



The Phillips Curve: A Rushed Job?

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Introduction

Half a century ago, *Economica* published what its webpage claims is “the most heavily cited macroeconomics title of the 20th century”—the paper by A. W. H. “Bill” Phillips (1958) that introduced the Phillips curve. The editor of *Economica* at that time, Basil Yamey (2000, p. 336) described the submission of the paper in this way:

I do not recall whether Bill gave me a copy of his paper for editorial consideration. I think I was given a copy by Lionel Robbins or James Meade. Anyway, before the day was over the paper had been enthusiastically recommended to me by several members of the editorial board. I shared this enthusiasm after I had read the paper, and within a day of receiving it accepted the paper for publication in *Economica*—a speed of decision impossible for any refereed journal today.

The planned make-up of the next issue was changed so as to make Bill’s paper the lead article.

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Yamey's account raises two questions. First, why didn't Phillips submit the paper himself? Phillips was on the faculty of the London School of Economics (LSE), and *Economica*, as the house journal for LSE, had its editorial office in the main LSE building. Second, who informed "several members" of the Editorial Board of the paper's submission? Apparently, someone was anxious for the paper to be published.

Based on admittedly circumstantial evidence, I will argue that Bill Phillips was not satisfied with the paper and had not intended to publish it in 1958. I believe that Phillips was persuaded to allow his paper to be published in 1958 by James Meade. After a brief overview of Phillips' early life and career, I attempt to show why Phillips was probably unhappy with the paper that introduced the curve that came to be identified with his name and how, nevertheless, it came to be published.

Phillips' Life before the Curve

The New Zealand economist Alban William Housego (Bill) Phillips was a remarkable man who had an extraordinary life (Blyth, 1978; Sleeman, 2010a). Phillips was born on November 18, 1914, and grew up on a dairy farm. He passed the university entrance and civil service exams before he graduated from high school in December 1929, but his family could not afford to support him in pursuing additional education, and so he was apprenticed as an electrician at a hydroelectric station. During his apprenticeship, Phillips took a correspondence course in electrical engineering.

When he had completed his apprenticeship in 1935, Phillips decided to travel to the United Kingdom via China and Russia. He "swagged" his way up the East Coast of Australia taking a variety of jobs, like hunting crocodiles and working at a gold mine, while studying differential equations by correspondence. On July 7, 1937, the day after Phillips sailed to China, Japan declared war on China. Phillips ended up in Tokyo and was later arrested in Hiroshima on suspicion of spying. He finally made his way to the Trans-Siberian Railway and reached London in November 1937. Phillips became a member of the Institute of Electrical Engineers in 1938 and worked as an electrical engineer. He also enrolled as an evening student at LSE completing Part I of the B.Sc. (Econ) degree in 1940.

In 1940, Phillips also joined the Royal Air Force Volunteer Reserve. He spent most of 1941 in Singapore and Burma as an Armaments Officer. In early 1942, Phillips was on board the *Empire Star* on his way to Java when Japanese aircraft attacked the ship. Phillips improvised a mounting for a machine gun on a boat deck and fired at the attacking aircraft for several hours. In February 1942, soon after arriving in Java, Phillips was captured and spent the next three and a half years as a prisoner of war. During his captivity, Phillips made and operated secret radios that he miniaturized until the parts would fit into the heel of a rubber clog. In 1946, Phillips was awarded the M.B.E. (Military Division) for his service as Armaments Officer and his part in the defense of the *Empire Star* (Sleeman, 2010b).

After the war, Phillips returned to LSE to complete his degree, specializing in sociology. Sociology was for him an unhappy choice: Phillips later characterized what he learned as “a combination of ethics, social statistics, and pseudo-science” (Blyth, 1978, p. xv). He graduated in June 1949 with only a Pass, probably because he had stopped studying during his final year to build a hydraulic model to make sense of the macroeconomic model he had learned in his economics classes.

A Steep Academic Ascent

In 1950, despite his poor degree, Phillips was appointed an Assistant Lecturer in the Department of Economics at LSE at the top of the pay scale, and simultaneously began his Ph.D. studies.¹ The reason was that by 1949, Phillips had built the MONIAC: Monetary National Income Analogue Computer. (The name is a play on ENIAC, the Electronic Numerical Integrator and Computer, which had been announced in 1946 as the first general-purpose electronic computer.) MONIAC was a hydraulic machine, made of transparent plastic pipes and tanks fastened to a wooden board, about six feet high, four feet wide, and three feet deep (Barr, 2000). The MONIAC used colored water to represent the stocks and flows of an IS–LM style model and simulated how the model behaved as monetary and fiscal variables varied. The MONIAC brought Phillips to the attention of James Meade and, ultimately, to Lionel Robbins and other members of the LSE economics department.² In 1950, Phillips published a paper on MONIAC in the August issue of *Economica* eight months after failing his Applied Economics and Economic History exams and passing Principles by a single point (Sleeman, 2010b).

In October 1951, the 36 year-old Phillips was promoted to Lecturer and tenured having published only one paper. Over the next two years Phillips completed his doctorate (Phillips, 1953) and published his paper applying classical control theory to macroeconomic policy (Phillips, 1954a) as well as two short book reviews (Phillips, 1954b, c). Although he had published only two research papers, the University of London approved Phillips to an appointment as a Reader in Economics starting October 1, 1954. In 1956 and 1957, Phillips published two more papers: his first paper on time-series econometrics and a paper showing how lags could make economic policies destabilizing.

By 1957, although Phillips was not well-known outside the United Kingdom, the economists who knew him regarded him as a genius. Meade (2000, p. 18) noted

¹ The U.K. academic ladder has more rungs than the U.S. ladder. U.K. academic ranks are: Assistant Lecturer (untenured), Lecturer (tenured), Senior Lecturer (career grade for those who do not have distinguished research records), Reader (career grade for those with outstanding research records), and Professor.

² James Meade and James Durbin supervised Phillips' Ph.D. dissertation. Meade, in his 1951–52 report on Phillips' progress, wrote: “He is working intensively on his dynamic models. As Mr. Phillips is the man to whom I turn for my own instruction on this subject, I feel that further comment would be out of place” (Phillips' undergraduate file in the LSE archives).

Phillips' ability "always [to see] the main point at issue" and his ability to produce "comments and suggestions . . . which were somehow obvious when he expressed them but which everyone else had somehow or another overlooked or had muddled up by trying to be clever . . ." Lionel Robbins wrote to his professorial colleagues: "the work he is doing is more important than anything I know of that has been done . . . since the publication of *The General Theory*." Maurice Kendall, Professor of Statistics at the LSE, wrote to Lionel Robbins stating: "During the last few months I have been more and more impressed with the work that A. W. H. Phillips is doing. He seems to me to be on the threshold of making some fundamentally important contributions to econometrics." (All quotations in this section, not otherwise attributed, are taken from copies of letters and documents from the Robbins Archives, supplied to me by Professor Susan Howson.)³

On September 23, 1957, Robbins sent a memorandum to the professors of economics at the LSE arguing that Phillips' name should be submitted as a candidate for the Tooke Chair of Economic Theory and Statistics: "[I]f Phillips is not soon given a chair we run the risk of losing him. Already he has been offered one of the best Australian chairs—and only refused it out of a sense of obligation to the School and his present research project. It is my judgment that it is quite certain that further and even more tempting offers will be forthcoming."

The Tooke Chair is the University of London's most prestigious appointment in economics and statistics. Robbins was a consummate academic politician and he carefully prepared the ground. Candidates for the Tooke Chair were expected to have distinguished research records in economics and statistics. In 1957, the call for applications for the chair specified that, in addition, the applicant must have "the technical qualifications necessary to forward the testing of propositions in economic dynamics by methods which involve digital and analogue computers," which effectively made Phillips the only eligible candidate. However, Phillips' vita, although outstanding in quality and originality, was remarkably short for an appointee to a senior chair. Robbins would almost certainly have asked Phillips if he had anything that could be moved quickly into the publication stream. I think that at this point Phillips resurrected some research that he had worked on in 1956 and then put aside.

We know that Phillips was dissatisfied with the fact that he had not treated aggregate prices in the MONIAC, and we know that he had drawn curves similar to the Phillips curve in his thesis (1953) and his *Economic Journal* paper (1954a). We also know that Brown's (1955) book *The Great Inflation* "was . . . discussed for a whole term [January through March 1956] in Robbins' faculty and graduate student seminar, which Phillips joined Robbins in running, so Phillips must have been familiar with it in some detail" (e-mail correspondence with Susan Howson, December 8, 2009). The seminars would have piqued Phillips' curiosity about the relations between unemployment and inflation, and must have occasioned the conversation with Phelps

³ Professor Howson is writing the authorized biography of Lord Robbins, and she has possession of the Robbins materials. The Robbins papers will ultimately be stored in the LSE archives.

Brown that led to the so-called weekend's work during which Phillips discovered the Phillips curve.⁴

During that weekend in 1956, Phillips probably transcribed, transformed, and plotted the 1861–1913 data and then fitted the curve: a good weekend's work for someone working with a slide-rule and plotting the data by hand. However, I believe that Phillips, dissatisfied with the fit of the curve to the post-1913 data, put his calculations aside in 1956 and returned to his work on control theory. There is no evidence that he discussed his results with his colleagues; for example, Richard (Dick) Lipsey did not learn of the 1958 paper until it was in page proofs. (Phillips may have discussed his work with Meade, but I can find no evidence that he did so.)

I believe Phillips, prodded by Robbins and Meade, decided to write up what became known as the Phillips curve research. Phillips had about six months from September 1957 through March 1958 to write the paper. Although the initial statistical work had almost certainly been completed in 1956, the paper required a great deal of further work: checking and replotting the data, redrawing the diagrams, perhaps refitting the curve and, above all, researching and writing the historical commentary that Phillips provided to “explain” the deviations of the points from the estimated curve. When Phillips later said that the paper was a “rushed job” (Blyth, 1978, p. xvi),⁵ I think he was referring to the pressure to produce the paper to be used as ammunition, if needed, for the assault on the Tooke Chair.

Phillips' appointment to the Tooke Chair was confirmed in April 1958; *there was no longer any need to get the paper published*. I believe that Phillips shelved the paper, perhaps intending to do further work on it during his forthcoming sabbatical at Melbourne.

Phillips was never particularly interested in publication, and he applied very exacting standards to what he did publish. For example, Phillips never published his 1966 Walras–Bowley Lecture, although the lecture would almost certainly have received automatic acceptance if Phillips had submitted it to *Econometrica*.⁶ Pagan (2000, p. 422) writes: “The saga of the paper shows a number of characteristics of Bill's work. Firstly, that he was very seldom satisfied by partial solutions. . . . Secondly,

⁴ Lipsey (2000, pp. 234–35) has an interesting discussion of the “weekend's work” and the role played by Phelps Brown. Leeson's published and unpublished papers written between 1994 and 1998, as cited in the references, are an indispensable resource for anyone interested in the early history of the Phillips curve.

⁵ Sixteen years later Phillips gave Blyth (1978, p. xiii) two explanations for the so-called rushed job: “I had to go off on sabbatical leave to Melbourne” and “A. J. Brown had almost got those results earlier.” But neither of these explanations is convincing. Phillips clearly could have worked on his paper while at Melbourne because he wrote the paper on the Australian Phillips curve (1959) while he was there. While Phillips' second sentence seems to imply that Phillips was concerned that Brown, or someone reading Brown's book, might have stumbled on the Phillips curve and published first, I think that this reading is wrong. Phillips was not concerned with issues like priority, and his was a self-directed research agenda. I believe that Phillips, recalling his early work many years after the event, was merely noting that Brown's work, which had sparked his own interest in the relationship between unemployment and inflation when Phillips read the book in 1956, *could* have led someone to discover the Phillips curve. I think that a careful reading of Brown's book shows that Brown's approach was, in fact, a dead end.

⁶ It was published posthumously (Phillips, 2000) in the *Collected Works* volume edited by Leeson.

. . . [while m]ost of us would have been more than happy to send such a paper off to *Econometrica* and to see it published . . . that was not Bill's style. If he thought that there was any chance of a defect in the paper, he would never succumb to such a temptation." As another example, Phillips (1959) wrote a paper in Melbourne that was the first Phillips curve paper to use quarterly data, lags, and the regression model later made famous by Lipsey (1960)—although strangely Phillips did not cite Lipsey's unpublished work—but after the paper was severely criticized in a seminar because of data problems, Phillips buried it as a monograph in the series produced by the Economic Society of Australia and New Zealand.

However, James Meade, Phillips' mentor, dissertation adviser, and friend would have been anxious that Phillips publish so that Phillips would receive recognition for what Meade knew was a major discovery. I believe that Meade took the 1958 Phillips curve paper to Yamey, the editor of *Economica*, and then set about organizing his colleagues to do a little gentle lobbying. Of course, my argument rests on a claim that Phillips was unsatisfied with his paper. To understand why I believe this is so, I will now revisit that paper, which has achieved the status of a classic—a work much cited but seldom read.

The Original Phillips Curve Paper

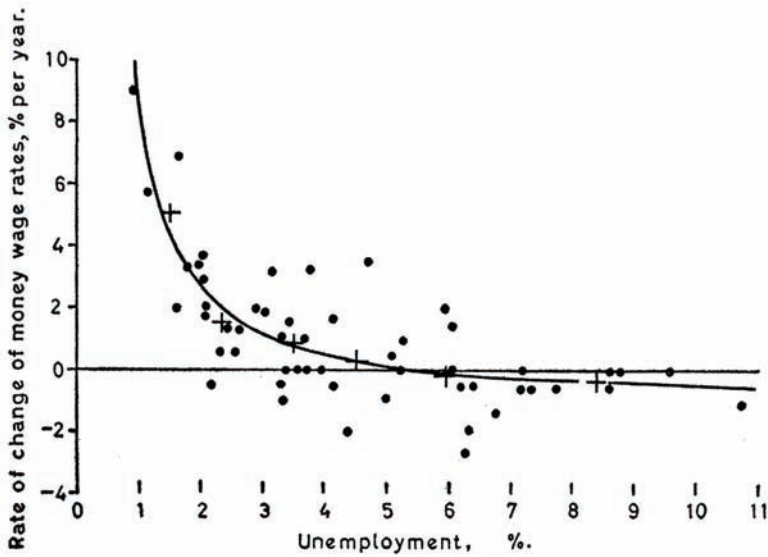
Phillips (1958) set out to demonstrate a relationship between the rate of change of money wage rates and unemployment in the United Kingdom, and to argue that that relationship had remained stable for almost a century. In some ways, the Phillips curve paper is out of character. Phillips typically worked at the cutting edge of technical economics, and yet his most famous paper is in the tradition of empirical economics that dispensed with formal modeling and tested hypotheses by scrutinizing tabulations, or time-series plots, of the variables. The three empirical sections of Phillips' paper occupy 17 pages, composed of ten pages of text and seven pages of diagrams (and a table). In that discussion, only two paragraphs and an extended footnote are devoted to explaining his statistical model, his (later much-debated) estimation technique, and his statistical results. Although Phillips' paper was one of the earliest papers to use regression analysis—which was a rare and labor-intensive activity in those pre-computer and pre-software package days—it was his diagrams, especially the fascinating loops, which caught the attention of the profession and policymakers.⁷

The Pre-World War I Period: 1861–1913

Phillips begins by analyzing the data for 1861–1913, a time of relative political tranquility and steady, but cyclical, economic expansion in the U.K. Inflation was low and trade unions were in their infancy. In short, this period was uniquely favorable

⁷ Wulwick (1989, 1996) provides an excellent review of the standard approach to regression analysis in the late 1950s.

Figure 1
1861–1913



Source: Figure 1 of Phillips (1958) “The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861–1957,” in *Economica*, vol. 25, no. 100, p. 285. Reproduced with permission.

for detecting a stable Phillips curve. Phillips’ scatter plot and curve for this time period, his figure 1, is reproduced here (Figure 1). Phillips plotted “the rate of change of money wage rates” against the unemployment rate. He assumed a constant rate of productivity growth and so the model also explained price inflation, the dependent variable in modern expositions of the Phillips curve. Economists since Hume had sought to explain the determinants of the aggregate price level, primarily via the quantity theory of money. Although there had been some earlier attempts (by Tinbergen, Klein, Hansen, and others) to tackle the rate of change of the price level, Phillips’ work became the paradigm for how economists model inflation.

Phillips does not quote any goodness-of-fit statistics, probably because he thought that empirical work in economics should either be as simple as possible (a curve-fitting exercise) or much more sophisticated than the econometrics of his day (e-mail from Dick Lipsey, November 19, 2009);⁸ Phillips would spend the

⁸ Phillips’ estimated Phillips curve was: $[dW/dt]/W(t) = -0.9 + 9.638U^{-1.394}$. Lipsey’s comparable equation (1960, p. 5 equation (5) and n.5) had a R^2 of 0.64. Lipsey does not quote a Durbin–Watson statistic for his equation but similar regressions generate DWs around 1.2. The negative constant term accounts for the extreme flatness of the curve once unemployment exceeds 6 percent. Between 1861 and 1913, the dependent variable, the rate of change of money wage rates, is zero in ten of the 53 years and lies between 0.5 and –0.5 percent in 17 years. For almost 20 percent of his pre–World War I sample, Phillips observed no movement in his wage series although these years saw unemployment rates as high

next decade attempting to forge the tools necessary to do such econometrics (Leeson, 2000).

Phillips' hypothesis survives both visual and statistical examination for this period, although the fit leaves something to be desired. The equation that Phillips estimated by an *ad hoc* method has been replicated successfully by a number of different techniques: ordinary least squares (Lipsey, 1960; Naughton, 1975, Sleeman, 1983), nonlinear methods (Gilbert, 1976), maximum likelihood (Oliver, 1986), and modern time-series techniques (Shadman-Mehta, 2000). Wulwick (1996) does a superb reanalysis of the Phillips and Lipsey papers, meticulously reconstructing the data they used and replicating the 1861–1913 results with both ordinary least squares and nonlinear methods.

Strangely, Phillips does not discuss his figure 1, nor does he comment on the fit of the data to his curve. Instead, Phillips discusses the counterclockwise loops illustrated in his figures 2–8 for various subperiods. His figure 2 (reproduced as Figure 2) shows the data for the 1861–1868 cycle. Phillips' beguiling loops, driven by the tidal swells of the pre–World War I business cycle, make a strong visual case for an inverse nonlinear relation between unemployment and wage inflation, although following counterclockwise elliptical paths rather than a simple curve.

The Long War Period: 1913–1948

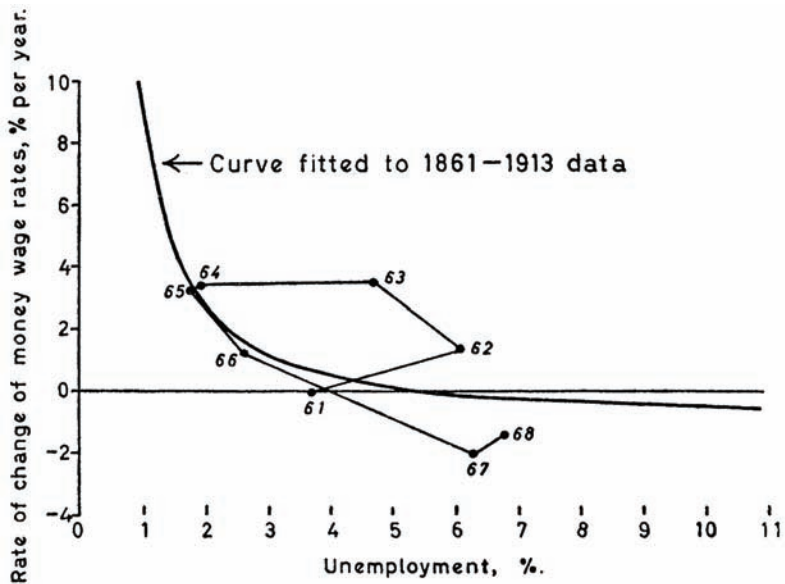
In Part III of his paper, Phillips (1958) attempted to show that his 1861–1913 curve also explained the behavior of U.K. wage inflation from 1914–1957: a truly audacious out-of-sample test. After all, the period from 1914 to 1957 was politically and economically tumultuous, encompassing what has been called the “long war” (1914–1945), the “return to gold” experiment, the Great Depression, periods of rapid inflation and deflation, and increasingly powerful unions.

Phillips superimposed the 1861–1913 curve on the 36 points in his figure 9 (reproduced as Figure 3). Phillips then discussed why various sets of points differ from the earlier curve. This approach suggests that Phillips regarded what he was doing as uncovering a deterministic curve hidden beneath the blur of points caused by random shocks and factors such as rapid increases in import prices.

For example, unions had negotiated cost-of-living (COLA) adjustments during World War I, which caused wages to plummet dramatically in 1921 and 1922 as world prices fell—at which point the unions quickly renegotiated these clauses. Clearly, wage deflation of this severity and unemployment during those years of 17 and 14.3 percent were both well outside the 1861–1913 experience. The 1923–1928 “return to gold” data are tightly clustered in a wedge around an unemployment rate of about 12 percent with wage inflation around zero percent. Phillips argues that if policymakers had understood the Phillips curve relation,

as 9.5 percent. However, the data Phillips used up to 1920 were maximum rates negotiated between employer's associations and trade unions (Routh, 1959, pp. 299–300), which may not have captured all movements in wages. (Wood (1901) quotes 55 cases in which wages within a trade remained stationary for 20 years or more and states that the rate for London Compositors' remained unchanged from 1810 to 1894.)

Figure 2
1861–1868



Source: Figure 2 of Phillips (1958) “The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861–1957,” in *Economica*, vol. 25, no. 100, p. 286. Reproduced with permission.

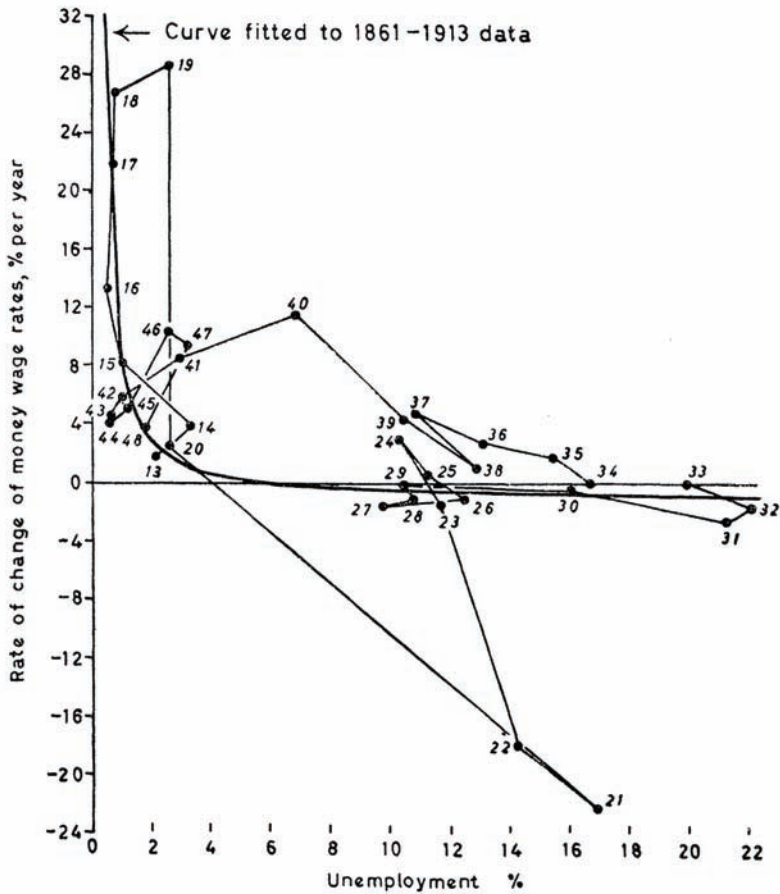
they might have avoided a policy that generated such high levels of unemployment.⁹ Phillips does not comment on the fact that in the 1914–1920 and 1923–1928 periods the loops follow a clockwise trajectory, instead of the counterclockwise pattern observed earlier.

The fit of the observations to the curve during the 1930s is not impressive. The data for the 1940s form a column close to the vertical axis with unemployment under 2 percent from 1942 to 1945. There is a counterclockwise loop from 1941–1945 and a clockwise loop from 1946–1948, but these loops are both orthogonal to the estimated 1861–1913 curve.

I believe that the attempt to argue that some underlying Phillips curve remained stable during these years is unpersuasive. Econometric evidence also supports my claim. For example, when Lipsey (1960) tested Phillips’ hypothesis by combining the data from 1923–1939 and 1948–1957, his preferred curve differed from the 1861–1913 curve in two important respects: the functional form had changed, and

⁹ One neglected achievement of the Phillips paper was its confirmation of Keynes’ hypothesis that nominal wages were downwardly rigid. The major exception is the sharp wage deflations of 1921 and 1922 caused by the COLA agreements. Wages fell in only nine of the 44 years from 1914 to 1957, the last time being 1932 (wages were constant in 1933 and 1934 when unemployment was 19.9 and 16.7 percent respectively).

Figure 3
1913–1948



Source: Figure 9 of Phillips (1958) "The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861–1957," in *Economica*, vol. 25, no. 100, p. 294. Reproduced with permission.

the constant term had shifted from negative to positive. Lipsey's regression results refuted Phillips' implicit claim that the Phillips curve was a stable relationship for the whole period from 1861–1957,¹⁰ a finding confirmed by Wulwick (1996).

The Post–World War II Period: 1948–1957

Phillips' research was driven by a desire to improve macroeconomic policy; it was therefore important to him to show that the estimated curve explained the most

¹⁰ Lipsey's post–World War I statistical estimates cannot be replicated (Sleeman, 1983; Wulwick, 1996). Wulwick (1996) suggests that Phillips' research assistant gave Lipsey's research assistant an early, uncorrected, data set that was not the one used in Phillips' paper.

recent data set. However, he had to arbitrarily transform the data to get them to fit the 1861–1913 curve. In his figure 10 (p. 296), Phillips plotted all ten data points but only joined up those for 1953 to 1957, the ones that were fairly close to his curve. He did not join up the 1948 to 1952 points that form an almost vertical loop that lies parallel to, and largely to the right of, the curve.

The 1953–1957 observations form a clockwise loop around the curve. Phillips argued that the reversal of the direction of the loop was the result of “a time lag in the adjustment of wage rates.” He arbitrarily lagged unemployment by seven months and shows with a separate graph (his figure 11, p. 297) that this lag moves the points for 1948, 1950, and 1953–1957 either onto, or very close to, the curve. Phillips’ data sheets show that he experimented with the different, equally arbitrary, lags to improve the fit of the curve, but the paper reports the results for the seven-month lag only for the 1948–1957 period.¹¹ Instead of acknowledging that the Phillips curve had shifted, Phillips moved the points.

In his “Conclusions,” Phillips (p. 299) does not claim explicitly that he had found a stable relationship between nominal wage inflation and unemployment for the United Kingdom that covered both the time periods from 1861–1913 and also the period after 1914. However, his long commentary attempting to “explain” why the data do not closely fit his estimated curve amount to an implicit claim that the curve is stable over time, but his case for such stability is, at best, weak.

Phillips and the Phillips Curve

I believe that Phillips was well aware that his case for the stability of his famous curve was not compelling. His comments on his 1958 paper were often dismissive: he referred to the paper as “a very crude attempt” (Leeson, 2000, p. 218), a “quick and dirty job” (Schwier, 2000, p. 24), something “just done in a weekend” (letter from Gregory¹² quoted by Leeson, 1994a, p. 613), and as a “rushed job” (Blyth, 1978, p. xvi). The then-editor of *Economica*, Basil Yamey (Leeson, 2000, p. 337), wrote that he would show Phillips the Phillips-curve papers submitted to *Economica*, but that Phillips “always declined my invitation to write comments on the more substantial pieces or indeed to write a follow-up article to include his further reflections. He seems to have lost interest in the subject soon after the paper was published. His fertile mind had moved on to other matters.” Holt, a fellow engineer turned economist, who spent a sabbatical at LSE observes (2000, pp. 309–310): “I think that he was a little embarrassed by the attention that the

¹¹ Phillips’ data sheets contain a column headed “Unemployment, U.K., lagged 6 mths. M.O.L.” The data run from 1921 to 1944, and then there is a notation “G.B.” beside the 1945 observation that presumably applies to all of the years through 1947. For 1948–1957 there are unemployment figures for the “U.K. lagged 6 months (I.L.O.)” and G.B. unlagged, lagged six months, and lagged seven months.

¹² Presumably, Robert Gregory (University of Melbourne).

paper received . . . perhaps because both the empirical econometric work and the theory were conspicuously sloppy.”¹³

It may seem paradoxical to argue that Phillips was reluctant to publish the paper on which his modern fame rests; but we are blinkered by 20/20 hindsight—that is, we know the paper became a highly cited launching pad for a broad literature, but in 1958 the conclusion was very much in doubt. Leeson’s (1998) exhaustive review shows that between 1959 and 1961 the academic literature was “overwhelmingly hostile” to the Phillips curve hypothesis.

If Phillips harbored doubts about the paper, why did he publish it when the pressure associated with the Tooke Chair appointment had disappeared and he was about to go on sabbatical, which would give him ample time to revise the paper? How did Phillips’ paper end up in Yamey’s hands, and who contacted the members of *Economica*’s Editorial Board? I think that a plausible explanation is that it was Meade who wished to get the paper into print as soon as possible, both to establish Phillips’ priority and to ensure publication before Phillips left on a sabbatical that would remove him from Meade’s influence for at least six months. I believe that Meade took the paper to Yamey and set about organizing his ex-colleagues on the *Economica* Editorial Board to do some gentlemanly lobbying.¹⁴ Nick Barr comments (in an e-mail April 23, 2009): “However, James Meade, more experienced and perhaps more worldly (especially when pushing a colleague’s claim to priority) conducted a small and utterly honourable campaign to get the paper out fast.” Robert Solow (letter of December 8, 2008) comments that: “James Meade was certainly capable of taking matters into his own hands if he thought that justice would be best served that way.” Although Yamey remembered being “given a copy by Lionel Robbins or James Meade,” Meade seems the more likely culprit; Robbins was not the sort of person to take “priority” seriously.

More than a Curve

Bill Phillips left LSE in 1967 for the Australian National University where “he could devote as much time as he wanted to Chinese studies . . . A crippling stroke in 1969 led to his premature retirement in 1970 . . . ,” leaving behind “an active Centre for Contemporary Chinese Studies” (Blyth, 1978, p. xvi). Phillips moved back to New Zealand and in 1973 started to lecture on economic growth. His physician warned him that continuing to lecture could be fatal, and Phillips suffered a fatal stroke (p. xvii) in 1975.

Phillips’ (1958) paper gained him a lasting place in the history of economic analysis. In 1960, Samuelson and Solow (1960, caption to figure 2, p. 192) christened

¹³ However, Dick Lipsey, whose 1960 paper started the Phillips curve estimation industry notes (in an e-mail of November 24, 2008): “Bill never expressed any embarrassment about his paper to me at the time. Indeed, I think that he was quite proud of it.”

¹⁴ Dick Lipsey (e-mail of November 23, 2008) learned of Phillips’ paper from Lipsey’s colleague and thesis supervisor Helen Makower who had been given a copy by Meade.

the Phillips curve and interpreted it as a potential trade-off between inflation and unemployment.¹⁵ The concept became familiar to students and teachers of economics a year later when Samuelson (1961, p. 383) incorporated the Phillips curve in its trade-off form into the fifth edition of *Economics*, the textbook that dominated the teaching of introductory economics on both sides of the Atlantic in the early 1960s. Leeson (1994b, pp. 8–20) argues that Samuelson’s inclusion of the Phillips curve in his textbook and Lipsey’s (1963) textbook discussion of the Phillips curve were crucial for the acceptance of the Phillips curve as part of mainstream economics (see also Sleeman, 1983, p. 104).

The Phillips curve is now part of the intellectual wallpaper of economics. Lipsey’s (1960) replication, using a simple regression model, started the economics profession on the research program that, as Solow (1979, p. 36) observed, was “one of the great public work enterprises of all time. In the last twenty years it has provided more employment than the Erie canal.” Politicians on both sides of the Atlantic rapidly adopted a trade-off interpretation of the Phillips’ curve and enlisted it to justify expansionary macroeconomic policies designed to cut unemployment (Leeson, 1994b; Wulwick, 1989). Phillips never mentioned the trade-off view that macroeconomic policy could select a permanently lower unemployment rate at the cost of higher inflation; in his work, Phillips always concentrated on *the* level of unemployment consistent with wage or price stability—for example, in his 1958 paper and his 1961 Inaugural Address (Phillips, 1962).

It is highly ironic that, as Meade (1995) feared, Phillips has gone “down in history just as the Phillips curve chap” (Wulrick, 1989). Phillips did path-breaking work in several areas, but this work has been largely ignored outside of the United Kingdom. All of his papers are included in Leeson (2000), which also contains papers surveying his contributions to the application of classical control theory to problems of economic stabilization (especially his warnings about the potentially destabilizing effect of policies that did not take into account the lags in economic policy), his work modeling economic growth, and his pioneering time-series econometrics papers. Phillips may also have anticipated the “Lucas Critique” (Leeson, 2000, pp. 460–86).

Macroeconomists are well aware of the limitations of the Phillips curve, especially when interpreted as a trade-off from which the government can “select” its preferred combination of unemployment and inflation. The man for whom the Phillips curve was named was aware of many of its limitations. Phillips’ lasting intellectual achievement was to show how to model inflation as a dynamic rather than a static process, thus making the rate of inflation, not the price level, the variable to be modeled. The imperfections of his paper are minor blemishes compared with the importance of this seminal idea.

¹⁵ Hall and Hart (2008) provide a critical evaluation of the Samuelson and Solow paper.

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