exact) and the visits from Schaachft are also from that time. Haberler's prologue from 1942, where he talked about how the Spanish public was more interested in foreign literature than in its own; Bernácer's work showed it, not to mention many other economists. And it is impossible to explain that the light and the reflection of the light, the work and the recognition from abroad, not from within, was unknown in Spain... and for such a long time. It is a difficult task for midday light to illuminate a room that is closed, and Bernácer had to cast a perpetual, not instantaneous, magnesium flash into the Spanish scientific solar system. And if no one remembers this light, it is because it was hidden. There is no other explanation. There are two ways to hide this light. One is by casting another, stronger light. That explains why the flame of a candle is not seen in the middle of the day. That's not what happened, because there was no other economic genius in Spain. The other way consists of hiding this light inside the earth or throwing water on it. This is what Savall quite rightly called *the wall of silence*. His distance from Spain, given that he lived in France, allowed him to have a certain necessary perspective. It is what Emilio Figueroa, Bernácer's contemporary, affirmed: *the conspiracy of silence*. His physical proximity to Bernácer, his direct knowledge of the institutional world that Bernácer lived in at the Bank of Spain and his life at the Spanish economics university, which he saw open, gives his words a certain degree of authority. And my modest efforts and common sense do not admit any other explanation than to believe in the coldly meditated indifference around a man, who also didn't worry about whether or not the world was indifferent to him, given that he was indifferent to the world. There is one other explanation in Spain: the vinegar fountain of envy. And out of caution and since it is not a scientific matter, this will not be discussed here.

After the Keynesian rage of the forties, as works by other great economists gave profiles to macroeconomics that was consolidating into a science, the name of Keynes grew until it became popular to the extent that his theory was becoming blurred like a drawing in the sand being blown by the wind. And that was how students and scientists understood the theory of Keynes, like stories in the villages with oral traditions where, when the story is told for the umpteenth time, it has little to do with the original story. Keynes died on 21 April 1946 and his name lives on in the same way that his work was transformed. With Bernácer's work, neither occurred. The conspiracy of silence was at fault, but contrary to what Emilio Figueroa and Henri Savall think, this culpability is not very important. Almost in *its entirety, the cause of the oblivion of Bernácer's work was nothing more than Germán Bernácer himself, who was never interested in teaching economics classes or forming a group of disciples or anything else along these lines*. He went through the academic and scientific world like he was, like a silent breeze. What aids the transition to a school of thought are its disciples, the author's ability to influence policy and the tenacious effort to form an academic realm. The brilliance that Bernácer had in his day was extinguished over time until resulting in the fact that he is not known by prestigious contemporary economists, if we don't include Françoise Perraux, Henri Wallich and some others who quoted him in their works, such as Olarra Giménez R., who included Bernácer in his book about money published in Buenos Aires. The conspiracy of silence was largely built by Bernácer himself. It is also true that if he had worked at Harvard, Oxford, etc., he would have been a famous economist. But he must have known that at the Spanish university, with little capacity for cultural projection onto international university settings, his theory was going to die just after it was born. These words carry even greater impact when repeating the argument that he never gave economics classes to anybody, as far as known<sup>170</sup>.

However, there is also the following argument. It appears as though Bernácer asked for help so that all or

most of his work was translated to other languages. He knew that this translation was necessary for two reasons: on the one hand, his work has many roots and the explanation cannot be understood with just one or a few articles. I view his articles as extremely valuable, but that is because I've read all of his prior work. On the other hand, this translation, if there had been one, required a lot of work from a large group of people that, after having understood his work, had to organise and synthesise it. Without a doubt, this would have saved him from his subsequent anonymity. He asked for help and, the truth is, he was denied it, and Spanish science and world economic science lost a wonderful opportunity provided by an economist that rivalled and, to a certain extent, exceeded Keynes. Nonetheless, a piece of glass that still shone and was recognised by the light of admiration persisted in the dream of oblivion. There was the incredible meeting between Bernácer and Robertson in the city of Granada and his entry in the Academy of Economics and Finances of Barcelona.

## 26.8. THE MEETING

The city of Granada hosted an International Banking Conference that was attended by bankers and economic scientists. It was 1954. These conferences, as well as talks over coffee, presentations, etc. were opportunities to get to know each other and exchange opinions. Economist Jesús Prados Arrarte, who was later a Scholar of Language and Professor of Political Economy, was at the Conference as was, of course, Emilio Figueroa Martínez, who attended as an official from the Bank of Spain. The story below was told to me by Jesús Prados in approximately 1978 or 79 and it was the spark that lit our inexhaustible research on this unknown person named Germán Bernácer.

Emilio Figueroa was staying with his teacher at the Washington Irving Hotel. None other than D.H. Robertson was staying at another hotel. They had to meet at the building where the conference was held. And, I must remind you that they didn't know each other personally. Jesús Prados was talking to Robertson when he said to him: by the way, Germán Bernácer is here. Robertson's response was not long in coming; he wanted to meet Bernácer quickly, a request that Prados fulfilled with pleasure. Bernácer was at the cafeteria, so they went downstairs and went inside. It was summertime and hot and all the windows in the cafeteria were open. Invisibly, imperceptibly, they had been meeting each other since the manuscript on the theory of disposable funds reached the hands of Robertson in 1923 and since Robertson's articles appeared in *Económica* in 1940. A brilliant path of letters that flew like white doves had built a bridge of communication between the two men, both between their minds and, like at that moment, closer, physically.

There they were, suddenly, in 1954, face to face, Germán Bernácer and Robertson, and the encounter was witnessed by Jesús Prados. Emilio Figueroa was with the Spanish economist at the time. And the unexpected happened. The Englishman overflowed with Latin passion and hugged Bernácer enthusiastically. The situation called for nothing less. This time he knew who he held in his arms. He knew it very well. The Spaniard showed a sign of greeting well below the usual phlegmatic nature of the English. Figueroa explained that Germán was practically frozen, and not just due to his lack of mobility because the Englishman held him in a tight grasp. Some years later, Prados said rather sarcastically: 'the expression on Bernácer's face was like he was ill, not letting him gesticulate'. It is difficult to understand this attitude in an individual who was always courteous and polite. His children said that the cold response with which he received Robertson, which was in great contrast to the warm hug given by the

Englishman, was due to their father's insurmountable shyness. It is necessary to imagine that a spontaneous introduction is occurring and the person being introduced suddenly hugs the other without giving any time to react. The occurrence happened in just a few seconds and it was not enough time to digest the figure of a man to whom he had written so many letters, to whom he owed so much and about whom he held so much doubt. Perhaps this unequal hug can be explained by the shyness and the speed of the introduction, or perhaps it is due to many other things stored in the labyrinths of Bernácer's mind. He hugged Robertson and also Keynes. Or rather, he was hugged by them. There was gratitude, perhaps, in them. And in Bernácer's fallen arms and in the rigidity of his face, perhaps there was the suspicion that followed around him his whole life and that, at that moment, gripped all of the muscles in his body. It is most likely that a bit of everything occurred. Surprise, shyness and doubt joined together and twisted around the body of Bernácer. Or simply nothing happened. But the truth is that Prados and Figueroa were somewhat stunned at the beginning, if not uncomfortable, with Bernácer's cold greeting.

## 26.8. THE TWILIGHT YEARS

In 1954, Bernácer had already withdrawn from his professional activity. One year before he had retired from the Business Studies School as a professor and one year later he retired from the Bank of Spain. He was 72 when he retired from the Bank, and the same year, his last book, *A Free Market Economy without Crisis or Unemployment*, was published. It is a clearly-written book that follows a perfectly logical and ordered explanation, which shows not only the mental clarity of the old man, but what's more, it shows an extraordinary maturity of thought. In those years, Keynesianism had developed sophisticated analysis methods on the rubble of classical theory that had practically shattered in the Great Depression. And the world was also physically rebuilding itself on the rubble of war. It seemed as though everything should be done again and done differently. The Great Depression, the Second World War and the atomic bomb had made mankind mature all at once. Bad memories had to be forgotten and classical economics, which had not been able to hold its own during the Great Depression, also needed to be forgotten. At the time, nobody criticised the classical concept of money like Germán Bernácer, and nobody like him admired it and tried to keep its masterful and strong internal architecture that will last forever, since it was built on the genius of great men. In *A Free Market Economy...*, he demystified the useless Baroque style of Keynesianism. An aged Bernácer knew what there was behind so much conceptual bagatelle. He was not fooled by so much wisdom that was nothing more than yeast inserted by scientists to inflate their knowledge. In this book he said: '...liquidity preference is nothing more than the old supply and demand disguised. This disguise harms the clarity of ideas and introduces strange elements. In money that is not supplied, which we add to active demand to find liquidity preference, there is a large part that does not remain inactive, due to this preference: transactional money is not inactive and is not retained because of liquidity preference, but because of the preference for consumption and for production, and a large part of the rest is not because of preference for liquidity, but because of inertia, because of indifference about illiquidity...'

Apart from this statement, there are others in this book and in articles, such as the article published in the journal *Arquímedes* entitled 'Metric Economics' which, with a careful reading, makes economists tremble as they realise their ignorance. It was as if a hurricane wind fell suddenly upon economic scientists that was instantly stripped of trash that he believed was the core of macroeconomics. This core belongs and will belong to classical economics always. It is a matter of simple logic. He who supplies money demands

goods –he never tired of repeating– and he who demands goods supplies money. To speak of the supply of money and the demand for money is not even a simplistic thing, it is an absurd thing. Ultimately, classical economists were *partly* right when they spoke about supply and demand of what had not been consumed: this is the supply of and demand for *savings*. Consumption and consumer spending had already contemplated the supply of money to demand consumer goods, and the suppliers offered these consumer goods to demand money. The rest, savings, was supplied and demanded. Yet, there was something else: the supply of present money against future money; and even more, so that it is necessary to go back and look for it in the classicists. This is the supply of and demand for savings. He was, as stated above, 72 years old when he made this assertion, almost 20 years after *The General Theory*... appeared.

Years after his retirement from the bank, he had the honour of being appointed a member of the Academy of Economic and Financial Sciences of Barcelona. It was the year 1959 and he was 76 years old. The presentation speech could not have been more revealing: ‘Freedom versus Intervention’ (April), and it was a reaction of an economy, economic science and institutional economics cheated by an interventionism that violated the fundamental and essential principle of the market: freedom, since intervention sows confusion and disorder. The metallic noise of the classical frame that had collapsed in the thirties had bewildered economists and with all the noise, it was impossible to hear the voices of the classical economists, not even the voice of Keynes, who, we understand, had only written for those years and not with the intention of eternity. The truth is that for the old and wise Bernácer who went to Barcelona to read his speech on this classical and superb frame with closely woven pieces, only some pieces had fallen, precisely the loudest ones: those relating to monetary theory. The rest were left standing. Going back to the man and his environment, that worthy tribute by the Academy of Economic and Financial Sciences of Barcelona was by no means a tribute by a community of scientists that orchestrated admiration for the great economist. It was only a respectful, dignified and, above all, sporadic event, an oasis in the silent desert of indifference. Unfortunately, the names of the men and institutions that, far from Madrid, in Barcelona, organised Bernácer’s entry into this academy are unknown.

He had contacts with men outside of institutions, and these men left testimonies of his great worth. For example, he was friends with mathematicians Rey Pastor and José Gallego Díaz. The first was a professor in Madrid and at Harvard and died in 1962. The second was a professor at the Madrid School of Agricultural Engineers and at Stanford University and died in 1965 in Caracas. José Antonio Estrugo was another colleague of his at the school and a friend, as was José Antonio Fuentes, professor of analysis at the faculty of Madrid. They were all mathematicians and he asked them for advice. Here there is an interesting dimension of his life. It is not possible to say that Bernácer was ignorant about maths. He knew and was familiar with mathematical calculations, but math is absent from his work, not including some rudiments of integrals in his book *The Functional Doctrine*... His children Ramón, a mathematician, and Germán, a physicist, stated that their father said that it was not good to abuse mathematics in economics, that it wasn’t necessary, although he acknowledged that economic science can always be represented mathematically. I understand, from reading his work, on the one hand, that mathematics does not generate economic concepts and, on the other hand, it should be used less. The use of mathematics should be carried out very carefully and always knowing what is being done. In the appendix of *A Free Market Economy*..., he said that ‘mathematicians’ mental images, even admitting that their internal logical connection is maths, can represent things that are not true’. Oddly enough, he became enthusiastic about mathematics and with his friends founded the Spanish Applied Mathematics Society, which would later

publish a magazine called *Arquímedes*, in which Bernácer published two articles in 1955. One was entitled 'Metric Economics', and in the articles he expounded a unique criticism of the economic methodology in use. He said that it was not possible to talk about demand curves, since they only existed in the minds of scientists and the mathematical explanations based on these curves were nothing more than artifices of artifices, all unnecessary. This criticism is very typical of an economist who was on the other side of everything and had an almost sensual and mechanical common sense.

With regard to demand curves, he went on to say that they were just a further illusion, living in the mental castle of economists and that 'the same doesn't happen with understanding gases, which graphically represent facts'. Thus, the mental images remain in such images. It was the man-of-the-street speaking, the physicist, common sense personified. Those of us who have read his work and almost understood his scientific psychology believe that Bernácer was linked to the lineage of English empiricists like Bacon, Locke, Berkeley, etc. I am referring to his scientific psychology, to his way of understanding things, to his mechanical sensuality, to his hate and disdain of metaphysics, to his marginalisation that cannot be quantified, to all types of mirages.

Bernácer never withdrew from the economic research he started in 1905, the year in which he had his first intuition that he would develop throughout his entire life. It was illness that finally drew him away, an illness that began in 1962, which was the year he wrote his last article. He returned to his hometown, which he always loved. In his soul, Madrid had only been an episode of his life, albeit a long episode of many years, during which he had two tasks, that of official and researcher at the Bank of Spain and that of a professor of physics and chemistry. But, it was nothing more than an episode. His true life, his refuge, home, cradle and tomb, was always Alicante. He returned there when he was 79 and already ill. His favourite place was a solitary cottage in front of the sea, above a gentle hill pierced by strong marine winds and surrounded by pine trees. The sea, the wind, the pine trees and the proximity to Alicante were the preferred environment of the late Gabriel Miró, who loved it and described it, of his friend that was still alive, Oscar Esplá, who sang to it, and of Germán Bernácer, who sought it out to die peacefully.

On 22 May 1965, at 82, he died surrounded by friends on the beaches of San Juan, at his home in Alicante. The friendship of a handful of dear friends and an article here or there in some newspaper were isolated acts of recognition that saved him from total oblivion. Spanish economic science completely ignored his death, apart from a brief article by his friend, colleague and follower Emilio Figueroa. The oasis was devoured by the desert of indifference.

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<sup>160</sup> My information: origin of the surname Bernácer from the book *El Solar Catalán, Valenciano y Balear*, by García Garrafa and A. Cebrián, p. 211, volume 1. The book says: BENNASAR or BENNASER or BENNASAAR: genealogists on the island of Mallorca say that this lineage is from a Moor called Benebeth, señor de Alfobia, Inca y Pollenza, who, while governor of one of the regions of the island, converted to Christianity and provided significant services to Jaime I in the conquering of the archipelago. Juan Bennasar, who according to some authors was the child of the aforementioned Moor, was a citizen soldier and gentleman of Alfobia, since he had registered this farmhouse in the perpetual census of count Nuño Sanz with all of its mills by virtue of instruments from the year 1240. In the book *Els llinatges Catalans* by Francesc B. Moll, page 303 says: 'Bennacer, Bennássar, Bernácer, Bernázar. From the Arabic ibu-Nasr, son of Nasser (own personal name). Information from Miss Ana C. Tutzo.

<sup>161</sup> Manuel Oliver Narbona 'Human Profile of Germán Bernácer', Caja de Ahorros de Alicante y Murcia, Alicante 1983, p. 33

<sup>162</sup> In the last edition of his book *History of Economic Doctrines*, Lucas Beltrán Flores mentioned Germán Bernácer for the first time (page 391-2, Editorial Teide, Barcelona, 1989 Edition).

<sup>163</sup> Bernácer's life at the Bank of Spain is discussed in a work by Pablo Martín Aceña (*Hacienda Pública* magazine no. 81, page 109, 'Germán Bernácer and Research Services at the Bank of Spain' by the Fiscal Studies Institute, Madrid 1983).

<sup>164</sup> He held this post more because of his mastery of English, French and German, which were very useful languages in the small Tower of Babel of the Republican army, than because of his military knowledge.



<sup>165</sup> Following the article by Martín Aceña

<sup>166</sup> I do not know if his permanence in Valencia was decided based on his own will or if it was decided this way by the authorities at the Bank. Maybe the circumstances, chaotic as they were, were what decided.

<sup>167</sup> *Movimiento* is the name used to describe the political ideology that imposed a national uprising and that theoretically accompanied it during the government.

<sup>168</sup> Oliver Narbona, Manuel. *Op. cit.* page 76

<sup>169</sup> There must be something else. How could Robertson remember a small manuscript received from abroad from an unknown economist for almost 16 years? It is inexplicable.

<sup>170</sup> For me, the main cause of his voluntary isolation was perhaps due to the Spanish post-war environment in 1939 and the following years. It is a difficult, if not impossible, environment to recreate so that current generations can understand it.