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MARXIAN INFLUENCES IN "BOURGEOIS" ECONOMICS

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"Why on earth should a man, because he is a Marxist, be a drivelling idiot?"
—BORIS PASTERNAK, *Doctor Zhivago.*

I

Das Kapital's centenary finds Karl Marx still a controversial figure, wherever he is neither a plaster saint nor a four-letter word. Nowhere has he been easily forgotten, and *Das Kapital* is still the most influential unread book in existence.

Precisely because Marx is a controversial figure, let me state in advance my personal bias concerning him. This bias is expressed most readily by analogy. Suppose one asked a sample of Unitarian ministers their choices as the greatest religious philosopher of recorded history. Most would vote, I am sure, for Jesus, Buddha, or Moses, and yet a Unitarian is neither a Christian nor a Buddhist nor a Jew. In the same way, were I personally asked to name the greatest social scientist of all time—not necessarily the greatest economist—I should name Karl Marx, but without considering myself a Marxist or being considered one by my exclusivist Marxian friends. There are too many "bourgeois" elements in my thinking, however great my admiration for the Marxian theoretical structure, and I remain a muddled eclectic. (F.B.I. and Birch Society please note.)

II

My assignment, to consider bourgeois economics' debt to Marx, recalls this Association's last full-dress "Marxism" session, in 1937. At that time Wassily Leontief and the late Leo Rogin agreed that both contemporary orthodoxy and the early New Deal owed considerably less to Marx than many anti-intellectual and anti-Roosevelt extremists supposed at the time.[1] With Rogin's "policy" verdict I shall not disagree, but Leontief's "theory" verdict might well be revised upward in view of our own advances since 1937. Which leads me to wonder, may

[1] Wassily Leontief, "The Significance of Marxian Economics for Present-Day Economic Theory," and Leo Rogin, "The Significance of Marxian Economics for Current Trends of Government Policy," John Ise and Joseph J. Spengler, discussants (*A.E.R.*, Mar. sup., 1938). Stronger views than these are quite commonplace. I cite at random Raymond Aron, "The Impact of Marxism," in Milorad M. Drachkovitch (ed.), *Marxism in the Modern World* (Stanford Univ. Press, 1965), p. 15, as a strong statement with which I propose to take issue: "To profit from the progress . . . in economic thinking since Ricardo and Marx, one would have had to dispense with the conceptual apparatus of *Das Kapital.*"

not further upward revision of my own estimate be required, if it is exhumed in 1997?

I propose to modify my assignment in two ways. First, by limiting myself to the debt owed the Marxian system by the so-called "conventional" wisdom of our profession and omitting any consideration of the relation between Marx and the dissidents who preceded and followed him. Second, by considering not only the debt we owe Marx in fact, which now appears to me greater than it did to Leontief a generation ago, let alone to Böhm-Bawerk and Thorstein Veblen a generation before Leontief, but also the debt we should have owed him from the outset had his ideas been more felicitously phrased and our predecessors more willing to listen to them.

These modifications may require defense. The problem immediately arises, in the first place, of separating out Marxism specifically from the wave of economic heterodoxy, socialist and non-socialist, which has served as antithesis to the great theses of first the classical and then the neoclassical schools. This problem I lack scholarship to solve, and I should prefer to interpret my function in such wise as to enable me to dodge it instead.

Marx was, like Keynes, primarily a synthesizer, at least in his economics. There are few if any elements of his system which cannot be found in embryo in one or another predecessor. (The English "Ricardian Socialists" come immediately to mind.) There are yet fewer elements not paralleled by one or another reformist or socialist contemporary or near-contemporary. Marx's genius lay, like Keynes's, in synthesis, in combining bits and pieces from one and another system into a whole greater than the sum of its parts. It is this aspect of Marxism, in particular, that seems to have gone unappreciated by Marx's earlier bourgeois critics, who tend to hack away at trees without disturbing the forest.[2] It is worth pausing to observe those modern and ultramodern constructs which went unrecognized for two generations or more. At the same time, who can say whether some quasi-Marxian influence in conventional economics came directly from Marx or from any of half-a-dozen sources independent of Marx, including the *Zeitgeist?*

III

Before getting down to the substance of this paper, besides redefining my assignment for my own purposes, I should like to help

[2] However, consider Veblen, "The Socialist Economics of Karl Marx and His Followers," *Q.J.E.*, Aug., 1906, reprinted in *The Place of Science in Modern Civilization* (New York: Huebsch, 1919), p. 410 f. "Except as a whole . . . , the Marxian system is not only not tenable, it is not even intelligible. . . . No member of the system, no single article of doctrine, is fairly to be understood, criticised, or defended except as an articulate member of the whole and in the light of the preconceptions and postulates which afford the point of departure and the controlling norm of the whole."

lay an extraordinarily durable ghost. This ghost is the perverse influence some people suspect that Marx exercised on the subsequent development of theoretical economics. It is the belief that the subjective, marginal, or utility revolution in value and price theory was prompted ideologically, to escape from the consequence of the labor theory of value as developed particularly by Marx.[3] This thesis is not proven; in fact, the weight of evidence seems to be against it.

Offhand, the case looks suspicious in both time and place. Volume I of *Das Kapital* appears in 1867. The year 1870 is the accepted date for the Jevons-Menger-Walras utility revolution, which carried the field where earlier efforts along identical lines had apparently been dismissed out of hand. Moreover, the labor theory failed more rapidly in the German-speaking countries, where Marxism was strong, than in the French- and English-speaking ones, where it was weaker. (The successor to the classical labor theory was not uniformly marginal utility. Most notably in Germany, the residuary legatee was some form of historicism, but that is another issue.)

The main evidence against the Marxophobe thesis regarding the development of utility theory seems to be that *Das Kapital* itself succeeded so slowly, except in primitive, precapitalist Russia. "In Western Europe, Engels had to write virtually all the reviews . . . under his own name and various pseudonyms."[4] By the time the first volume became reasonably well known, in the 1880's, the utility revolution was independently in full swing, and marginal productivity was peering marginally over the marginal horizon.

[3] Two examples will suffice, one from an eminent economist and the other from an outsider with iconoclastic ambitions: "It is worth recalling that parts of [the marginal productivity theory] were, to some extent, originally developed to provide a rebuttal to Marx's theory of exploitation." Tibor Scitovsky, "Some Theories of Income Distribution," in *The Behavior of Income Shares* (Princeton Univ. Press for National Bureau of Economic Research, 1964), p. 22; "[E]ver since Marx used Ricardo to expound his famous labor or surplus theory of value (a thunderous moral statement) traditional economics has noticeably lost interest in what was formerly the central problem in economic theory, the problem of value." David Bazelon, *The Paper Economy* (Random House, 1963), p. 15.

[4] Bertram D. Wolfe, *Marxism* (Free Press, 1965), p.x. Engels wrote at least nine separate reviews of the first volume of *Das Kapital* (*ibid.*, n. 3). The British Marxist historian E. J. Hobsbawm writes of British reaction: "Between 1850 and 1880 it would have been hard to find a British-born citizen who called himself a socialist in [the modern] sense, let alone a Marxist. The task of disproving Marx was therefore neither urgent nor of great practical importance. . . . [Although the earliest non-Marxist 'expert' on Marx wrote in 1879], "I doubt whether anything even approximating to a usable non-socialist summary of the main tenets of Marxism . . . exists before Kirkup's *History of Socialism*" (1900). "Dr. Marx and the Victorian Critics," in *Labouring Man: Studies in the History of Labour* (London: Weidenfeld and Nicolson, 1964), p. 240 f. Professor Herbert G. Gutman has supplied me with parallel American information as well. For example, the Chicago *Tribune* warned against socialism in December, 1873, for the reason (among others) that Marx had rejected classical economics! Three years later, a New York labor paper (*The Socialist*) began summarizing the first volume of *Das Kapital* as a weekly serial. Gutman, "Failure of the Movement by the Unemployed for Public Works in 1873," *Polit. Sci. Q.*, June, 1965, p. 272.

As for the German anticlassical revolution, it was well under way by 1867; in fact, one of Marx's favorite vulgar-economist whipping-boys was none other than Wilhelm Roscher, best known to doctrinal history as a principal founder of the "older" historical school.

There is a subordinate point of similar import. Marx was no shrinking violet regarding his own importance in the history of thought, but both he himself and his followers have pointed to Ricardo, his predecessor, as having frightened the bourgeoisie with the implications of the labor theory of value and induced its weakening and abandonment by the vulgar economists. *Theorien über den Mehrwert* is of course the text here, and subsequent Marxian and neo-Marxian accounts of doctrinal history take a similar line.[5]

IV

In considering what students should know about Marxian macroeconomics (in un-Marxian isolation from the remainder of Marx's social philosophy) I have found two expository devices both effective and time-saving: (1) formulating Marxian statics as a simple Lausanne school general-equilibrium system, and (2) formulating Marxian dynamics in a "dilemma" diagram, by which no profit rate could remain, as technology progressed with a laborsaving bias, simultaneously high enough to avoid liquidity crises and low enough to avoid overproduction at (or below) any predetermined unemployment percentage. These devices or "Marx-like models" having appeared in print elsewhere,[6] I relegate them, in modified form, to an Appendix. Here, with occasional references to specific equations of this Appendix, I

[5] For example, Rogin argues, discussing Jevons (*The Meaning and Validity of Economic Theory,* Harper, 1956, p. 468 f.): "Ricardo's theory of the inverse relation [between wages and profits] . . . was developed incidentally to his preoccupation with the trend of profits as the criterion of economic progress. . . . But with the shift from the social and political conflict between landlords and the industrial bourgeoisie to the one between labor and capital, Ricardo's theory [N.B. Not Marx's theory] served to feed theoretical fuel to the flames of the latter conflict." A more elementary Marxist writer, John Eaton (*Political Economy* [New York: Int. Pub., 1966], p. 27) is more explicit: "Marxist economic theory was built upon the scientific foundations laid by . . . Adam Smith and Ricardo, for whom the labor theory of value was the foundation of economic science . . . [T]he labor theory of value enabled Marx to show the nature of capitalist exploitation and that capital itself was doomed to extinction. The defense of capitalism called, therefore, for an attack upon the labor theory of value. Bourgeois theory was quick to sense this, and from about 1830 [N.B. Not 1867] has been in quest of an economic theory that rejected the labor theory of value."

[6] M. Bronfenbrenner, "*Das Kapital* for the Modern Man," *Sci. and Soc.*, Autumn, 1965, "Classical and Marxian Macro-Economics in Separate Nutshells," in *Essays in Honour of Marco Fanno* (Padua: Cedam, 1966), pp. 140-50, and "The Marxian Macro-Economic Model: Extension from Two Departments," *Kyklos*, June, 1966. My debt to Lawrence R. Klein,"Theories of Effective Demand and Employment," *J.P.E.*, Apr., 1947, will be obvious. Candor also requires the admission that a proposal for translation of the *Science and Society* essay into German has been rejected (in East Germany) because of alleged distortions of Marxian doctrine. The modifications in the present Appendix reflect primarily criticisms received at a Johns Hopkins University seminar in May, 1966.

limit myself to a catalogue of some nine "modern" elements of *Das Kapital,* not all of which I find personally congenial, which academic economists missed almost entirely until the 1930's.[7] Keynesian parallels should be obvious, and also "structuralist" ones, involving *inter alia* Leontief's own input-output system.

1. Division of the private economy into "investment" and "consumption" sectors has become commonplace in the post-Keynesian generation, but it apparently dates from Marx.

2. If I am justified in including certain imprecisely specified "functions"—Section IV, equations (15)-(16) of the Appendix—into the Marxian schema,[8] he was an embryonic general-equilibrium theorist in advance of Leon Walras.

3. Marx presents a theory of underemployment equilibrium well in advance of Keynes, with the unemployment rate tending, for structural reasons, to increase over time.

4. The notion of a minimum rate of profit, below which capitalists will seek to hoard their savings in monetary form, seems to be a first cousin to the Keynesian liquidity trap in interest theory. Indeed, Marx's entire interest theory concentrates on equalizing returns to "money" and other capital; it may be a modern monetary one ahead of its time,[9] although my old-fashioned inclination is to believe otherwise on balance.

5. Marx antedated current institutionalist and structuralist writers, from Veblen and Ayres to Leontief and Chenery, in downgrading the importance of prices, and price-induced substitutions, as compared with purely technical production relations.[10]

It is the unimportance of prices, and *a fortiori* the unimportance of

[7] On the Marx-Keynes relationship, which became apparent at the end of this decade, compare Mark Blaug, *Economic Theory in Retrospect* (Irwin, 1962), p. 270 f.: "Most authors are impressed by the similarities . . . : Two-way disaggregation on the product side of the social accounts; a monetary theory of the rate of interest; the rejection of Say's Law; emphasis on the declining marginal efficiency of capital; and a chronic tendency toward oversaving in a mature economy."

[8] The Marxian underconsumptionists, such as Rosa Luxemburg, would doubtless deny the authenticity of (15). Other Marxists would also deny, with some horror, the entire notion of Marx as an "equilibrium" economist, since the term has taken on optimal and/or full employment overtones above and beyond its service as a check on logical consistency. Compare Bronfenbrenner, "Classical and Marxian Macro-Economics," *op. cit.*, p. 150.

[9] For this interpretation, see Blaug, *op. cit.*, p. 265, citing *Das Kapital,* Vol. III, Chap. 13. But suppose, with, e.g., Böhm-Bawerk, an economy in which goods are borrowed and lent *in natura,* or in which the numeraire is an abstract, noncirculating unit of account. Would not a rate of interest prevail here too (under capitalism), along the lines of the exploitation theory of interest more commonly ascribed to Marx?

[10] Marx may himself have been anticipated by Ricardo in this respect, if one accepts Piero Sraffa's interpretation of *Production of Commodities by Means of Commodities* (Cambridge Univ. Press, 1960) as modernized Ricardianism. To me, the Sraffa system appears to omit the considerations underlying the Ricardian theory of rent. This makes it, as a Ricardian system, "Hamlet without the Dane," while, as a Marxian one, it is only "Hamlet without Rosencrantz and Guildenstern."

their divergence from values, for anything but the statical equilibration of markets and profit rates, that makes the labor theory of value so easy to uphold in the Marxian framework, both definitionally and as a workable approximation to competitive microeconomic facts. The point may be worth repeating: Nothing in Marx's aggregative "laws of motion of capitalism" would be affected in any significant way by any change in the pattern of divergences between prices and values, the p_i terms in the Appendix.

6. I owe to Leontief's 1937 paper to this Association an appreciation of the indebtedness to Marx of business cycle theory, which may itself be in something of an eclipse at the moment. A running quotation will touch the high spots of Leontief's appreciation:

> Present-day business cycle analysis is clearly indebted to Marxian economics. It would hardly be an exaggeration to say that the three volumes of *Capital* helped more than any other single work to bring the whole problem into the forefront of economic discussion.
>
> It is rather difficult to say how much Marx actually contributed to the solution of the problem. The two principal variants of the Marxian explanation of "economic crises" are well known. One is the theory of underinvestment, the other is the theory of underconsumption. Both might contain some grain of truth.
>
> It is easy to find numerous hints and suggestions which can be interpreted as anticipating [each] and every modern theoretical construction.
>
> [Here Leontief quotes from the Marx-Engels correspondence a passage indicating that "toward the end of his life Marx actually anticipated the statistical, mathematical approach to business cycle analysis."]
>
> The significance of Marxian economics for modern business cycle theory lies, however, in the famous Marxian schemes of capital reproduction. An intelligent discussion of economic fluctuations must be based on some theoretical model revealing the fundamental structural characteristic of the existing economic system. In this field the original contributions of post-Marxian economics are rather uncertain. [Marx] developed the fundamental scheme describing the inter-relation between consumer and capital goods industries. The Marxian scheme still constitutes one of the few propositions concerning which there seems to exist a tolerable agreement among the majority of business cycle theorists.[11]

7. As in business fluctuations in contrast with stationary states (or Von Neumann rays!), so in imperfect in contrast with pure competition, Marx gives us no finished theory but an urgent sense of general unease, integrating facts and analysis, which has come to fruition long after his death. I remember my teacher, Frank H. Knight, warning me against undue interest in imperfect competition; specialists in that area, he said, usually ended up as Marxists!

8. Passing to more general and methodological matters, one hesitates to point out the smooth and natural articulation of Marxian statics and dynamics, because this virtue is shared with Marx's classical predecessors. However, *Das Kapital* was the last system with this feature—at least until Schumpeter. Static analysis took over the field in the 1870's, and we are not yet back to the Marxian level.

9. In the same way, Marx's assimilation of theory and practice, of economics and other social studies, is not new. He stands last, and pos-

[11] *Op. cit.*, pp. 3-5. Professor Howard Sherman has shown me his unpublished essay on "Marx and the Business Cycle," which goes into further detail.

sibly greatest, in a series from Locke through Hume and Smith, Ricardo and Mill, in what we self-consciously call today an interdisciplinary tradition. After Marx, such architectonics went out of fashion among economists, and was left to philosophers and sociologists uninterested in economics, or sated with it. It is characteristic that Keynes confined the "social philosophy" of the *General Theory* so largely into one chapter. Following his (and Schumpeter's) day, economists are once more raising their sights to embrace the other social disciplines, but no practitioner of Marx's own stature has yet emerged.

V

Because my critique of Marx differs both from the standard Böhm-Bawerkian textbook one and from the one Professor Samuelson is presenting today, let us consider it, if only as the reverse side of the appreciation expressed up to this point.

As for the statics, the besetting sin is ambiguity, a misdemeanor rather than a felony. Some of this ambiguity—for example, the frequent confusion between stocks and flows, particularly as regards constant capital—Marx might well have corrected had he lived to polish his system for a second edition. Another type of ambiguity, exemplified by the question of whether he proposed to set up a general equilibrium or disequilibrium system, cannot be resolved short of presenting the question to Marx's ghost, since it was not presented to him in the flesh. Rather, what I have in mind is the so-called "transformation problem," or the relation between values and prices.

Here the problem is less that Marx failed to make his meaning clear than that he offers alternative solutions with no basis for choice among them. If we accept my device (in the Appendix) of using p-coefficients as ratios of price to value (pure numbers) instead of absolute prices, one may argue, with textual justification, for some such equation as (3), which makes total and average values equal "total" and average prices. But one can argue just as readily, and again with textual justification, for making the sum of surplus values equal to the sum of profits (with all receipts and costs converted into prices). Some have also suggested setting price arbitrarily equal to value for one or another sector of the economy, which Marx never did. (A "luxury good" sector, composed of capitalists' consumption goods, is a common choice, because it does not reflect back to any other sector in the form of cost.) The point is not only that Marx made no clear choice, but that his system includes no clue for making one. The system works equally well either way, but with, in general, different results.[12] One is

[12] For a demonstration that the results do in fact differ, with a three-sector model, so that no single set of prices satisfies both of Marx's "invariance criteria," see Blaug, *op. cit.*, pp. 213-15 (correcting several misprints).

reminded of Mrs. Robinson's strictures against neoclassical price theory and its ambiguous treatment of "normal profits."[13] The "transformation problem" is the Marxian equivalent.

Allied to this ambiguity is another, involved in System II and equation (9) of the Appendix. This is the aggregative equality of supply and demand. Should it be expressed in terms of value (labor time) or of price (labor time as modified by p-coefficients)? Since supply and demand are market phenomena, and hence involve market prices, I have chosen the second alternative, following a suggestion by Mr. Yutaka Kosai. Most of the Marxian illustrations run in value terms, however, as did my own earlier efforts. Clearly, a substantive difference is involved, except in the trivial special case where all p-coefficients are equal to unity.

VI

Passing to the Marxian dynamics, I have somewhat less to add to the standard bourgeois appraisals. But once again, it is not completely clear what Marx is saying. Is the motive force of capitalist decline a falling rate of profit plus a liquidity trap of some sort, a tendency toward overproduction and underconsumption manifest in "realization crises," or some dilemma compounded of the two? There is again a related ambiguity: is collapse to come more or less automatically from accumulated disgust with prolonged stagnation and increasing unemployment, or can we expect the revolution before such a point is reached? My own interpretation leans toward a "dilemma model," with the realization crisis the dominant weakness, insofar as monopoly or oligopoly may prop up the profit rate by raising the rate of exploitation for a capitalist class which forms a diminishing proportion of the population.[14] On the issue of stagnation versus cataclysm, or the timing of the revolution, I am not sure Marx ever made up his mind, after disappointment of his hopes for the late 1840's. He would take his socialist revolution either way and at any time, and the sooner the better!

[13] Joan Robinson, "The Basic Theory of Normal Prices," *Q.J.E.*, Feb., 1962, pp. 10-12.

[14] I owe to Professor Nobuo Okishio an interpretation of the falling rate of profit which would, if valid, apply under monopolistic as well as competitive conditions. Ignoring all distinctions between stocks and flows by setting our d equal to unity, we have:

$$P' = \frac{S}{C+V} < \frac{S+V}{C} = \frac{\text{``living labor''}}{\text{``dead labor''}}$$

In the Marxian vision of technical progress (*Das Kapital*, Vol. III, Chaps. 4–6, 13–15), by Okishio's interpretation, it is really this last ratio rather than the organic composition of capital k, which tends to fall over time. (As has been remarked frequently, especially by students of Chap. 14, Marx was less dogmatic about "Marx's Law" than many of his followers have been.) Let us agree that the living-labor/dead-labor ratio falls over time, but this ratio is clearly greater than the rate of profit itself. It does not follow that P' falls over time, since the fall of the capital-labor ratio could be counteracted by a rise in the ratio $SC/[(C+V)(S+V)]$.

Assuming these ambiguities resolved, the principal shortcoming of Marx's uniquely original and influential dynamics appears to be interdisciplinary—an odd weakness indeed, in view of Marx's own stress on the unity of the social studies, history, and philosophy. Two illustrations involve logic and political theory, respectively.

As regards logic, I can do no better than repeat the main point of Professor Murray Wolfson's recent logical-positivist critique.[15] To Wolfson, Marx's forecast of capitalist downfall is so imprecise as to time, place, and pattern, that it is difficult to imagine any sequence of historical events in finite time as refuting it. Being irrefutable, the Marxian dynamics become, by logical-positivist criteria at any rate, essentially meaningless.[16] And indeed, it seems as difficult to cite Russian or Chinese semicapitalist or developing-country experience as supporting the Marxian system as to cite the last century of American or Western European advanced-capitalist experience as disconfirming it more than temporarily.

In the domain of political philosophy, Marx's theory of the state and its economic functions, however revolutionary in its own day, seems fundamentally outmoded in the large by institutional developments. It is no longer enough to laugh off the capitalist state as "merely" the instrument of the capitalist ruling class. Even accepting this proposition with fewer reservations than most Americans do, its significance is no longer so obvious as it was in Marx's lifetime. Viewed purely as an instrument of the capitalist class, the state has an interest in preserving the capitalist order, and need not sit idly by on bayonets while that order crumbles away in depression and stagnation. Furthermore, the modern state commands resources of monetary and fiscal policy undreamed of in Marx's philosophy, which was apparently shackled to metallism and budgetary balance by the implications of the labor theory of value. Whatever the flaws of contemporary monetary-fiscal economics, it will not do to dismiss them as "creation of fictitious values," an orthodox Marxist procedure of the New Deal period.[17]

The Soviet trend toward "competitive coexistence" since Stalin's

[15] Murray Wolfson, *A Reappraisal of Marxian Economics* (Columbia Univ. Press, 1966).

[16] It is probable that the younger Marx and Engels, in the halcyon days of the *Communist Manifesto* (1848) did indeed anticipate a more or less immediate collapse of capitalism, beginning in the advanced areas of Western Europe. In this interpretation, Marx stands disconfirmed, but only in a preliminary or juvenile version which anticipates *Das Kapital* by twenty years and more.

[17] Neo-Marxists (revisionists?) of that period were more perceptive, as witness Rogin, "Marxian Economics and Government Policy," *op. cit.*, p. 14: "Marx never envisaged state action on a large scale in the interest of the masses, of recovery, and of economic stabilization. In fact, the main task of those who wish to employ the Marxian theory in concrete economic analysis is to adapt it to the requirements of an economic process which involves a vast amount of government regulation and participation."

death is often associated with retreat from Marx's original position, and the Chinese charge of "modern revisionism" is entirely plausible. Instead of denying the efficacy of monetary and fiscal policy in averting stagnation, the revisionist line calls the method wasteful, bellicose, and divorced from the people's welfare as compared with all-out "rational" socialist planning for growth and progress. Whatever one may think of this argument—to me, the issue remains wide open—it has progressed a long way from any volume of *Das Kapital.*

VII

The foregoing estimate, viewing Marxism primarily as macroeconomics, is intended as neither outright acceptance nor outright rejection. On the static side, it is probably less unsympathetic than most American classroom presentations. On the dynamic side, it is more conventionally critical, but not to the point of suggesting that Marxian dynamics is completely outmoded, no longer worth taking seriously, or an impossible basis for useful extensions.

Let me close by repeating another position I have already taken.[18] I look forward from the centenary of *Das Kapital* to the time when, in America as elsewhere, serious academic work in controversial Marxian economics is carried on by professed Marxian economists as well as others like myself, and when the ideological handicap under which Marxists presently suffer in seeking academic preferment is lowered from three strikes to one, and preferably abandoned completely. And, if the point needs making before this audience, I also look forward (with considerably less confidence) to similar freedom for controversial bourgeois economics by bourgeois economists in predominantly socialist countries.

[18] M. Bronfenbrenner, "Marxian Economics in the United States," *A.E.R.*, Dec., 1964.

Appendix

Notation

Department I (subscript 1), produces capital goods.

Department II (subscript 2), produces consumption goods.

W—Value, measured in labor-hours (hours of socially-necessary labor).

C—Constant capital, depreciation and intermediate goods, measured in labor-hours (a flow, not a stock).

V—Variable capital, wages of production workers, measured in labor-hours (of product, not of actual labor).*

S—Surplus value, property income plus salaries, measured in labor-hours.

p—Ratio of price to value, a pure number.

* V_0—The "full employment" value of $\sum V_i$.

w—Wage rate of productive labor, measured in labor-hours of product.
S'—Rate of surplus value, S/V.
P'—Rate of profit, essentially $S/(C+V)$.
K—Fixed capital (a stock).
d—Depreciation rate, essentially C/K.
g—Proportion of S invested in output of Department I.
k—Organic composition of capital, C/V.
h—Capital coefficient of Department II, W_1/W_2.
u—Rate of unemployment, $1-(\sum V_i/V_o)$.

Equation Systems

I. Labor Theory of Value (8 Equations)

1–2. $W_i = C_i + V_i + S_i \quad (i = 1, 2)$

3. $\sum W_i = \sum p_i W_i$

4–5. $w = \dfrac{V_i}{S_i + V_i}$

6. $S' = \dfrac{1 - w}{w}$

7–8. $P' = \dfrac{S_i p_i}{V_i + (C_i/d_i)} \quad \text{or} \quad P' = \dfrac{S_i' p_i}{1 + (k_i/d_i)}$

Notes:

1. From (4)–(6) we also have $1/w = S'+1$.
2. The wage rate w is also constrained by the standard of living, expressed by the past wage rate w_{-1}. This constraint does not take equational form; it may be expressed by the condition that the quotient or difference of w and w_{-1} should not exceed some constant ϵ in difference from unity or in absolute value, respectively.

II. Supply and Demand (1 Equation)

9. $p_1[V_1 + (1 - g)S_1] = p_2(C_2 + gS_2)$

III. Structural Equations and Identities (4 Equations)

10–11. $k_i = \dfrac{C_i}{V_i}$

12. $\sum C_i = \sum d_i K_i$

13. $u = 1 - \dfrac{\sum V_i}{V_o}$

14. $h = \dfrac{W_1}{W_2}$

IV. Functional Relationships (2 Equations)

15. $g = g(P', h, W_2) \cdots$ all derivatives nonnegative.

16. $u = u(S'_{-1})$, so that, from (7–8) $P' = \dfrac{[u(S'_{-1})]^{-1}}{1 + (k/d)}$

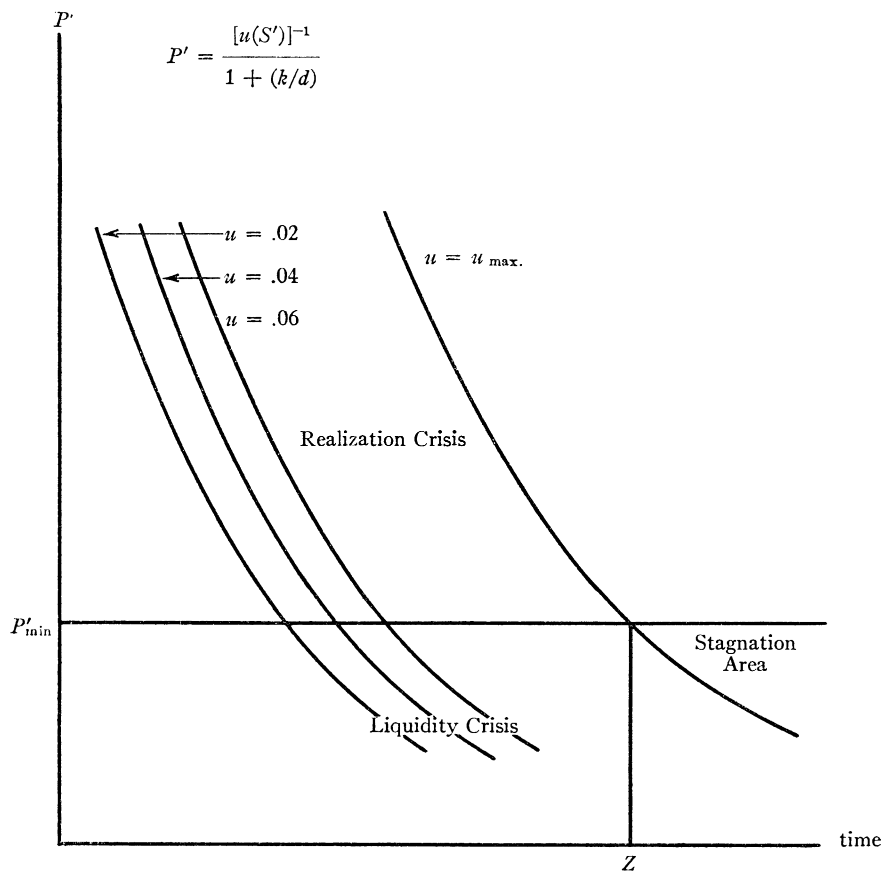
Note: S'_{-1} in (16) is a proxy for the recent-past rate of surplus value, and does not refer exclusively to the period immediately preceding. The derivative du/dS_{-1} should be considered positive.

Unknowns (16)

W_i, C_i, V_i, S_i, p_i—10 in all
S', P', w, h, g, u—6 in all

Note: All other variables are technologically determined.

"Dilemma" Diagram



Notes: 1. k presumed to increase with time.
2. No time trends in d or $P'_{\min}$.
3. Z = *Zusammenbruch* (collapse, breakdown).