The Rise and Fall of The Phillips Curve in British Policy-Making Circles

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1. Introduction[1]

This paper analyses the process by which the Phillips curve trade-off became influential in British policy-making circles. This subject requires careful investigation since the statistical grounds for believing in the inflation-unemployment trade-off appear, in retrospect, to be rather weak (Rowley and Wilton 1973); although that was not how it seemed at the time. During the post-war period there was "a haphazard alternation between the two sources of advice: the Keynesian advice of the Treasury, and that of the bankers" (Wright 1979, 144; Budd 1978, 80-2). Both sources of advice located themselves on the Phillips curve. The Treasury expansionists and most of the economic "irregulars" located themselves on the upper portion of the Phillips curve where, it was thought, ongoing inflation could be traded-off for lower rates of unemployment; the bankers, and their allies in Treasury, located themselves on the lower portion of the Phillips curve where, it was believed, higher rates of unemployment would purchase low if not zero inflation and a stronger currency. The principal objection of the expansionists to the lower portion of the curve was not its statistical existence, but its incompatibility with the pursuit of the maximum rate of growth. When in July 1966, Harold Wilson chose deflation in preference to devaluation, he was regarded as having "adopted the [Phillips-]Paish theory with a courage denied his Tory predecessors" (Brittan 1969, 218; Tobin 1974, 33, n17; Opie 1968, 66).

Such an investigation is hindered by the Whitehall tradition of secrecy (Marris 1954, 762). Fortunately, several participants have reflected upon this episode.[2] The picture that emerges is that nearly everyone involved in the policy disputes of the 1960s appears to have accepted the Phillips curve (or some portion of it), which rapidly became central to "the official British variant of 'Keynesianism'"; and attracted a "halo of sanctity" (Jones 1973, 36; Brittan 1971, 472, 476; Budd 1978, 23-4, 58; but see Balogh 1959, 94, n2). In Britain, "faith in economic policy had displaced older forms of religion" (Cairncross 1968, 1), and after 1951, faith in planning was supplemented by faith in demand management. The basic assumption of nearly all participants was that demand management could locate the macroeconomy along a point on the Phillips curve. Political considerations, or the point of tangency with a community indifference curve would determine the point chosen. The Phillips curve became part of the tool kit of economic advisers and could be used, it was thought, to facilitate the pursuit of full employment (Goodhart and Bhansali 1970; Chossudovsky 1972; Opie 1968, 81; Stewart 1977, 2-4).

Section 2 outlines the historical background: the growth experiment (section 2.1), which became increasingly influential from the late 1950s; and the rise of forecasting, and what Samuel Brittan called "statistical theology" (section 2.2). Section 3 discusses the two major protagonists in these policy debates - the deflationist and the defenders of the Pound (section 3.1); and the expansionists, and those who favoured a devaluation of Sterling plus an incomes policy (section 3.2). Section 4 analyses the relationship between politicians, policy advocates and the Phillips curve; section 5 discusses the relationship between the deflationist position and the Natural-Rate

Expectations Augmented Phillips (N-REAP) curve model; and concluding remarks are provided in section 6.

2. The Historical Background

2.1 The Growth Experiment

In the mid-1950s, Britain entered "the great inflationary crisis" (Shonfield 1958, 187, 226). According to *The Economist*, perpetual wage inflation was "the most graphic and disturbing feature of the British economy in 1955" (cited by Dow 1964, 99); wages and salaries rose by 9 per cent in the 10 months prior to the emergency Budget of October 1955, and the price of coal was allowed to rise by 18 per cent. Although a deliberate policy of appeasement had been adopted with respect to wages there were an increasing number of strikes in the 1954-55 period (Brittan 1964, 169; Wright 1979, 176; Shanks 1972 [1961], 40-1; Shonfield 1958, 223; Pelling 1974, 187; Blank 1973, 131-6; Jones 1973, 9).[3]

In the 1950s and 1960s, Britain seemed to have fallen between two stools. Frank Blackaby's *Recent Performance of the British Economy* revealed how low the U.K. had sunk on the growth league tables, with less than half the annual increases of West Germany, Italy and France. The six Common Market countries increased their foreign exchange reserves during these years from £1.7 billion to £6.5 billion; Britain's reserves remained almost unchanged; between 1954 and 1960 her share of world manufacturing exports fell from 20 per cent to 15.5 per cent; her rates of productivity growth were also relatively poor; and her "lamentable" inflation record had been the worst in Europe, with the exception of France. Britain was clearly lingering at the bottom of both the growth and sound finance league tables (Hall 1961, 1041; Brittan 1964, 135-89; Stewart 1977, 42-3; Wright 1979, 21; Shanks 1972 [1961], 24-6, 198-9; Budd 1978, 108-9; Dow 1964, 111; Blank 1973, 167; Hayward 1975, vii; Leruez 1975, 84; Jones 1973, 9-10). Thomas Balogh (1959, 103) attributed this poor performance to the unfortunate influence of Treasury.

In 1962, the *National Institute Economic Review* laid out the prospect of an export-propelled acceleration of growth. The virtuous spiral was perceived to climb from high demand, through high growth, high investment, and rapidly growing productivity, leading to extremely competitive export prices. But in the 1950s, the expansionists had played their hand poorly, and the Bank of England dominated policy thinking. Later, the restrictionists lost some credibility: Lord Cobbold (then Mr. Cameron) the Governor of the Bank of England, appeared to have failed to recognise the nature of the impending hot money outflow in 1960-1, and according to some anti-Establishment observers, the Bank Rate Leak Tribunal (which led to the appointment of the Radcliffe Committee) "shattered a myth of professional efficiency at the centre of Britain's economic affairs" (Sandelson 1959, 123). Amid an increasing sense of national *malaise*, the dash for growth began to attract powerful support (Mishan 1967, 171; Cairncross 1979, 307; Blackaby 1978, 646-7; Brittan 1964, 281, 176-7, 252-3; 1964, 281; Budd 1978, 94; Opie 1968, 56).[4]

The old stop-go policies reached a low point with the politically unpopular Pay Pause of July 1961. Dow's work, undertaken between 1958-62, calculated that demand management had actually exacerbated macroeconomic instability, and many industrialists agreed with these sentiments. The Conservatives became firmly committed to planning, and this policy-revolution affected the Federation of British Industry, who were able to rally industrial opinion behind planning. This led to the first major post-war reorganisation in Whitehall, including in 1962, the Treasury. In 1961, the new post of Chief Secretary to the Treasury was accorded Cabinet rank.[5] "Institutional musical chairs" came to be regarded as a panacea for nearly all Britain's economic problems (Hayward 1975, viii);[6] but as the 1960s wore on, many in the Treasury became resigned to the acceptance of planning as the only feasible method of securing union agreement to an incomes policy. Incomes policies designed to deal with these problems suddenly returned to the agenda. The growth experiment began in earnest (Meadows 1978, 405; Bridges 1966, 162, 202, 14; Blank 1973, 128, 216, 167-9; Stewart 1977, 16; Opie 1968, 61; Dow 1964, 391-2; Smith 1975, 57; Wright 1979, 157-60; Budd 1978, 90-7; Brittan 1971, 203, 232-45, 1964, 11, 170, 223; Balogh 1959; Seers 1968, 83; Thomas 1959; Leruez 1975, 103, 115-6, 227).

Presidential-candidate Kennedy offered the prospect of a 5 per cent per annum growth rate; and in 1961, the OECD agreed upon a 50 per cent growth target for western countries for 1960-70. In 1962 the NEDC was instructed to explore the possibilities of pursuing a 4 per cent per annum growth rate;[7] NEDC formally approved this growth target in 1963, and increased it to four and a half per cent in 1965. This was the first time in which production, not prices or the balance of payments, had been targeted: "it was concerned with real wealth and living standards, rather than paper symbols" (Brittan 1964, 243; but see Brittan 1971, 14-6). The Treasury argued that the growth target was unrealistic: "the Chancellor had in large measure accepted NEDC's optimistic proposal for essentially political reasons ... Initially it had been put forward simply as a working assumption, but it had met with such enthusiasm that the government had almost no alternative but to make it official" (Leruez 1975, 100-12, 297, n17).[8] The Phillips curve provided a quantitative guide to the inflationary consequences of this pursuit of growth. An incomes policy offered the prospect of improving this trade-off (Callaghan 1987, 164; Schlesinger 1964, 496; Brittan 1964, 241, 132-3; Stewart 1977, 48-9; Wright 1979, 166; Budd 1978, 97)

The growth experiment had a major impact upon the priorities of policy-makers.[9] Starting in 1963, there began the deliberate policy of taking risks with respect to the balance of payments, in order to meet the growth targets of the domestic expansionists. This corresponded with the period of diminution of influence accruing to the deflationists in the Bank of England. Both major political parties felt obliged to campaign on growth platforms.[10] In some circles it was perceived that the pursuit of growth would inevitably leave the economy with an inflationary bias (Brittan 1971, 474, 1964, 105-6; Stewart 1977, 8: Leruez 1975, 129, 170).[11] It was, therefore, important to quantify the inflationary costs of this pursuit of growth. The Phillips curve trade-off appeared to provide this quantification.

2.2 *The Rise of Forecasting and "Statistical Theology"*

These changes, both in institutional arrangements and in prevailing attitudes towards growth, were associated with (and may have partially caused) the rise of econometric forecasting as the predominant mode of statistical analysis and, increasingly, of economic discourse.[12] Marris (1954, 774-5, 763) noted the differing roles of government economists in Britain and Holland (where Tinbergen was head of the *Centraal Planbureau*). The Economic Section, in contrast, had no computer and no professional statisticians. The pre-econometric mode of discourse in Britain was described as "making liberal use of a one's pre-conceived ideas, one writes one's opinion in a few well-chosen words, illustrated by one or two well-chosen tables".[13]

Since its origins in 1939, the Economic Section had been a bridge between academics and government. The first wave of academic economists to advance into Whitehall was a phenomenon without precedent in British history; but it was also a temporary war-induced episode (Cairncross 1970, 14; Roseveare 1969, 273-5). After the Treasury reorganisation of 1962, the Economic Section served increasingly to integrate professional economists into Whitehall. According to Alec Cairncross (who had built up the staff at the Economic Section, since his appointment as Economic Adviser in 1961), forecasting was the economists' most important operational role (1968, 5); although official forecasts remained unpublished (1979, 307).[14] Medium-term forecasts began in the early 1960s; and forecasting appeared to acquire a logic and an irresistible momentum of its own.[15] Simultaneously, attempts were made to produce a civil service where everyone was economically literate: "*Amateurs on the Retreat*" (Brittan 1964, 28-30).[16]

This was not just a technological revolution, but had policy implications as well. The old 'low powered' Treasury *Economic Surveys* were regarded as obsolete, and were discontinued in 1962, after a questionable forecasting record - it was believed that Selwyn Lloyd could attribute his downfall to the policy mistakes of 1962, based on these erroneous forecasts (Bridges 1966, 96; Cohen 1971, 6, 19-24). In 1954, one of these *Economic Survey* predicted that wage inflation would be a "short cut to national bankruptcy". In contrast, most 'high powered' econometric Phillips curve forecasts perceived wage inflation to be associated with high levels of growth and low levels of unemployment.

R.A.Butler was apparently unaware of the conflict between domestic expansion and defending the prestige of the Pound.[17] The intellectual quality of Treasury advice reached its low point during his tenure of the Exchequer (Brittan 1971, 190-2; Shonfield 1958, 222, 236). The economic "irregulars", who steamed into Whitehall in the 1960s, brought with them both a faith in quantitative techniques, plus (what appears to have been) a thinly veiled contempt for public servants who were not as statistically literate - "a limited 'absorptive capacity'" (Seers 1968, 98; Opie 1968, 67; Balogh 1959, 82; Roseveare 1969, 301-3, 334).[18] This can only have profoundly changed the nature of discourse amongst policy-makers. New recruits wished to be regarded as "experts by their contemporaries among the administrators. They also became convinced of the need for greater familiarity with econometrics and statistical analysis" (Cairncross 1970, 17).[19]

During the 1960s, Treasury forecasts became more influential, as they became more computerised under James Ball's supervision (Brittan 1971, 134; Roseveare 1969, 304; Kenway 1994, 11, 25). Michael Stewart (1967, 198; 168), recalled that the deflationary school within the Treasury set the tone with respect to this type of persuasion: "In support of this argument, a series of complicated econometric models was shoved under the noses of ministers and civil servants who, perhaps because they were unable to understand them, were visibly impressed". As Cairncross (1968, 5) put it, economists "must therefore make what forecasts they can of the acceptability of current policies and frame their advice with some regard to what can be sold, not just to Ministers, but to the public by Ministers. There is a marketing aspect to advising as well as a production aspect". Government-sponsored expansion of statistical activity had, for some time, been particularly recognisable in America (Roll 1973, 504). The flow of econometric fuel began to increase rapidly in these years and within Whitehall, access to statistical data became crucial to the struggle for influence between the NEDC and Treasury (Leruez 1975, 104, 297, n15).[20]

There was also a rapid rise in the number of government economists, and greater input into Treasury training provided by young academics.[21] The staff of NEDO "included the highest concentration of economists and statisticians ever seen in British government"; the Department of Economic Affairs also possessed an influential "technocratic sway" (Leruez 1975, 98, 138).[22] After 1964, Special Advisers, or "irregulars", or "private armies" of economists, had a "field day" and became an increasingly important feature of Whitehall (Cairncross 1970, 2). Anti-intellectualism also tended to diminish during this period (Brittan 1971, 38-9, 55-60, 84), which may have contributed to these developments. In consequence, "statistical theology" acquired the ability to out-trump other modes of persuasion (Brittan 1964, 26-9, 41-7, 76, 262). This multiplication of data, combined with the tendency to seek consensus, became part of the new tone of economic policy.[23] Many felt bewildered by the massive volume of statistics that flooded into Whitehall (Parsons 1989, 90-1; Opie 1968, 67).[24]

It is difficult to be precise about the extent of these influences. One insider, however, calculated that devaluation became inevitable when five career economists (Bryan Hopkin, Christopher Dow, Fred Atkinson, Wynne Godley and Jack Downie) became convinced that Sterling could not be maintained at the pre-1967 exchange rate (Brittan 1971, 96-97; Cairncross 1970, 16). But it would be a mistake to exaggerate the extent to which economists colonised

Whitehall. Indeed, Opie suggested that the failure of the growth first approach can be attributed to the smallness of the elasticity of supply of economists for Whitehall. But when fashionable doctrines, such as subsidising import substitution, were presented *without quantification*, they fell on stony ground, unable to command support in the bureaucracy (Opie 1968, 60, 65; Caincross 1970, 2).

3. The Deflationists and the Expansionists

3.1 *Deflation and Defend the Pound*

According to Brittan, the lower portion of the Phillips curve had been developed independently of Phillips or Paish (1964, 294-301; Budd 1978, 83; Opie 1968, 66). The "Treasury house doctrine on unemployment growth and inflation", or "the Paish-Phillips school" (Brittan 1964, 46; 1971, 463), stated that there was a targetable level of unemployment, between 1.5 and 2 per cent, between which a wages policy might have some chance of success. An unemployment rate below 1.5 per cent would undermine the basis for an incomes policy, and also threaten the balance of payments. There is a similarity between this analysis and Phillips' curve, which suggested that there was an historically stable level of unemployment associated with wage or price stability (1958, 285). For Paish, the Phillips curve was an "assumption, which appears to have considerable statistical confirmation". Paish's view was less optimistic than the Treasury house doctrine; he believed the required rate of unemployment, or "margin of unused capacity", to be over two per cent (1962, 310, 327). Paish also felt that this level of unemployment would be sufficient, without an incomes policy, to moderate wage inflation. This willingness to use unemployment to restrain wage inflation appears to have become influential in the U.K., after 1951, and particularly so, after the mid-1950s (Roseveare 1969, 318; Paish 1962, 120-54; Jones 1973, 34; Johnson 1957, 337-8; Brittan 1964, 163, 294-301; Stewart 1977, 7; Wright 1979, 143; Shanks 1972 [1961], 188; Blank 1973, 138-9). Lionel Robbins (1951), was influential in popularising the importance of the discipline of monetary policy, and of the primacy of the goal of balance of payments equilibrium (Dow 1964, 66-70).[25]

1955 was "the year of the great economic disillusionment ... a spiritual climacteric ..." (Shonfield 1958, 196; Stewart 1967, 156; Brittan 1971, 195). Early in the year, the terms of trade, which had been relatively favourable in the early 1950s, began to turn against the UK; and this was treated as being the "last straw" (Shonfield 1958, 186-7; Leruez 1975, 82). By summer there was a serious balance of payments crisis (Blank 1973, 127), just as Britain began evacuating military personnel from the Suez Canal Zone (a prelude to a sobering display of external weakness). In the following decade, there would be a determination, in some quarters, to avoid devaluation - a price change which was regarded as a further demonstration of external weakness.

Between 1952-8, as external financial arrangements were gradually liberalised, the Pound became increasingly vulnerable to adverse sentiments abroad. The twin objectives of expansion and low unemployment at home, and a strong and convertible Pound Sterling abroad, appeared to be irreconcilable objectives (Shonfield 1958, 197-9; Opie 1968, 56-8). On this occasion the defenders of the Pound won, and in February 1955, the Bank persuaded Butler to scotch any talk of a floating exchange rate. For a dozen years devaluation was not part of official thinking. The mythical gnomes of Zurich, with their supposed hatred of the Pound, first appeared in economic discourse at this time (Brittan 1971, 199, 221; Brandon 1966, 64-5). After 1955, however, there would be much talk about trade-offs and choices between policy objectives, not only in Britain, but also in the US. The authors of the OECD Report, *The Problem of Rising Prices*, concluded that the system of wage determination in the UK, had failed to prevent the inflationary pressures associated with the pursuit of full employment (Fellner *et al.* 1961, 447). The White Paper on *The Economic Implications of Full Employment* also highlighted this dilemma - but inflation was seen as a threat to full employment. Inflation would reduce the competitiveness of the export sector, leading to unemployment, caused by a reduced ability to pay for imported raw materials (Eden 1956, 2, 9).[26] Under Thornycroft's Chancellorship (1957-8), price stability achieved primacy among economic objectives (Cohen 1971, 39).[27]

The Suez episode illustrated the weakness of Britain's external position. The Chancellor had estimated that the direct costs of the military adventure would be insignificant, not more than £12 million for August and September 1956. On 6 November 1956 Macmillan was told by Treasury officials that the loss of foreign exchange reserves, as a result of American selling of Sterling, required an urgent loan of £300 million to avoid devaluation. The IMF would only provide such a loan if Britain immediately accepted a cease-fire. This was soon upgraded to an immediate withdrawal. In this way, a country which, until recently, had possessed one of the largest empires in world history, was forced - in the interests of avoiding devaluation - to recognise its weakness (Macmillan 1971, 109, 167; Sampson 1967, 124; Dow 1964, 94-8).

According to Shonfield, the Bank of England had dominated inter-war economic policy, and Montagu Norman normally got his way in Whitehall. The international status of the Pound was both an overriding concern for Norman's successors, and a convenient method of imposing domestic discipline. In mid-1955, for reasons associated with differing policy objectives, relations between the Bank of England and Treasury were extremely poor. The dash for freedom - or full convertibility - combined with an immutable exchange rate would place a binding constraint on domestic policy makers. Hard-nosed deflation, therefore, would be required to maintain confidence among the international bankers community (Shonfield 1958, 204-8; 1950, 211; Dow 1964, 80-90, 257; Roseveare 1969, 326; Opie 1968, 62-3).[28]

According to Brittan, the influence of some of the Bank's traditional doctrines had diminished in the early 1960s due to key changes in senior personnel.[29] In 1964, responsibility for forecasting the state of the balance of payments was removed from the deflationist Finance division, and relocated with Bryan Hopkin, at the National Economy Group. The Treasury also increasingly thought in output and employment terms, to the neglect of monetary variables. It also appears that the relative influence of the Treasury, compared to that of the Bank of England, increased during the 1960s; thus reversing the trend of the early 1950s. This was, in part, due to the 1962 reorganisation, which for the Treasury "made 'management' the purposeful creative successor of old fashioned negative 'control'" (Roseveare 1969, 301, 321). But the decision not to devalue immediately, in October 1964, - a decision made "on political grounds" - played into the hands of the 'balance-of-payments-firsters' (Opie, 1968, 57, 76, 63; Seers 1968, 97-8; Leruez 1975, 181). This lobby consisted of the Bank of England and much of the Treasury. The role of the IMF in British affairs also tended to strength the hands of the deflationists (Brittan 1964, 59, 91-3; 1971, 80-4, 95; Dow 1967, 69).

3.2 *Domestic Expansion, Devaluation and an Incomes Policy*

In opposition to the deflationist view was the growth-oriented approach. For these economists, notably Kaldor, Balogh, Opie, and Robert Neild, achieving the four per cent growth target - not maintaining the Pound - was the primary objective, and if necessary this should be accompanied by devaluation, which in any event was preferable to deflation (Harrod 1967, 30-1; Lekachman 1967, 226-8; Kaldor 1971b, 4, 18). Maintaining British power and influence were top priorities (Balogh 1959, 88-92); external policies were still a "key skirmish". The chief enemy was the "whole 'sterling first' lobby in the Treasury" - a strong Pound or a healthy balance of payments were "meaningless abstractions" (Opie 1968, 57-61).[30] The 1946 Bank of England Act was a "streamlined socialist statute" which could be used to facilitate Dalton's promise of a "new social order" (Balogh 1959, 103-4).

After 1961, the idea that governments should take responsibility for economic growth became increasingly popular. The dominant doctrine in the Economic Service was the view that unemployment should not be allowed to rise much above 2 per cent. The exchange rate should be devalued in the presence of a balance of payments disequilibrium. Econometric evidence suggested that devaluation might set up a minor wage inflation spiral, tending to eliminate the advantages gained by the fall in the exchange rate. An incomes policy might, therefore, be required to prevent this devaluation-inflation spiral from erecting obstacles on the path to growth (Callaghan 1987, 159; Crossman 1979, 50; Brittan 1964, 106, 1971, 133, 382; Stewart 1967, 186-7; Budd 1978, 84; Little 1967, 30; Opie 1968, 56-7; for post-1967 evidence, see Shanks 1972, 264-5; Wright 1979, 161).

Public reaction was expected to be hostile to devaluation, and this proved to be quite accurate. Memories of 1931 and 1949, had left many in the Labour Party with a neurosis about devaluation (Leruez 1975, 181; Brandon 1966, 44) In the era of fixed exchange rates, and particularly in the 1960s, maintaining the value of Sterling had become a symbol of national pride, and may also have been associated with the desire in British ruling circles to maintain a top-table influence around the world (Callaghan 1987, 200; Brittan 1971, 493). But at the same time, a high rate of unemployment was perceived as evidence of macroeconomic incompetence, and was accompanied by political unpopularity: "the dole queues of the thirties still haunt the corridors of Whitehall" (Budd 1978, 47).[31] Only twice between 1957 and 1967 did unemployment exceed 2 per cent; on both occasions (1962 and 1967) the Chancellors responsible were removed from the Treasury (Cohen 1971, 38). The first casualty was Selwyn Lloyd; the second was James Callaghan.

4. Politicians, Policy-Makers and the Phillips Curve

Harry Johnson (1970, 266, n1) described Oxford University as "the traditional home of lost causes", but according to Opie (1968, 54) "any innocent traveller standing on the Oxford platform on [16 October 1964] would have been trampled to death in the stampede of economists boarding the 8.52", on their way to Whitehall. One of these Oxford economists cautioned against a future Labour government hankering "after being accepted by the old 'Establishment', instead of creating its own"(Balogh 1959, 115).

During the 1964-70 Labour Government an informal group, known as The Economic Advisers (regarded by some as a British Council of Economic Advisors), exerted a considerable influence on policy-making (Cairncross 1970, 9). This group consisted of Neild, Kaldor, Balogh, MacDougall, Wilfred Beckerman, Michael Posner and Kenneth Berrill. Before that time, there was only one economist with any professional seniority in regular government service - the Treasury's principal economic adviser (Brittan 1971, 97-8). Before 1964, some of these economists had exercised back stairs influence.

Beginning in 1962, Callaghan (then Shadow Chancellor of the Exchequer) travelled up to Oxford and would dine at Nuffield High table on Friday evenings. A group of tutors - including Balogh, Kaldor, Neild, MacDougall, Kit McMahon, Blackaby and Ian Little - would teach Callaghan (who had left school at age sixteen) some policy-oriented economics (Callaghan 1987, 153; Stewart 1977, 37; Brittan 1964, 37; Crosland 1982, 120-1).[32] Details of Callaghan's early tutorials are scarce, and may be unimportant. One anonymous tutor recalled that they were descriptive, practical and policy-oriented.[33] It may be possible to unscramble some of these influences from his speeches. In 1962 he told the Labour Party Conference that "[Our first objective] is that we are unalterable in our determination to maintain full employment" (cited by Kellner and Hitchens 1976, 46) - although Harold Wilson had informed the American Chamber of Commerce that "The strength of the pound will always be our primary consideration" (cited by Foot 1968, 139). And in 1967, Callaghan invoked the names of Phillips and Paish in order to justify his Budget projections.

The notion that there was a quantifiable and tolerable rate of inflation associated with low levels of unemployment may have become powerful because it was easy to communicate to policy-makers: "What they [politicians] want above all is a mirror" - to hear authoritative echoes of their own prejudices (Shonfield 1958, 224).[34] The confident trade-off notion was also, in a sense, *demand-determined* by politicians. As Walters (1971, 29) put it, "Prodigal promises by ambitious politicians created the most buoyant bull-market in the history of the profession. Only Saints can resist such temptation".[35] Certainly, no politician would wish to share Selwyn Lloyds' fate - having to resign in the backwash of failed forecasts. Callaghan, too, was misled into optimism by poor forecasting in 1967 (Cohen, 1971, 19-21, 27).

The flame of technocratic corporatism flickered vulnerably during the candle-lit days of the three-day-week; and in 1979, it was extinguished altogether by policy-makers emboldened by technocratic confidence in monetary targeting. Callaghan's later tutorials (conducted in a much less optimistic environment) were supervised by his son-in-law;[36] he also reflected on what he had learnt from both his early lessons in economics and from the experience of the ensuing world inflation: "The cosy world we were told would go on forever, where full employment could be guaranteed by a stroke of the Chancellor's pen, cutting taxes, deficit spending - that cosy world is now gone" (Callaghan 1987, 426). He also asserted that there was a *positive* relationship between inflation and unemployment, during his announcement of the death of the Keynesian order to the 1976 Labour Party Conference.[37,38]

This is not to suggest that politicians were "marched in bold logic by the priestly up the garden path" (Cairncross 1970, 7). Nor was Cairncross suggesting this. Academics communicate with each other in a sceptical and analytical manner, often accompanied by stage hostility. But the conversation between politicians and their advisers is altogether different, as Samuelson (1962a, 17) noted.[39] According to Seers (1968, 94-6), public servants tended to assimilate fashionable academic ideas in an uncritical way.[40] Also, the urgent always took precedence over the important (Opie 1968, 60).

Politicians require advice which will increase their sense of mastery over events;[41] they willingly make confident promises whilst in opposition, and therefore have to take responsibility for economic outcomes when in government. This often leads to advice based upon "metaphysics", rather than ambiguous and confusing descriptions of reality. Occasionally, they receive advice from "rigid theorists, sometimes of a quasi-mystical character" (Shonfield 1958, 211). Sometimes political considerations were the only factors; and here the collective influence of economists was non-existent (Cairncross 1970, 13). Confidence, however, can often be based, and indeed, encouraged by relative ignorance.[42]

Within three weeks of becoming Chancellor, Callaghan felt that he was "swimming in a heavy sea ... in all the offices I have held I have never experienced anything more frustrating than sitting at the Chancellor's desk watching our currency reserves gurgle down the plug-hole day by day, and knowing that the drain cannot be stopped" (1987, 167; Brandon 1966, 36-7).[43] Yet Callaghan's Private Secretary (later to be Head of the Civil Service) suggested: "Chancellor, why don't you go for a walk through the lobby and show them how composed you are?" (cited by Callaghan 1987, 167; for an analogous episode on 7 September 1976, see Callaghan 1987, 427; Robinson 1992, 220). This attitude permeated Whitehall. According to Seers (1968, 97-8), officials presented "fantasies" about the expected collapse of the Rhodesian rebels - "weeks rather than months" - because, as one official explained, "this was the picture he thought ministers wanted". This may also have been a factor in the propagation of the Phillips curve trade-off.

For economic ideas to command the attention of politicians they must usually be both simple and seductive. This applies to the idea of a reversible trade-off between inflation and unemployment, and also to the idea of a stable and exploitable relationship between money and prices.[44] If economic advice is not palatable to politicians, it is liable to be ignored (which is exactly what happened when in 1965 the Council of Economic Advisors pressed for a tax increase to finance the Vietnam War). Inevitably, this requires an educational strategy. But in the process, policy advocates may either slip into self-deception or leave hostages to fortune. As James Tobin (1974, 36-8) reflected about events on the other side of the Atlantic, "the New Economics had been oversold, probably less by its practitioners than by interpreters in the press ... The public had come to expect too much and felt let down ... Had we economists failed to come clean? Perhaps, although the steepness of the Phillips curve below 4 per cent unemployment was an unpleasant surprise to us as well".

5. The Fall

From the mid-1970s, all the Keynesian nightmares began to come true. Friedman, using the concept of adaptive inflationary expectations (which he had derived from Phillips), successfully adopted Keynesian language to elevate the quantity theory of money over Keynesian policy prescriptions (Leeson 1994c). The Natural-Rate Expectations Augmented Phillips (N-REAP) curve model exploited the breakdown of the Phillips curve trade-off to the left of the 'natural' rate of unemployment, to provide policy-makers with the confidence to follow a new version of the old deflationary policy prescriptions (which had previously alternated in influence with expansionist recommendations). Brittan (1971, 455) reflected that "Chancellors behaved like simple Pavlovian dogs responding to two main stimuli: one was 'a run on the reserves' and the other was '500,000 unemployed' ...". Towards the end of the 1970s, policy-makers were retrained so as to become immune to the stimulus of the unemployment figures: targeting unemployment, it was argued, was analogous to "a space vehicle that has taken a fix on the wrong star" (Friedman 1968, 15).

The macroeconomy now, apparently, possessed the inflation-unemployment characteristics of a $ (or an S - spiked with a vertical natural rate of unemployment). If policy-makers foolishly attempted to move the economy to the left of the spike, this would shift the short-run Phillips curve upwards, and the macroeconomy would trace out the trajectory of the top half of the S. If policy-makers were patient enough (and believed that there was no alternative), then a monetary contraction would direct the economy down the bottom half of the S (as the short-run Phillips curve shifted downwards); eventually leaving the economy with the desired lower rate of inflation plus a 'natural' rate of unemployment.

There was another discontinuity. Previously, deflation and 'defend the Pound' had gone together. The monetary contractions of the early Thatcher period raised interest rates and left Sterling overvalued; resulting in a severe contraction of the manufacturing and export sectors. There were some continuity, such as the intense involvement of some economists in the political market-place and the intense belief expressed by some politicians in results derived from econometric exercises. But politicians are not renowned for their understanding of statistical theory; nor did economists have an adequate economic theory of political behaviour.

With respect to macroeconomic outcomes, the Phillips curve episode led to one of the worst inflationary decades in world history. Disinflation based on the N-REAP model led to much higher and more prolonged levels of unemployment than had been expected (Laidler 1985). This miscalculation was based, in part, on the neglect of the Expectations Trap which was implicit in Phillips' and Lipsey's work (Leeson 1996b). It was also based, in part, on the elevation of statistical evidence over interpretations of history, as the primary source of empirical data. In the process, some relevant evidence was overridden - such as that provided by Phillips (1958, 294-5) which indicated that the inter-war overvalued exchange rate was associated with an increase in unemployment from 12.5 per cent in 1926, to 22.1 per cent in 1932, but wage inflation fell by only 0.6 per cent per annum.

Phillips (1962, 7) argued in his inaugural lecture that policy should be based on "observations of the economy and its changes rather than on forecasts which are themselves derived perhaps by dubious processes from those observations". But forecasting came to dominate Budget exercises, and in the process acquired the ability to override all other perspectives - a "revolution in national affairs" (Brittan 1971, 97, 411; 1969,63; Leruez 1975, 234-9).[45] Technology tends not to retreat; and this applies to the technocratic revolution to which many Phillips curve advocates (Samuelson, Solow, Tobin, Klein, Modigliani etc.) have contributed.

6. Concluding Remarks

This essay has placed the Phillips curve trade-off in an appropriate historical context. Macroeconomic policy was dominated by two competing perspectives. The expansionists who located themselves on the upper portion of the Phillips curve wished to target lower levels of unemployment. The deflationists located themselves on the point of the Phillips curve which crossed the horizontal axis and thought it safer to target higher levels of unemployment. Both sides were happy to embrace this relationship because it appeared to quantify already existing policy recommendations. The growth experiment needed a guide to inflationary outcomes, which the Phillips curve appeared to provide. Policy making was becoming increasingly influenced by high powered statistics, and the Phillips curve was an important relationship which lent itself to econometric estimation. Economic literacy was becoming a requirement for public servants; and this increased the demand for "statistical theology". When the original Phillips curve trade-off broke down, it was augmented by inflationary expectations and a belief that macroeconomic policy should *not* target unemployment.

The collapse of the Phillips curve divided economists into hostile camps. 364 economists including Neild, Robert Hall, Cairncross, Hopkins, Berrill and Atkinson (all, except Neild, former chief economic advisers to the Government) signed a letter to *The Times* denying the validity of the N-REAP model: "There is no basis in economic theory or supporting evidence for the Government's belief that by deflating demand they will bring inflation permanently under control and thereby introduce an automatic recovery in output and employment". But for Nigel Lawson (1992, 102, 97) the "so called inflation/unemployment trade-off" was the origin of British problems: "Does it surprise you that we have got into our present difficulties of high inflation and unemployment when we have a significant group of people who believe in such magic ... Who can possibly take this sort of nonsense seriously". Fuelled by such righteous indignation, policy-makers increased British unemployment beyond levels that were previously thought to be triggers for social revolution (Robinson 1962, 90; Balogh 1948).

The Phillips curve episode also raises questions about the optimal involvement of economists in the political market-place. Economists have a comparative advantage in presenting sophisticated statistical arguments to support what may actually be quite simple propositions; and therein lies the *supply* dimension. On the *demand* side, politicians require simple easily communicated proposals which enable them to feel an increased mastery over events. This would not be troublesome if the macroeconomic policies that emerged from these market exchanges were satisfactory. But faith in this Phillips curve trade-off produced policies that cannot be so-described; and therein lies the primary reason for a careful examination of this important episode.

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Notes

1 This paper has benefited from helpful comments from A.J. Brown, Graeme Dorrance, Milton Friedman, Geoffrey Harcourt, David Laidler, Herb Thompson plus an anonymous referee from this journal. All remaining errors are my own.

2 Samuel Brittan (Department of Economic Affairs, 1964-6), Christopher Dow (Economic Section of the Cabinet Office, and the Treasury, 1946-54, and from 1962), Michael Stewart (Senior Economic Adviser, at 10 Downing Street, 1964-6, preceded by five years in the Treasury), Roger Opie (Economic Section of the Treasury 1958-60, Economic Adviser to the Department of Economic Affairs, 1964-66), J.F. Wright (Special Economic Adviser to the President of the Board of Trade, 1968-70), Thomas Balogh (Economic Adviser to the Cabinet, 1964-8, Consultant to the Cabinet, 1968-70, Minister of State at the Department of Energy, 1974-5), Aubrey Jones (Chairman, National Board for Prices and Incomes, 1965-70), Alan Budd (Treasury forecaster, 1970-4), Charles Goodhart (Bank of England), Lord Bridges (Permanent Secretary to the Treasury, 1945-56), Alec Cairncross (Economic Adviser, 1961-64, and Head of the Government Economic Service, 1964-69) C.D. Cohen (Consultant to the Economic Section of the Treasury, 1966-9), Ian Little (Deputy Director of the Economic Section of the Treasury, 1953-55) and Michael Shanks (Industrial Adviser to the Department of Economic Affairs, 1965, Coordinator of Industrial Policy, 1966-7) have all reflected upon this episode. Many of these commentators both described and created public opinion. Journalists were believed to be highly influential in formulating opinions in Whitehall (Seers 1968, 95). Brittan, Shanks and Andrew Shonfield were part of the Newton generation at the *Financial Times*; all three sought to influence public policy (Parsons 1989, 100-1; Roseveare 1969, 332-4; Sandelson 1959, 129-30; Tobin 1974, 36-7). This paper borrows heavily from the work of these authors.

3 In his last year as Prime Minister, Churchill concluded, after a Treasury briefing, that "the financial position is almost irretrievable: the country has lost its way ... Today's problems are elusive and intangible ..." (cited by Brittan 1964, 124; Leruez 1975, 82). He had played a major and enthusiastic role in the 1926 General Strike, but he wished to live this reputation down. According to Woolton (1959, 379), Churchill was determined to prevent industrial disputes during his period as Prime Minister.

4 As Brittan (1964, 148, 152, 180) put it, "in a conflict between growth and price stability, there would be in my view an overwhelming case for going for growth ... So long as there is any intellectual uncertainty about the issue, surely it is better to give the expansionists the benefit of the doubt ... There is an overwhelming case for speeding up Britain's growth rate". An 'inflationist' was a term used to denigrate people who were "reluctant to sacrifice real wealth to preserve the figures on the price tags appearing in shop windows".

5 Leruez (1975, 85-92) suggested that a conference in early 1961 involved complicity between the Treasury, the National Institute for Economic and Social Research (NIESR), the OEEC and the French Planning Commissariat, with regard to the propagation of the combination of the French style indicative growth-orientated planning, and an incomes policy.

6 Britain applied to join the Common Market in 1961, and simultaneously employers and trade unions were invited to join the new National Economic Development Council. To present the NEDC as an independent body it was decided to locate it outside the Treasury. At the same time, William Armstrong replaced Frank Lee (who was regarded as a deflationist and a sceptic about planning) as Permanent Secretary, and Maudling replaced Selwyn Lloyd as Chancellor. Macmillan was regarded as an inflationist and a planner by Bank and Treasury officials.

7 Following the Orpington by-election shock for the British Government.

8 Alan Day (1964) believed that the 4 per cent growth goal was "a myth".

9 The Prime Minister stated that "the problem is to learn to live with the consequences of [full employment] and to adopt policies to it ... In our priorities, growth comes first because given growth all else can follow - stable prices, high employment, exports and a secure balance of payments" (Macmillan [1959], cited by Blank 1973, 152).

10 During the 1964 election campaign, Wilson held out the prospect of a growth rate double that offered by NEDC under the Tories. The National Plan of 1965 offered a convenient but unrealistic growth target for Labour to campaign upon in 1966; a strategy which was regarded by some as "very close to moral fraud" (Leruez, 1975, 177, 129, 170; Blank 1973, 224; Cairncross 1979, 309).

11 Treasury had always objected to the inflationary consequences of Ministry of Labour arbitration (Leruez 1975, 140). With the commitment to growth and the reduction of levels of unemployment, went the relocation of responsibility for incomes policies away from Treasury, to the DEA (1964-8), and then to the Ministry of Labour. The resulting "appeasement" and wage inflation was "a disastrous mistake ... an anti incomes policy" (Brittan 1964, 99).

12 Cairncross' (1952, 875) review of Tinbergen's work had been as uncompromising as that of Keynes: "Before this spectacle, lacking all priestly virtue, I can only gape in the mood of one watching Moses strike the rock". But later, Cairncross (1968, 2) and Kaldor (1971b, 1) noted that everything, especially policy objectives, tended to be expressed in statistical or quantitative terms.

13 Marris argued in favour of the "advanced methodology of modern economic analysis".

14 The preparation of short- and long-term forecasts was the main task of the newly formed National Economy group. The analysis of data for forecasting purposes was done almost exclusively by professional economists. *The National Plan*, published in September 1965, was dominated by five year forecasts. Treasury officials became particularly interested in these types of assessments. Donald MacDougall, who had been Economic Director of the NEDC (1962-4) and the DEA (1964-8), and who succeeded Cairncross in 1969, had a "passion for quantification and calculation" (Brittan 1971, 92-6; Budd 1978, 110-14; Bridges 1966, 97; Leruez 1975, 103).

15 Policy-makers in the 1960s, "appeared to confuse planning with exercises in economic forecasting" (Hayward 1975, viii). Governments had acquired the responsibility for steering the economy: "The net effect was that on more than one occasion Whitehall advisers found themselves having to place before Ministers forecasts which they did not quite believe themselves, but which they could not really alter because ... that was how the figures came out ... Unfortunately, economic analysis inside the Treasury became much too exclusively identified in the 1960s with forecasting ..." (Brittan 1969, 77-8). This "was bound to be congenial to the official mind ... economists and officials [tended] to accept the soft option of the regular forecast with the consequent illusion that they could read off, as on a dial, the correct adjustment of the economy needed at any moment in time" (Roll 1968, cited by Brittan 1969, 78); "There is some danger that the young economic adviser may become infatuated with technique to the exclusion of matters more important ... pure economics - at any rate in its more mathematical and model-building form - is rather like gin ... too much mathematics can operate like arsenic and instead of stimulating, destroy all sense of perspective" (Caincross 1968, 11; Marris 1954, 772). Cairncross also cautioned against economists representing themselves as "supermen able to transform the economy by technical wizardry..." (1970, 7). Brittan (1969, 78) noted that some senior Treasury officials were "coming to the conclusion that they had paid too high a price for this convenience, and the reign of the short-term forecasts had passed its zenith".

16 The Centre for Administrative Studies, established in 1963, offered civil servants a fourteen-week training course, half of which was devoted to economics and statistics. According to Opie, it represented "easily the most important single source of hope for the future ... No academic could want a more exciting audience for his lectures" (1968, 79; Cairncross 1970, 5). It may be indicative of the nature of this wind of change that most of those attending the first courses wanted *more* economics and statistics (Brittan 1964, 25-6; Opie 1968, 79). By 1965, the basic course had become twenty weeks long, with "its emphasis placed heavily on economic and statistical and mathematical aids to administration" (Roseveare 1969, 303; Keeling 1965, 192). It was also argued that those public servants with "irrelevant qualifications" should be obliged to remain in junior positions, unless they retrained as social scientists. Training which involved only a "smattering of economics and managerial techniques" was insufficient: "A little economics is a very dangerous thing" (Seers 1968, 103-5; Balogh 1959, 112; Keeling 1965, 192-3).

17 Butler, had been sneered at by some in the Treasury for his lack of technical understanding - it was even suggested that Phillips' hydraulic representation of the macroeconomy could be used to demonstrate to Butler the basic features of the economy.

18 Many economic advisers found administrators to be "grossly ignorant of economics" (Cairncross 1970, 9). Balogh bemoaned the "jejune amateurishness" of Treasury and Bank of England policy-making (1959, 103). As Dudley Seers put it, "A dispatch from a notoriously unsophisticated ambassador actually contained an attack on 'econometrics', which he was clearly unable even to define" (1968, 95).

19 Lawrence Klein captured this spirit: "econometric methods are now capable of making a further contribution, over and above the fine work already accomplished in general macroeconomics, to the economic stabilisation and eventual obsolescence of the business cycle" (Klein and Evans 1969, 359-60); the advance of computing power made it "even more possible to push econometrics in the direction of serving policy makers" (Klein 1992, 186).

20 In 1956, Macmillan received a delegation, headed by Robert Boothby, warning him that his economic policy advice was based on inadequate information (Little 1967, 29). Henceforth, he placed great emphasis on increasing the volume and the quality of official statistics (Shonfield 1958, 228; Balogh 1959, 97). The perceived failure of monetary policy led directly to the establishment of the Radcliffe Committee (May 1956 - August 1959), whose subsequent Report advocated an increased volume of statistics (Shonfield 1958, 234).

21 Part of Balogh's (1959, 111) solution to the perceived demise of Britain was to strengthen the role of economists in the policy-making process. Samuelson found it "shocking" that there were "scarce fifteen economists in all of Whitehall" (1962b, 9, 10; Opie 1968, 60; Seers 1968, 95; Balogh 1959, 82-92; Robinson 1967, 4; Marris 1954, 775; Roseveare 1969, 325). MacDougall noted that the number of economists employed by the Government had increased ten or twenty-fold in the previous decade or so.

There were also several hundred other public servants with economics degrees (1974, 774; Cairncross 1970, 2).

22 A new economist class was created in 1965; 70 per cent of its members were seconded academics.

23 According to Brittan, "The differing 'schools of thought', which were such an exciting feature of the Treasury in the 1950s, are now strongly discouraged. Those sharp contrasts of opinion, top Treasury men now say, reflected mainly a lack of hard information" (1964, 46).

24 The Plowden Report was "really distinctive for being the first to take the Keynesian revolution as its point of departure" (Roseveare 1969, 297); and as a result of one of its recommendations, the first comprehensive forecasting analysis of the components of National Income was made in 1961. Henceforth, these forecasts would dominate Treasury thinking, especially during the preparation for the Budget. The Budget Committee was especially influenced by "politically convenient" considerations (Brittan 1971, 136, 33, 81).

25 The early 1950s were characterised by a belief in the rather paradoxical notion that disinflation could be achieved through inflation of prices, a doctrine expressed in the April 1951 *Economic Survey*. The bonfire of controls had removed subsidies and price controls. Domestic inflation, it was also believed, would protect the gold reserves by increasing domestic expenditure on domestically produced goods. In the absence of inflation, the additional purchasing power would call forth an increase in imports. Equally, inflation would increase profits and savings (Shonfield 1958, 188-193; Hall 1959, 641; Robinson 1965 [1945], 93). This doctrine appears to have fallen out of favour as the decade wore on, and Conservative supporters began to object strongly to inflation. The Conservative government responded by locating the origin of price increases in the irresponsibility of the trade union leaders.

26 In August 1959, Peter Thornycroft established the Cohen Council on Prices Productivity and Incomes ("The Three Wise Men"), which entrusted to an outside body the task of restraining prices and incomes: "the first step in reversing some 150 years or more of constitutional history" (Jones 1973, 48).

27 In other quarters, inflation came to be seen as something that would be associated with a reduction in rates of unemployment. Opie (1968, 66) referred to the "immorality, to say nothing of the absurd and wasteful cruelty, of sacrificing output to parity, sacrificing Keynes to the classics". The idea that post-war inflation was as "evil" as pre-war unemployment was regarded, by some commentators, as "complete rubbish" (Stewart 1967, 188; 1977, 6; Wright 1979, 177). In this climate, President Johnson, in 1965, felt sufficiently confident to ignore the warnings of his Council of Economic Advisors concerning the build-up of inflationary pressures: "It was straight politics ... inflation seemed the preferable alternative" (Solow 1992, 163; Tobin 1987, 100).

28 The Bank of England had opposed a floating exchange rate for Sterling in 1949, and with the exception of the Robot proposal, they had continued to exert a strong 'defend the Pound' influence on policy throughout the 1950s. This influence found its way into Whitehall via the Finance group within the Treasury. The 1962 reorganisation of the Treasury brought together the management of both home and overseas finance, and Governors of the Bank of England became increasingly integrated into the Whitehall machinery (Brittan, 1971, 195-200, 80, 84-5; 1964, 160-1, 118-9; Wright 1979, 144; Shonfield 1958, 200-2; Leruez 1975, 101).

29 Lord Cobbold, a Montague Norman protege, had been Governor, until 1961. Most Conservative Chancellors were "overawed" by Cobbold (Brittan 1971, 180).

30 "It implies, somewhat amusingly, that Enoch Powell, Professor Paish and Karl Marx all agree that successful capitalism requires an army of unemployed" (Opie 1968, 66).

31 There was, of course, a variety of approaches that I have crudely summarised as a school of thought. Some placed their hopes on the capacity of the NEDC to educate trade unionists with respect to wage demands (Brittan 1964, 151; Stewart 1977, 39; Shanks 1972 [1961], 52-3). For Kaldor, the problem was an "insufficient orchestration of instruments"; adjustments in the exchange rate plus an incomes policy were also required (1971b, 4-5). The first NEDC Report compared 'average' Phillips curve points for 1948-61 and 1956-61, concluding that the trade-off needed to be supplemented by microeconomic reforms (1963, 46; Robinson 1967, 45-6). Regardless of these subtle variations, according to Wright (1979, 176) during the 1960s, "excessive weight was given to the Phillips curve". A predictable rate of inflation was the 'natural' outcome associated with growth - inducing reductions in rates of unemployment. In order to improve on this inflationary outcome, an incomes policy was often advocated (Brittan 1964, 171)

32 This is not to suggest that these economists, especially Kaldor and Balogh, were orthodox Phillips curve advocates. They were not. Kaldor (1959, 293), however, believed that inflation was associated with low unemployment and high growth, but thought that the causal sequence was different from that offered by Phillips. In his Presidential Address to Section F (Economics) of the British Association for the Advancement of Science, entitled "Conflicts in National Economic Objectives", Kaldor stated that Phillips

curve econometrics "... confirmed many of our economists in the more comfortable view that, provided monetary and fiscal policy is properly conducted and the pressure of demand is not allowed to exceed certain limits, wage and price inflation will automatically be contained by the forces of the market" (1971b, 5). Kaldor also advised the Radcliffe Committee that given the 'low' dynamism of the British economy, the pursuit of stable prices was too expensive in terms of growth; to prevent the British economy "from floundering may require doping it with inflation because its dynamism is low" (Radcliffe 1960, 716).

33 This anonymous tutor recalled that Callaghan "was not all that easy to bamboozle, but once bamboozled he was impossible to unbamboozle" (cited by Kellner and Hitchens 1976, 44-5).

34. As Wright (1979, 142) put it, "the management of economic policy was never handed over to economists; and one of their most important roles was to react critically to the spontaneous, naive, and often inconsistent theorising of politicians and civil servants".

35 Or, as Goodhart reflected, "A common, and often justified, complaint of economists providing advice to policy-makers is that the latter turn away from, and find difficult to absorb, forecasts expressed in terms of bands of probability, confidence limits. Instead they want to be given, and work on the basis of, the 'best' mean estimate. Too little attention is paid to available measurements of the errors in estimation. Then when the point forecasts go wrong - as they must - the quantitative economist is blamed for promising more than he can provide" (1975, 240, n2). The forecasting dice are often loaded "in favour of the short-term and the politically convenient" (Brittan 1969, 64, 69).

36 Peter Jay (1981, 9, 37) reflected that "I can remember no time in which the economics profession stood in lower public esteem or indeed, stood lower in its own esteem or felt more confused and baffled by the behaviour of the economies that people previously thought they understood ... government is manifestly a god that has failed as a cure-all of economic problems".

37 "We used to think that you could just spend your way out of recession, and increase employment by cutting taxes and boosting government spending. I tell you in all candour that option no longer exists, and in so far as it did ever exist, it worked by injecting inflation into the economy. And each time that happened, the average level of unemployment has risen. Higher inflation followed by higher unemployment. That is the history of the last twenty years" (*Newsweek*, 6 December 1976; Callaghan 1987, 426).

38 The 1975 Hayden Australian Labor Party Federal Budget was introduced with the words "We are no longer operating in that simple Keynesian world in which some reductions in unemployment could, apparently, always be purchased at the cost of some more inflation. Today, it is inflation itself which is the central policy problem. More inflation simply leads to more unemployment" (cited by Hughes 1980, 115). Margaret Thatcher also became leader of the Conservative Party in 1975.

39 "The leaders of this world may seem to be led around through the nose by their academic advisers. But who is pulling and who is pushing? And note this: he who picks his doctor from an array of competing doctors is in a real sense his own doctor. The Prince often gets what he wants to hear" (Samuelson 1962a, 17).

40 Seers concluded that it was "as if Walt Rostow's work had never been the object of devastating professional criticism ... Paradoxically, professional [economic] opinion is sometimes treated with exaggerated respect. Those who have had a classical or literary education often fail to appreciate the limitations of the social sciences and expect some uniquely correct 'technical' answer to controversial questions which require political and social judgements" (1968, 95)

41 As Stewart (1967, 249) put it, "a politician's seat is a much flimsier piece of furniture than a professor's chair".

42 For a discussion of Butler in this context, see Shonfield 1958, 272.

43 Crossman (1979 [1964], 48) confided to his *Diary* that Callaghan was "in a terrible state ... heavy and gloomy as ever .... He was obviously overawed by the situation and full of self-pity".

44 For Governor Reagan, "the Laffer curve set off a symphony in his ears. He knew instantly that it was true, and would never doubt it for a moment thereafter" (Stockman, cited by Parsons 1989, 167).

45 Yet, during the Barber boom, both the Treasury and National Institute of Economic and Social Research (NIESR) models tended to underestimate the unfavourable consequences associated with rapidly rising demand for labour (Stewart 1977, 170-1, 143-7). Forecasters were very interested in econometric estimates of unemployment and the future demand for labour (see for example, Godley and Shepherd 1964, 1965). Estimated Phillips curves suggested that the corresponding wage inflation in 1968-9 should have been under 2 per cent; in fact it turned out to be 7.8 per cent (Leruez 1975, 207). Lipsey and Parkin (1970) even suggested that the incomes policy of the period had adversely affected the trade-off. None of the econometric models predicted the outbreak of severe wage inflation in 1969-70. In other areas too, the Treasury forecasting record was not impressive (Brittan 1971, 475, 134-7).

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