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<b>Authors</b>	Edward Nelson
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Federal Reserve Bank of St. Louis, Research Division, P.O. Box 442, St. Louis, MO 63166

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## **An Overhaul of Doctrine: The Underpinning of U.K. Inflation Targeting**

Edward Nelson\*  
Federal Reserve Bank of St. Louis

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### **Abstract**

This paper argues that the inflation targeting regime prevailing in the United Kingdom is not the result of a change in policymaker objectives. By conducting an analysis of U.K. policymakers that parallels Romer and Romer's (2004) study of Federal Reserve Chairmen, I demonstrate that policymaker objectives have been essentially unchanged over the past five decades. Instead, the crucial underpinning of U.K. inflation targeting has been an overhaul of doctrine—a changed view of the transmission mechanism. This overhaul can be understood in terms of changes in policymakers' views on the values of a few key parameters in their specifications of the economy's IS and Phillips curves. Specifically, the changed views pertain to the issues of whether interest rates enter the IS equation, and the extent of policymaker influence on those rates; whether the level of the output gap appears in the Phillips curve when the gap is negative; and whether a speed-limit term matters for inflation dynamics. Contrary to conventional wisdom, changing views on the expected-inflation term in the Phillips curve do not play a role.

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\* Telephone: (314) 444-8712. Email: [edward.nelson@stls.frb.org](mailto:edward.nelson@stls.frb.org).

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## 1. Introduction

The substantial improvement in the United Kingdom's economic performance during the 1990s and 2000s, manifested in lower mean inflation and reduced variability for key macroeconomic series, is well known. But if one takes for granted (as I do) that successful monetary policy was a major reason for that improvement, this leaves unanswered the reasons for the inappropriate monetary policy of prior decades. For example, did economic outcomes in the 1960s and 1970s reflect attempts by U.K. policymakers to select from a menu of inflation/unemployment combinations, only to find themselves at an unexpected—and unpalatable—combination not on the original menu? Alternatively, did U.K. policymakers simply not value price stability, with better recent performance reflecting a belated recognition of the costs of inflation? Or are still other explanations superior? The repeated revisiting of the 1960s and 1970s in articles and speeches by U.K. policymakers (e.g. King, 2005, 2007) suggests that the controversy associated with these questions is not dying out.

Understanding the reason for the changes in U.K. macroeconomic behavior is a matter of global interest. The United States has been the focus of the discussion of the Great Moderation in studies such as Stock and Watson (2002) and Bernanke (2004). But the changes in policy regime and in data behavior in the last quarter century have been greater in the United Kingdom than in the United States. Consequently, as stressed by Benati (2008), Blake and Markovic (2007), and others, the United Kingdom serves as a particularly valuable laboratory for testing hypotheses regarding the Great Moderation.

This paper argues, based on my own investigation of the record, that the inflation targeting regime prevailing in the United Kingdom does not reflect a change in policymaker objectives. These objectives have been essentially unchanged; instead, the crucial underpinning of U.K. inflation targeting has been an overhaul of doctrine—a changed view of the transmission mechanism. This overhaul can be understood in terms of changes in policymakers' views on the values of a few key parameters in their specifications of the economy's IS and Phillips curves. The changed views pertain to the issues of whether interest rates enter the IS equation, and the extent of policymaker influence on those rates; whether a speed-limit term matters for inflation dynamics; and whether the level of the output gap appears in the Phillips curve when the gap is negative. My focus on these issues produces a factually defensible account of U.K. policy changes, in contrast to approaches which attribute regime changes to shifts in policymaker

objectives or to changing views about the long-run inflation/unemployment trade-off. An implication of my analysis is that inflation targeting since 1992 does not reflect a further overhaul of doctrine, but instead a refinement within the same basic doctrinal framework prevailing since 1979.

While building on my previous studies of the United Kingdom,<sup>1</sup> the present paper has the specific aim of providing an analogue to Romer and Romer's (2004) study of the views of successive Federal Reserve Chairmen. I take into account two institutional features about the U.K. First, due to the lack of Bank of England independence until 1997, the principal monetary policymakers for most of the years studied were the Prime Minister and other senior government members such as the Chancellor of the Exchequer, not the Bank of England Governor. Therefore, for the pre-1997 period, my focus is on the economic doctrines subscribed to by the Prime Minister and ministerial colleagues. Second, the lack of a clear U.K. analogue to FOMC Minutes before the 1990s, and the absence of any U.K. analogue to FOMC Transcripts for any period, lead me to assemble an alternative base of material for studying policymakers' views. I use a database of policymaker statements that substantially exceeds that used for prior studies of the United Kingdom. This database consists primarily of newspaper articles and parliamentary proceedings.

At the outset let me state what I am *not* saying. I am not saying that pre-1979 views of the economy were correct for their time and that therefore the old doctrine was appropriate. On the contrary, I believe that modern doctrine should have been used in the 1950s, 1960s, and 1970s, and that the result would have been far better U.K. economic performance. My position is that economic policies in those decades were based on an internally consistent but incorrect set of beliefs.

This paper proceeds as follows. In Section 2, I state the basic propositions underlying old and modern doctrine, and give equations that characterize each doctrine. Section 3 discusses how the old doctrine developed from the 1940s to 1964. Section 4 discusses advantages of my methodology; Section 5 considers the old doctrine over 1964–79, while Section 6 considers other types of evidence on the 1960s and 1970s. Section 7 turns to modern doctrine, and Section 8 concludes.

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<sup>1</sup> In particular, Nelson (2005), Nelson and Nikolov (2004), and Batini and Nelson (2005).

## 2. Statements of old and modern doctrine

In this section I state the basic postulates underlying old and modern doctrine, and summarize each doctrine in terms of its implied IS and Phillips curve relations.

### 2.1 Basic postulates of old and modern doctrine

Both the old doctrine (prevailing up to 1979) and modern doctrine (applying since 1979) consist of eight propositions, which I have divided into three categories: aggregate demand behavior; inflation behavior; and policy objectives. I first give the postulates of the old doctrine (*OD*).

#### *Aggregate demand behavior*

*OD1.* Aggregate demand is insensitive to short-term interest rates. Insofar as short rates matter at all, they enter the IS equation as a first-differenced nominal rate.

*OD2.* Fiscal policy has powerful effects on aggregate demand. The expansionary impact of deficit spending can be reduced if the deficit is financed by issuing long-term debt; financing by Treasury bills, on the other hand, amounts to monetization of the deficit.

*OD3.* Aggregate demand may depend to a small degree on (real) long-term interest rates. But this has no implications for short-term interest rate policy, as the authorities can fix the long-term rate directly for a given path of short rates and the monetary base.

#### *Inflation behavior*

*OD4.* Cost-push forces come from a variety of sources and can produce substantial and sustained inflation without any monetary accommodation.

*OD5.* This is so because inflation is insensitive to negative output gaps. Positive output gaps can add to inflationary pressure, but a given amount of economic slack does not remove inflationary pressure.

*OD6.* Inflation, on the other hand, does depend in a symmetric manner on the *change* in the output gap.

The preceding six postulates have contrasting analogous versions in modern doctrine (*MD*), prevailing since 1979.

*Aggregate demand behavior*

*MD1.* Aggregate demand is highly interest-elastic, with the levels of both real short-term and real long-term interest rates appearing in the IS equation.

*MD2.* Pure fiscal policy—that is, deficit spending not accompanied by base money creation—does not have substantial effects on aggregate demand.

*MD3.* The long-term interest rate and other key asset prices are highly sensitive to the short-term interest rate and expectations of its path.

*Inflation behavior*

*MD4.* The degree of monetary accommodation is critical in determining whether cost-push forces produce sustained inflation.

*MD5.* This is so because inflation is sensitive to both positive and negative output gaps. The level of the output gap enters the Phillips curve.

*MD6.* Inflation does not depend on the change in the output gap.

I do not find it useful to attribute policy regime change to shifts in objectives. On the contrary, I will show that there has been considerable continuity in objectives. Thus I append both lists above with the same views about objectives:

*Policy objectives*

*OD7 & MD7.* A low single-digit rate of inflation is desirable and makes it easier for aggregate demand to proceed along the path of potential GDP; in addition, low inflation ensures that productive potential is not damaged by inflation.

*OD8 & MD8*. The real structure of the economy produces a potential output path that policymakers should use as their output reference value. Associated with this sustainable output value is an unemployment level which can vary with structural changes.

## 2.2 Representative equations

Old and modern doctrine may be represented in terms of IS and Phillips curve equations. Old doctrine saw log real aggregate demand ( $y_t$ ) as determined according to:

$$y_t = -b_1 \Delta R_t + \text{t.i.p.} \quad (1)$$

where  $b_1 > 0$ ,  $\Delta$  is the first-difference operator,  $R_t$  is the short-term nominal interest rate, and “t.i.p.” denotes “terms independent of policy” as defined by Woodford (2003), i.e., it covers all variables that are not sensitive to open-market policy (the policy that delivers the short rate  $R_t$ ). Note that, as in postulate (*OD1*), no level term for the interest rate (real or nominal) enters. The old doctrine’s hypothesized relation for inflation ( $\pi_t$ ) was

$$\begin{aligned} \pi_t &= \xi(y_t - y_t^*) + \delta \Delta(y_t - y_t^*) + \pi_t^e + u_t \text{ when } y_t \geq y_t^*; \\ \pi_t &= \delta \Delta(y_t - y_t^*) + \pi_t^e + u_t \text{ when } y_t < y_t^*; \end{aligned}$$

where  $\xi > 0$ ,  $\delta > 0$ ,  $y_t^*$  is log potential output,  $u_t$  is a cost-push shock, and  $\pi_t^e$  is an expected inflation term (whose specification is discussed below). Since this Phillips curve is asymmetric with respect to the output gap,<sup>2</sup> it may be written more compactly as:

$$\pi_t = \xi(D_t [y_t - y_t^*]) + \delta \Delta(y_t - y_t^*) + \pi_t^e + u_t, \quad (2)$$

where  $D_t = 1$  if  $(y_t - y_t^*) \geq 0$ ; 0 otherwise. Reflecting postulates (*OD5*) and (*OD6*) of old doctrine, inflation in equation (2) depends continuously on the change in the output gap but is insensitive to negative levels of the output gap. The modern doctrine’s IS curve is:

$$y_t = -b_2 r_l - b_3(R_t - E_t \pi_{t+1}) + \text{t.i.p.}, \quad (3)$$

where  $b_2 > 0$ ,  $b_3 > 0$ , and  $r_l$  is the real long-term interest rate. In line with postulate

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<sup>2</sup> Indeed, at  $y_t < y_t^*$  there is no “curve” relationship between the gap and inflation, even holding inflation expectations constant.

(MD1), the levels of both the real short-term interest rate and the real long-term interest appear as influences on aggregate demand in equation (3).

The modern doctrine's Phillips curve is the standard relation:

$$\pi_t = \xi(y_t - y_t^*) + \pi_t^e + u_t. \quad (4)$$

The remainder of this paper justifies the above characterization of U.K. official doctrine by documenting the prevalence of the two doctrines in U.K. policy circles and their influence on U.K. economic policy.

### 3. Development of old doctrine: 1945–64

In this section I sketch how the old doctrine developed up to 1964. I consider developments in thinking by 1950s and 1960s policymakers, as well as contributions by participants in the economic debate who would enter policymaking from 1964 onward.

#### 3.1 The basic developments

##### *Aggregate demand behavior*

Views about the behavior of aggregate demand (the IS equation) developed in several increments:

*Level of short-term interest rate doesn't matter.* By the mid-1950s, U.K. policy experience convinced some observers that the level of short rates did not matter at all for aggregate demand behavior. For example, Anthony Crosland, a Labour politician and influential writer on economics who later served in Cabinet, said in 1955: "Is there any sign that the Bank Rate is moderating excess demand? There is none whatsoever, and the Chancellor knows it perfectly well." (*House of Commons Debates* (hereafter *HCD*), April 20, 1955, col. 239.) Similar views were expressed in policy and banking circles in the 1950s and 1960s; in 1963 a leading banker observed that the "influence of changes in Bank Rate upon industry is often questioned" (in *Financial Times* (*FT*), January 21, 1963) while a 1964 financial column observed, "interest rates have long ago and



authoritatively been acknowledged to have little or no effect on the decisions of industry” (*Yorkshire Post*, January 20, 1964).<sup>3</sup>

*First difference of short-term interest rate matters.* Harold Wilson, the Labour Party’s economics spokesman, believed that the “effect of an increased Bank Rate is an impact effect, a temporary effect” and that “monetary policy only seemed to work for some little time... [with] a new impact... [requiring] pushing up Bank Rate still further.”<sup>4</sup> This perspective treated aggregate demand as insensitive to short-term rates, but private spending as constrained by the availability of bank loans: specifically, funds for consumption and firms’ working capital.<sup>5</sup> A rise in Bank Rate would produce a temporary outflow of funds from banks until they raised their deposit rates by the amount of the Bank Rate increase.<sup>6</sup> During this interval,<sup>7</sup> spending was constrained by the sudden shortage of bank funds. The argument also implied that when Bank Rate fell, temporary inflows into banks relaxed budget constraints and meant higher flows of private spending. The upshot is that the first difference of the nominal interest rate enters the IS relation, as in equation (1).

*Long-term interest rates matter.* The influential Radcliffe Committee on monetary issues endorsed the idea that domestic spending was insensitive to short-term interest rates (e.g. 1959, paras. 450, 464), adding that the asset prices crucial for aggregate demand depended on a “liquidity” aggregate. Open market operations simply changed the composition of liquidity, leaving the aggregate unchanged. But the Radcliffe Committee did acknowledge a nonzero elasticity of investment spending (and so the domestic component of  $y_t$ ) with respect to long-term interest rates. Its Report stressed that the elasticity was low, and the view that long rates mattered was not universally held among those shaping the Report. But the long-term rate’s relevance for investment was accepted by Prime Ministers Harold Macmillan and Harold Wilson, and in a statement by the Bank of England that a “fall in the cost of finance for industrial investment might assist expenditure by British industry” (*Bank of England Quarterly Bulletin* (hereafter *QB*),

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<sup>3</sup> The Appendix provides bibliographical details for the newspaper articles and documents quoted in the text.

<sup>4</sup> From Wilson speech, *HCD*, April 18, 1956, in Wilson (1964, p. 38); and Wilson (1957, p. 14).

<sup>5</sup> Productive investment was perceived as being financed by long-term loans outside the banking system.

<sup>6</sup> It was widely acknowledged that the distribution of the stock of saving between bank and nonbank instruments was interest-sensitive, even by those such as Wilson who felt that the choice between saving and consumption flows was interest-insensitive.

<sup>7</sup> In equation (1), the interval is taken to be one period (a quarter). If instead the interval was (e.g.) a year,  $\Delta R_t$  would be replaced by  $\Delta_4 R_t$ .

June 1962, p. 88). Therefore, it is appropriate to include in the IS equation characterizing the old doctrine an explicit (real) long-term interest rate ( $rl$ ) term:<sup>8</sup>

$$y_t = -b_1 \Delta R_t - b_2 rl_t + \text{t.i.p.} \quad (5)$$

The particular long-term interest rates thought to enter the IS equation were the rates on long-term corporate securities (debentures); these rates in turn were acknowledged as being closely linked to rates on long-term government bonds (gilts).<sup>9</sup>

The Radcliffe Committee's acknowledgement of a role for long-term interest rates did not overturn its bottom-line message that investment was not necessarily sensitive to monetary policy actions, in the sense of Bank Rate policy. Its Report argued that the authorities, *via debt-management operations that left Bank Rate and the monetary base unchanged*, could manipulate the long-term interest rate. This implied that the expansionary impact of deficit spending could be reduced by financing the deficit through long-term debt, thereby pushing up long-term interest rates and producing some downward pressure on investment spending. More generally, the Report held that the long-term interest rate could be utilized as one instrument of demand management.

This position of the Report was, of course, a rejection of standard views about term-structure determination. To be more specific, the Radcliffe Committee felt that expectations-theory type relations might dominate long-rate behavior if the authorities were "fatalistic" (1959, para. 552), but that a sufficiently vigorous debt-management policy would allow them to overwhelm this term-structure relationship and install a regime in which the long-term interest rate was a distinct policy instrument. Hence the Committee's infamous conclusion (1959, para. 982), "debt management has become the fundamental domestic task of the central bank." The U.K. authorities took up this idea, with the *Federation of British Industries Review* (November 1961) observing, "In recent years the Bank has tried to strike more directly at these longer rates, which are the crucial

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<sup>8</sup> In general, subscribers to the old doctrine accepted that, insofar as asset returns mattered for economic decisions, they did so as real rather than nominal rates (see e.g. Radcliffe Committee, 1959, para. 572). But there was no presumption that the monetary authorities should act on nominal rates to keep real rates positive, as it was felt that the expected-inflation term in the Fisher equation could be manipulated by nonmonetary means.

<sup>9</sup> Though definitions of the long rate differed across discussions, a representative maturity would be ten years or more. In believing that there was a nonzero, but low, long-rate elasticity of aggregate demand, U.K. policymakers' position on the IS equation in the 1950s and 1960s was similar to that of U.S. policymakers in the late 1940s (see Friedman and Schwartz, 1963, p. 700).

ones for monetary policy. As manager of [the] national debt, it can readily influence the whole structure of interest rates if it chooses.” Note that, because the long rate was seen as separable from open-market policy, it is part of “t.i.p.” in equation (1), and so equation (5) is a special case of equation (1).

### *Inflation behavior*

In the simplest representation of what Keynesian economics as of the 1940s had to say about inflation behavior, potential GDP coincided with maximum feasible output; inflation was nonexistent until output hit potential, after which point any excess of nominal demand was instantaneously recorded in prices. Therefore, inflation was given by  $\pi_t = 0$  for  $y_t < y^*$ ; and  $\pi_t = \Delta x_t$  for  $y_t \geq y^*$ , where  $\Delta x$  is the log-difference of nominal aggregate demand. This version of the Keynesian theory, however, was not that used in postwar U.K. policymaking, instead being modified in several respects:

*Recognizing positive output gaps.* The view that potential output represented an inviolable upper bound on GDP was discarded; in its place came recognition that excess demand could lead to output overshooting potential in the short run. For example, Crosland (1956, p. 398) rejected the idea of a “razor’s edge” between full employment and inflation conditions, in favor of the notion that positive output gaps and inflation would be joint symptoms of excessive demand. In U.K. policy circles, the possibility of positive output gaps—together with the desirability of zero gaps—was recognized as early as 1947 in senior Cabinet member Herbert Morrison’s description of current conditions as “overfull employment.”<sup>10</sup>

*Prevalence of cost-push inflation.* U.K. policymakers, as we shall see repeatedly, thought of cost-push inflation as a problem that could occur even with negative output gaps, a concern reflected in Chancellor of the Exchequer Reginald Maudling’s statement in 1962: “The problem in previous years used to be more what is called a demand-pull problem. Now it is a cost-push problem...” (*HCD*, November 5, 1962, col. 621.)

*Change in output gap matters.* Phelps (1968, p. 679) characterized Keynes (1936) as taking the position that below full employment, inflation responded to the growth but not the level of the output gap. This characterization, whatever its merits in capturing Keynes’ views, describes well the position of leading participants in the U.K. policy

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<sup>10</sup> *Manchester Guardian* (hereafter *MG*), August 21, 1947.

debate in the 1960s. For increases in the output gap, the claimed reaction of inflation had a “bottleneck” interpretation: a rise in total spending, while not creating excess demand in aggregate, might create shortages in particular markets and provoke price increases there.<sup>11</sup> Similarly, decreases in the output gap were said to provoke an inflation reaction because firms, whose *longer-term* pricing decisions were not influenced by demand deficiencies, deviated from their longer-term policy in order to prevent large increases in the amount of unsold goods.

While the preceding motivation for a gap-change term centered on price-setting decisions, an alternative rationalization was provided by appealing to labor market behavior. According to this version, labor monopoly power makes wage bargaining insensitive to a given level of labor market slack; but periods of *increasing* unemployment threaten employees’ livelihood and so temporarily break union resistance to wage concessions. This view of the labor market was shared across the political spectrum: the Labour-sympathetic *Socialist Commentary* (August 1966) referred to the “increasingly large rise in unemployment to obtain a given level of wage and price restraint”; the Conservative-supporting magazine *The Spectator* claimed (April 14, 1967): “wage increases fall to a non-inflationary level when unemployment is *rising*... [T]here is no evidence to show that inflation will not recur when unemployment is *stabilized* at that higher level.” Similar views were expressed by policymakers (see Section 5 below).

Whether the growth-rate term is motivated by appeal to the labor market or the goods market, the policy implication is that insofar as restriction of demand exerts a negative impact on inflation, it does so only during the period when the slack is being created—i.e., during the transition from one negative output gap to a more negative value.

The Radcliffe Report endorsed the above description of inflation; it rejected the notion of a Phillips-type trade-off relationship in favor of a cost-push view of inflation.<sup>12</sup>

The resulting vision of inflation is captured by equation (2). Embodied in equation (2) is

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<sup>11</sup> In keeping with the cost-push view of inflation, price increases in one market were seen as automatically meaning a rise in aggregate prices.

<sup>12</sup> King (2005) cites passages from the Radcliffe Report as the basis for arguing that the Committee believed in a Phillips-style inflation/unemployment trade-off. But the Committee’s discussion of the Phillips relationship was in reference to evidence the Committee had heard, not views it endorsed (1959, para. 64); it immediately cited contrary testimony, and went on instead to endorse the cost-push view of inflation. Laidler (1989) concurs that the Radcliffe Committee’s outlook was cost-push.

the implication that policymakers from the 1950s to the 1970s accepted that there was a unit weight on inflation expectations in the inflation equation. This specification reflects a basic fact: rejection of a long-run inflation/unemployment trade-off *is common to both old and modern U.K. doctrines*. Therefore, nothing is lost by attributing to policymakers in all periods the acceptance of a unit weight on expected inflation. Consistent with this characterization of the debate, one of the proponents of the expectational Phillips curve, Milton Friedman, represented early Keynesian views by an inflation equation with a unit weight on expectations (see Friedman and Schwartz, 1982, p. 60).

### *Policy objectives*

A common element of old and modern doctrine is that a low single-digit inflation rate is helpful, relative to a zero or negative rate, in allowing the economy to stay on its full-employment growth path. Crosland (1956, pp. 401, 446) conjectured that “continuing mild inflation” or “(gently) rising prices”—i.e., what today would be called “price stability”—might be more conducive to the economy staying on its full-employment path than would literal price stability.

Views such as these also appeared in official outlets. For example, the Department of Economic Affairs stated in February 1965: “No Western country since the war has yet succeeded for long in combining stable prices with a high level of growth...” (*Progress Report No. 2*, quoted in *HCD*, May 11, 1965, col. 272). In 1970, Chancellor Roy Jenkins said that “absolute stability of prices,” i.e. a constant price level, was not compatible with growth along the full-employment path (*HCD*, April 14, 1970, col. 1224), but that his own definition of price stability, 2% to 2.5%, was completely consistent with continuous full employment (*The Times*, January 12, 1970; *FT*, January 12, 1970).<sup>13</sup> Likewise, many expositions of inflation targeting have defended inflation rates of 2% compared to a zero target, and have defined price stability so that it corresponds to this low inflation rate (e.g. King, 1997a, p. 93). Underlying these discussions is the view that low inflation can facilitate relative price adjustment by reducing the required extent of absolute declines in prices. In the 1950s, this perspective may have reflected the conviction that there existed permanent obstacles to absolute declines in prices and wages. The more modern position

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<sup>13</sup> Similarly, Jenkins’ predecessor, James Callaghan, said shortly before taking office that “postwar experience has shown the difficulty of combining a fast expansion rate in the economy with steady prices” (*HCD*, July 20, 1964, col. 66); while one of Jenkins’ successors, Nigel Lawson, wrote in 1967 that “total elimination of inflation—to prices not rising all” would produce “a basic conflict with faster economic growth,” but that low inflation rates would not produce this conflict (*The Spectator*, February 24, 1967).

(e.g. King, 1999) does not presume permanent nominal rigidities in either direction, but does assume temporary nominal rigidities in both directions, of which those in the downward direction are likely more formidable.

The position in favor of low inflation corresponds to postulate  $(OD7)/(MD7)$  given in Section 2. Its lack of equivalence with a belief in a permanent Phillips curve trade-off should be stressed. Adherents to article  $(OD7)/(MD7)$  believed that a low positive inflation rate might help the economy replicate the conditions of a no-nominal-rigidity economy; believers in a Phillips curve trade-off instead held that appreciable inflation rates would deliver a permanently higher level of output than the output level associated with no nominal rigidity.

Let us now consider how several issues can be fit into this characterization of doctrine: the exchange rate; money and credit; expectations; and the policy mix.

### 3.2 The exchange rate

U.K. policymakers have always understood that the nominal exchange rate is sensitive to the domestic short-term nominal interest rate;<sup>14</sup> that nominal exchange rate movements are reflected in short-run real exchange rate movements; and that the real exchange rate matters for net export demand. So it has always been accepted (even by the Radcliffe Committee) that short rates matter for real aggregate demand at least through an open-economy channel. It might therefore seem desirable to augment equation (1) with an explicit log real exchange rate ( $q_t$ ) term, and to note the dependence of  $q_t$  on the short rate  $R_t$ . But this would make no difference to the analysis because for the 1949–67 period the nominal exchange rate was constant and so the part of  $q_t$  that  $R_t$  immediately influences<sup>15</sup> was constant. It can therefore be suppressed. From 1967, exchange rates did fluctuate; but it is from precisely this period onward that the authorities finally acknowledged influences of the short rate on domestic spending; i.e., from the late 1960s policymakers moved from  $(OD1)$  to  $(MD1)$  even though they continued to subscribe to the remainder of the old doctrine. If equation (3) is thought of as describing policymakers' views from 1968 onward, and the interest elasticities in this equation are understood as inclusive of

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<sup>14</sup> At the same time, even during the era of a completely pegged exchange rate (1949–67), exchange controls gave policymakers considerable freedom in their quarter-to-quarter interest-rate choices.

<sup>15</sup> We know of course that, via the output gap, monetary policy matters for the price level, which enters the definition of  $q_t$ . But the old doctrine denied this channel—see postulates  $(OD1)$  and  $(OD5)$ .

the open-economy channel, then no explicit exchange rate term is needed.

Import price shocks were one source of cost-push pressure invoked by pre-1979 policymakers. Pre-1979 policymakers thought of interest-rate increases as a way of reducing the size of this form of the  $u_t$  shocks, i.e., by engineering an exchange rate appreciation. The  $u_t$  series was therefore not regarded as *completely* endogenous with respect to monetary policy. Most  $u_t$  variation was, however, regarded as exogenous, so I make that assumption in my presentation of equation (2), while taking note below of pre-1979 monetary policy responses to perceived import price shocks.

### 3.3 Money and credit

The absence of money from the IS equation is not an area of dispute. For example, the Radcliffe Committee (1959, para. 397) said that “the structure of interest rates,” not money, was what mattered for aggregate demand; while in the monetarist literature monetary policy affects aggregate demand via asset prices (see e.g. Friedman and Schwartz, 1982, p. 58). Therefore, the money stock is absent from my representation of both the old and modern doctrine’s IS equations. What is not common ground is the susceptibility of yields beyond short rates to influence by open market operations. In particular, in modern doctrine a definite term-structure relation connects long rates to short rates, so that  $rl_t$  cannot be included in the “t.i.p.” term in the IS equation.

With respect to credit, most policymakers before 1979 did believe that direct controls of financial institutions—imposed on their aggregate assets and/or liabilities, or on specific types of lending—contribute to aggregate demand control for a given setting of short-term interest rates. Policymakers’ vision of these controls’ effects can be represented by including intercept dummy variables in the IS equation that take nonzero values when the controls are in effect. Their inclusion would not change equation (1) because the control dummies would be part of the “t.i.p.” term; recall that the “t.i.p.” term includes any measures independent of the short-rate/money base path.

### 3.4 Specifying expectations

A leading account of past policy mistakes in the United States, Sargent (1999), focuses on policymakers’ assumption of adaptive instead of rational expectations in specifying private sector behavior. For studying U.K. policy developments, this approach seems

inappropriate. My contention is that U.K. policymakers had a fundamentally incorrect specification of the economy's structural equations; this error is not the same as having a correct model but misspecified expectations. In fact, it seems appropriate, conditional on their incorrect model, to attribute rational expectations from that model to U.K. policymakers. It would not be appropriate, by contrast, to assume instead that pre-1979 policymakers took  $\pi^e$  in equation (2) as well represented by *lagged* inflation,  $\pi_{t-1}$ . The reason is that substitution of  $\pi_{t-1}$  for  $\pi^e$  implies (after integrating equation (2)) that inflation is a positive function of the output gap at all levels of the gap—something U.K. policymakers emphatically denied.

In being specific about  $\pi^e$ , one should also incorporate policymakers' view that expectations had some inertia.<sup>16</sup> Policymakers further recognized that inflation was forward-looking. For example, Economic Affairs Secretary George Brown said in 1965 that it was becoming standard for firms “to pass on [cost] increases with just that little more added... because they expect more increases to happen in the future” (*HCD*, May 11, 1965, col. 297). These considerations make it desirable to follow Rotemberg and Woodford (1997) in assuming that the expectation in the Phillips curve refers to  $\pi_{t+1}$ , but that the expectation is based on lagged information. A concrete variant of equation (2) that uses a special case of Rotemberg and Woodford's timing assumptions is:

$$\pi_t = \xi E_{t-1}(D_t [y_t - y_t^*]) + \delta E_{t-1}\Delta(y_t - y_t^*) + E_{t-1}\pi_{t+1} + u_t \quad (6)$$

Similarly, the modern doctrine's Phillips curve can be written as:

$$\pi_t = \xi E_{t-1}(y_t - y_t^*) + E_{t-1}\pi_{t+1} + u_t \quad (7)$$

Relative to Rotemberg and Woodford (1997, p. 316), and as in Clarida, Galí, and Gertler (1999), this specification includes a cost-push term (realized in period  $t$ ) and a long-run verticality restriction on the Phillips curve (i.e., a unit weight on inflation expectations).

In addition to the differences in specification across (6) and (7), old and modern doctrine differ in their specification of  $u_t$ . The old doctrine's cost-push view of inflation allows  $u_t$  to have arbitrary persistence (since, for much of the time,  $u_t$  is inflation's basic forcing

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<sup>16</sup> Edward Heath, for example, expressed the view that, in the absence of offsetting actions, “a faster rate of inflation is now inbuilt into the system” (in *FT*, June 17, 1970).



process). The importance assigned to monetary accommodation in modern doctrine instead implies that  $u_t$  cannot be very persistent.<sup>17</sup>

### 3.5 Monetary accommodation and the policy mix

I have characterized old and modern doctrine in terms of policy objectives and propositions about private economic behavior—not in terms of implications for the appropriate mix of policy instruments. It is worth confronting some specific examples of policymaker views on the appropriate policy mix. I consider these views because they might seem to contradict my characterization of old doctrine, but in fact, do not; some also seem to contradict one another, but in fact are compatible. And some statements sound modern, but on further inspection contradict modern doctrine.

These statements concern the interrelated issues of the role of incomes policy in the policy mix and the role of monetary accommodation in producing inflation. I report the statements, then consider them together. First, some statements by 1960s policymakers rejected the notion that incomes policy was a substitute for aggregate demand actions:

One central part of any policy of restraining price increases must be the control of demand... [But] we cannot have price stability without an incomes policy... (Douglas Jay, President of the Board of Trade, *HCD*, May 11, 1965, cols. 394, 398.)

A firm and effective incomes policy is not a substitute for fiscal action as an instrument of demand management... Such a policy is, however, of crucial importance in relation to costs and prices. (Chancellor Jenkins, *HCD*, March 19, 1968, col. 263.)

Second, other pre-1979 policymaker statements seemed to suggest that demand measures and incomes policy were, in fact, substitutes. For example:

[I]f all of us are determined to extract from the market the maximum possible for ourselves, the result must either be inflation or Government policies designed to restrict demand... (Chancellor Maudling, *HCD*, April 14, 1964, col. 263.)

[I]f wages rise beyond the limits... the Government will be compelled to take offsetting steps to curtail demand. (Chancellor Denis Healey, *HCD*, November 12, 1974, col. 249.)

Third, the 1970s witnessed some modern-sounding statements on the role of monetary accommodation in the inflation process:

The monetary policy appropriate to our present circumstances is one that does not passively provide the amount of money that is needed to underwrite the going rate of

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<sup>17</sup> Taking unconditional means of equation (6) and (7), one finds that each equation collapses to an expression for  $E(\Delta\pi)$ , the change in inflation, not the absolute level  $E(\pi)$ . Cost-push and monetary views can be shown to differ also on the determination of this long-run level.

inflation, but something less. (Chancellor Tony Barber, in *FT*, January 20, 1971.)  
The present Government have made it clear that they are not prepared to finance inflation by printing money. (Chancellor Healey, *HCD*, January 25, 1979, col. 754.)

Appearances to the contrary, none of these statements contradict one another, and all are consistent with old doctrine.

Consider the last pair of statements: those on accommodation. These statements do not in fact fit in with the modern view of inflation. For example, when Healey spoke in 1979 about not financing inflation, his threat was to tighten aggregate demand to offset perceived inflationary pressure from wage demands. But at the time he spoke, Healey believed that the level of output was over 10 percent below potential; and according to modern doctrine, that amount of preexisting slack should be more than adequate to rule out any danger of financing inflation.

The old doctrine was internally consistent in characterizing incomes policy as both a complement to and substitute for demand restriction; for according to that doctrine (and as implied by equation (2)), when output is above potential, demand restriction is necessary but incomes policy is still needed to bear down on the  $u_t$  shocks; while, starting from output at or below potential, restriction of demand can be a short-term substitute for incomes policy, in the sense that demand restriction produces downward pressure on inflation that ends once the gap settles at a new, more negative level. That is clear both from the way the output gap enters only as a first difference in equation (2) when  $y_t < y_t^*$ , and from the above statements that implied incomes policy was preferable to the demand-restriction alternative. So according to old doctrine, while it is important that demand policy ensures that output not exceed potential, persistent inflationary forces can occur even with a zero output gap, and can only be temporarily offset by moving demand below potential. Incomes policy, by contrast, is—per old doctrine—both a lasting solution to this type of inflation, and a measure that avoids the need to restrict demand.

According to modern doctrine, aggregate demand measures—specifically, monetary policy actions—are neither a substitute for nor a complement to incomes policies; instead, when it comes to reducing inflation, there are no alternatives and no supplements to monetary policy actions. And modern doctrine states that a monetary policy that preserves a zero output gap will keep inflation low.

The difference in conclusions between old and modern doctrine may be summed up as follows: In old doctrine, demand management was seen as only a necessary element for inflation control, whereas in modern doctrine it is both necessary and sufficient, and the sole demand-management device required is monetary policy.

#### **4. General approach**

In this section I describe the approach used in this paper to look at successive leading policymakers since 1964. I also consider the representativeness of the material used, and the relation of this paper to previous literature.

##### **4.1 Methodology and sources**

I draw out successive policymakers' views of the economy largely from their public statements. This does not constitute a great difference from the approach of Romer and Romer (2004) who, though drawing on FOMC Minutes, also made considerable use of Federal Reserve Chairmen's speeches and writings (before and after entering office). But the lack of central bank independence in the United Kingdom before 1997 means that my focus must be on leading members of the government—so I break up the analysis according to successive Prime Ministers. A stand must be taken on how to obtain public statements by Prime Ministers other than those given in Parliament. The Thatcher Foundation has placed on its website a digital archive of public statements by Margaret Thatcher that is intended to be exhaustive for the 1945–90 period. But the prospect of similar electronic databases becoming available for her predecessors, Harold Wilson, Edward Heath, and James Callaghan, is far off.<sup>18</sup> I therefore rely extensively on newspaper material to recover statements by these policymakers, and to retrieve statements by Thatcher not available in the online digital archive.

The most central components of the U.K. financial press are perhaps the *Financial Times*, *The Times*, and *The Economist*. *Times* and *Economist* back issues are digitally searchable over the twentieth century, while I have obtained older material from the *Financial Times* by a microfilm search for the entire run of the 1970s and for most of the 1960s. It would be a mistake, however, to rely on these publications to the exclusion of other press

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<sup>18</sup> For example, the custodians of the Harold Wilson Papers at Oxford University report that the Papers consist of approximately two thousand boxes, most of them still to be catalogued.

material—including mass-circulation London newspapers, non-London U.K. newspapers, and newspapers of Ireland and Hong Kong (both of which had close financial ties to the United Kingdom over much of the postwar period). Several factors motivate my use of a wide set of material. First, an examination of reports *across* newspapers of a public figure’s speeches, television interviews, or press conferences helps recover more of what was said than simply consulting a single newspaper’s report. Second, leaders of political parties often gave exclusive interviews to particular outlets (for example, the Callaghan interview with the *Glasgow Herald* quoted below), or contributed signed guest articles to a particular newspaper (for example, the Heath and Wilson “op-ed” articles I cite). Third, policymakers’ speeches at non-London events may be more extensively reported in the regional press than in the London press (examples include the Wilson appearance in Cambridge and the Heath appearance in Scotland, both quoted in Section 5).

Leading financial newspapers therefore fail as an adequate source for ascertaining policymakers’ views. Indeed, previous studies have suffered from factual error by concentrating on a narrowly defined financial press. For example, Parsons (1989, p. 172) stated that “stagflation” was “a term apparently introduced to Britain by *The Economist*.” This is doubly erroneous: the word “stagflation” is of U.K. origin, having been coined by politician Iain Macleod, and when it comes to publications that used the term as a regular word (i.e., other than in simply quoting Macleod), the *Daily Mail* predated *The Economist*.<sup>19</sup>

## 4.2 Representativeness

I rely heavily on material from the public record. Is my analysis therefore vulnerable to the criticism that I am not finding out what policymakers believed; only what they wanted the public to think they believed? The answer is no. The U.K. authorities had no plausible motive to misinform. On certain tactical issues, like the timing of interest-rate changes, there may be an incentive to withhold information on any given day. But the doctrine that concerns me is *strategic*—views on how the economy works on a quarter-to-quarter basis. Secrecy about economic strategy is logistically impossible in the U.K. parliamentary system; so also is any attempt to communicate a strategy to the public different from that decided upon privately.

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<sup>19</sup> The first use of “stagflation” by *The Economist* was in its August 15, 1970 issue, well behind other newspapers; see Nelson (2005).

It is infeasible to retrieve every public statement on economic matters by policymakers; even if it were feasible, no single study could report all of them. Therefore, the quotations I use are necessarily only a sample. There are reasons to be confident that this sample conveys accurately and representatively the views of the policymakers I study. Most important is the fact that, while space considerations prevent me from using all the quotations I have recovered, if I lengthened this paper to include all statements assembled, my account of doctrine would stand up.<sup>20</sup> One reflection of the voluminous material available in support of my characterization of doctrine is that the quotations in Sections 3, 5 and 7 do not overlap with those used in my previous work on U.K. policymaking, but are consistent with them. In addition, I provide specific evidence of consistency between privately stated and public statements on doctrine. I further show the consistency of my characterization of official doctrine with *policy decisions*—such as the decision to cut interest rates in 1975 in the face of rising inflation. These general observations about the representativeness of the statements quoted are confirmed by evidence that I present in Section 6.

### 4.3 Related literature

Two studies overlapping somewhat in sample period with mine, but not in content, aim or source material, are Cobham (2002) and Pepper and Oliver (2001). Neither study gives the comprehensive picture of policymakers' views provided here. Cobham focuses on policymakers' analysis of the current state of the economy, not on their underlying views of the transmission mechanism; in addition, his coverage effectively does not begin until 1979,<sup>21</sup> while his focus on the *Bank of England Quarterly Bulletin* as a source comes at the expense of other, highly relevant material. Pepper and Oliver (2001) study certain policymakers from the 1980s, seeking to ascertain whether they had “monetarist” views. Their study concentrates on the issue of whether policymakers paid attention to the money supply. Such an approach does not distinguish between the belief that monetary policy is important for aggregate demand from the further belief that monetary policy is central for inflation control. This is a crucial distinction that separates 1970s policymakers from policymakers after the 1970s, as I show. Bernanke, Laubach, Mishkin, and Posen (1999) have a chapter on 1990s U.K. monetary policy and its objectives, but the views of the key policy figures upon whom I focus my discussion—

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<sup>20</sup> This is true both of what I attribute to policymakers (their views on objectives and the inflation process) and of the ideas that I maintain policymakers rejected (e.g., a permanent Phillips curve trade-off).

<sup>21</sup> The period studied by Cobham is nominally 1975–2000, but pre-1979 discussion is brief; Wilson and Callaghan are not mentioned, nor is the Chancellor of the Exchequer referred to by name.

John Major and Mervyn King—are not considered; indeed, the text of their chapter does not even mention either Major or King.<sup>22</sup>

## 5. The era of the old doctrine

This section shows that the three 1964–79 Prime Ministers adhered to the old doctrine.

### 5.1 Harold Wilson (1964–70 administration)

#### *Aggregate demand behavior*

Wilson’s views in the early 1960s are in line with the old doctrine’s postulates on aggregate demand behavior. Output demand was not elastic with respect to the level of the short rate; and though the *long-term* rate mattered for investment, it could be treated as a separate policy instrument. This attitude came through in a 1964 speech in which Wilson indicated his willingness

to use short-term interest rates to staunch any flow of short-term capital so as to safeguard our sterling area reserves. But in saying this, I make one essential condition... [W]e should not... force on the nation a structure of high long-term rates with all that means for investment. (Wilson speech, Swansea, January 25, 1964; quoted in *Sunday Times (ST)*, January 26, 1964.)

Shortly after Wilson took office, his Government indeed increased Bank Rate as a sterling-protection measure and characterized the effects of the increase in a manner consistent with Wilson’s views. For example, Economic Affairs Secretary George Brown said that the Bank Rate decision would have a “mainly short-term” effect and “should not disturb productive investment” (in *The Guardian (TG)*, December 10, 1964).

In 1965–70 Wilson used direct credit controls frequently. This reflected his lack of faith in Bank Rate for demand management and his related belief that direct controls could deliver “any desired degree of tightness” for a given Bank Rate (*MG*, October 25, 1957).

#### *Inflation behavior*

Wilson outlined his view of inflation in 1957. While acknowledging that excess demand

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<sup>22</sup> Although the authors’ preface thanks King for comments, and an endnote thanks him for a factual clarification (1999, p. 345), they nowhere quote or reference King’s writings or speeches.

could produce inflation, he argued that the postwar period had witnessed “times, including the present, when the classical definition of demand inflation—too much money chasing too few goods—has not applied... [T]he cost inflation (or cost-push inflation, to use the American phrase) has persisted.” (*MG*, October 23, 1957). Cost-push inflation could prevail under any demand conditions so “restriction of production is not the answer” (*MG*, October 24, 1957). In claiming that cost-push forces could *persistently* affect inflation irrespective of demand (i.e., without monetary accommodation), Wilson associated himself with the old doctrine. In harmony with Wilson’s views, Wilson’s economics ministers saw cost-push forces as implying inflation irrespective of the output gap level. For example, when the output gap was believed to be positive in 1966, Chancellor Callaghan said that just as important as demand restriction was “action... to stop ‘cost-push’” (*HCD*, July 26, 1966, col. 1474); while in 1967, when the output gap was believed to be negative, Economic Affairs Secretary Shore said that the Government’s incomes policy was designed to fight cost-push inflation (*HCD*, November 1, 1967, col. 302). Such views lend weight to equation (2) as a description of 1960s doctrine. Also consistent with equation (2), Wilson’s colleagues perceived a speed-limit term in inflation dynamics, with Shore claiming that growth far above a 3% rate would result in “rapidly mounting costs” (*HCD*, March 21, 1968, col. 617).

Wilson saw the solution for inflation in a negotiated wage policy alongside price controls and a full-employment demand policy, or as he put it, an “incomes policy based on rising production” (*ST*, January 26, 1964). After attempts at a negotiated policy in 1964–66, Wilson imposed a wage/price freeze in 1966–67, with further wage controls in 1967–69.

### *Policy objectives*

In 1965, Wilson reaffirmed his goal of a zero output gap:

We reject the doctrine that this country can solve its problems only by holding production a long way below our capacity to produce... But we shall not allow the total volume of internal demands to exceed our national resources, including an adequate provision within our national production for the rising needs of our export trade. (Wilson speech, July 24, 1965, quoted in *Sunday Telegraph*, July 25, 1965.)

This statement makes clear that external balance was not regarded as a macroeconomic objective to be traded off against a zero output gap or price stability; rather, external balance could be achieved by appropriate resource allocation without compromising the

zero-gap goal.<sup>23</sup> Of course, Wilson's wish was to achieve external balance without a devaluation (or, after 1967, without a second devaluation); but this does not imply that the exchange rate was an ultimate objective; on the contrary, cost-push theories made avoiding devaluation desirable on price stability grounds.

The Government's price stability objective was also reflected in Wilson's claim: "We are the first Government that has really tackled the problem of rising prices and rising incomes." (*Sunday Citizen*, March 27, 1966.) The Government's price stability concept corresponded to 2–3% inflation, reflected in Cabinet member Richard Crossman's statement, when the annualized inflation rate fell into this range in late 1966, that the wage-price freeze had cured inflation (*The Times*, December 19, 1966). As we have seen, a similar range was associated with price stability by Chancellor Jenkins in 1970.

#### *Later views (1968–70)*

In the late 1960s the Wilson Government revised its views somewhat, conceding a greater effect of monetary policy on aggregate demand. This change made itself felt in an acknowledgement that investment was sensitive to short-term interest rates. Reflecting this, Chancellor Jenkins stated that high interest rates were "necessary for both external and internal reasons" (*HCD*, February 17, 1970, col. 190)—a contrast to Wilson's 1964 concentration on Bank Rate's role in preserving the exchange rate. In other respects, however, official views on monetary policy on aggregate demand were unreformed: credit control was seen as very important, and long-term interest rates were regarded as susceptible to direct control.

There was also no change in official views about monetary policy and inflation. Wilson continued to subscribe to cost-push views, and in 1968 described monetary policy (and other demand measures) as necessary but not sufficient tools against inflation:

Financial policy, budgetary policy and incomes policy are needed to prevent demand getting out of hand. Incomes policy is equally necessary to prevent costs getting out of hand... (Wilson remarks, March 6, 1968; quoted in *The Scotsman*, March 7, 1968.)

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<sup>23</sup> This perspective continued in Wilson's 1974–76 Government, with Chancellor Healey describing the Government's desired investment and balance of payments patterns as "[w]ithin our overall commitment to fight unemployment and inflation" (*HCD*, November 12, 1974, col. 256; my emphasis).



Chancellor Jenkins reinforced this judgment almost two years later.<sup>24</sup> Therefore, monetary policy was never seen as a necessary and sufficient tool against inflation.

## **5.2 Edward Heath (1970–74 administration)**

### *Aggregate demand behavior*

Heath deserves some credit for early acknowledgement that short-term interest rates matter for aggregate demand behavior. As Leader of the Opposition, Heath challenged the view that domestic spending was insensitive to Bank Rate (*HCD*, August 2, 1965, col. 1078). In addition, once in office, Heath adopted a more modern perspective on the long-term securities market than either the 1964–70 or 1974–79 Governments. While still claiming, contrary to modern doctrine, that official control of long rates (for a given Bank Rate) was feasible, the Government withdrew from attempting to use this claimed power; from 1971 onward, there was greater stress on market determination of long rates.

### *Inflation behavior*

Though well known for major shifts in economic policy, Heath was consistent in his basic view of the inflation process over his period in office. The shifts that he did instigate are reflected in a statement of the Government's philosophy that Heath wrote in 1971: "We have already made some changes reducing the involvement of government in the affairs of industry... This process will continue." (*Liverpool Daily Post*, January 20, 1971). In fact, the process ended not long afterward, and the Government's more interventionist attitudes were reflected in the abandonment of the guidepost-based and negotiated incomes policies of 1970–72 in favor of compulsory wage and price controls in 1972–74. But all these changes were within the old doctrine. Everything Heath did regarding inflation can be explained using the old doctrine's inflation equation (2).

Heath said in June 1970 that cost-push inflation was "not susceptible to the orthodox policies of demand management" (*FT*, June 17, 1970). Thus, Heath concluded in December 1970, "control of the money supply is one element—an important element, but only one element—in the number of weapons that one has to use against inflation."

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<sup>24</sup> "I believe that it has been monetary policy buttressing or buttressed by fiscal policy and the prices and incomes policy which has enabled us to achieve the results which we have achieved, and not monetary policy on its own." (Chancellor Jenkins, *HCD*, December 17, 1969, col. 1472).

(*HCD*, December 8, 1970, col. 240.) This view of inflation came through in Heath's failure to distinguish between sources of aggregate and individual price movement. For example, after refusing coal price increases, Heath said it "cannot be denied" that this implied lower inflation than otherwise (*HCD*, November 19, 1970, col. 1425); he attributed the continuing high inflation to wage-push (*FT*, October 12, 1971).

Throughout the 1970–73 period the Government perceived the output gap as negative, so the  $D_t = 0$  setting of equation (2), i.e. an inflation expression with no gap-level term, captures its views. In keeping with equation (2), Heath and his colleagues believed that the first difference of the output gap did matter for inflation; for example, Heath said that growth at "too fast a pace" could produce inflation (in *FT*, June 17, 1970). In 1970–71 his Government attempted to make use of the gap-change term: its aim of 3% economic was intended to produce  $\Delta(y_t - y_t^*) = 0$ . The underlying scheme was: demand policies would make no addition to inflation; at the same time, official attempts to influence wage and price setting would reduce inflation directly by withdrawing cost-push pressures (i.e., reducing  $u_t$ ); and once cost-push inflation was broken,  $\Delta(y_t - y_t^*)$  could then be allowed to become positive (see e.g. *Daily Telegraph*, April 22, 1971).

Contrary to the planned policy,  $\Delta(y_t - y_t^*)$  went negative in 1970–71. When, nevertheless, inflation remained strong, the Treasury lost confidence that  $\Delta(y_t - y_t^*)$  mattered for inflation. Heath was initially inclined to believe that  $\Delta(y_t - y_t^*) > 0$  might still add to inflation even if  $\Delta(y_t - y_t^*) < 0$  did not subtract from inflation (*FT*, June 19, 1971). But this speed-limit behavior of inflation could, it was believed, be overcome by broad-based incomes policies; so once the Government secured voluntary price restraint from employers in July 1971, it felt that it could expand at rates fast enough to close the output gap without inflation risks.<sup>25</sup> These expansionary policies continued when, in 1972, the compulsory wage and price controls succeeded the voluntary measures.

Romer and Romer (2004, p. 155) show that G. William Miller became Federal Reserve Chairman with his own idiosyncratic variants of cost-push ideas. In Heath's case, two aspects of his cost-push analysis are especially notable: an idiosyncratic "proximity-push" view of wage inflation; and his unit-cost justification for expanding demand.

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<sup>25</sup> Speed-limit behavior was regarded as a market inefficiency (i.e., the price index reacting as though there was excessive demand when no excess demand existed in aggregate), so suppressing them by controls or agreement was regarded as improving efficiency rather than distorting the signals of the market.

(i) *Proximity-push inflation*: Heath emphasized the ease of travel in the United Kingdom:

We must really try to demolish this fallacy of distance. People in the south think of Scotland as being a long way away. Nothing is further from the truth. It is easier to get there from London than it is to get to most parts of England. (Quoted in *Glasgow Herald* (GH), September 7, 1964.)

He later observed:

Part of the problem is that we are a very small country. You cannot do something in one part of it without the rest of the country knowing, and very soon they all want the same thing. It is a major difficulty in our wage negotiations. (Heath remarks, press conference, Cleveland, Ohio, August 16, 1978, quoted in *The Plain Dealer*, August 17, 1978.)

Thus, in Heath's view, the U.K.'s small size and ease of travel made it particularly vulnerable to wage-push inflation.

(ii) *Unit costs and demand expansion*: Heath always emphasized the effect demand restriction had in raising unit costs and so worsening inflationary pressure (e.g. *FT*, May 23, 1970).<sup>26</sup> Belief in speed limits counterbalanced any temptation to use expansionary policies as an anti-inflation measure. Once speed-limit ideas were dropped in 1971, the Government embraced the idea that rapid closure of the output gap would reduce inflation. A 1972 news report confirmed the new policy:

The pet economic theory that a major cause of inflation was too much money chasing too few goods was shot down by Mr. Barber at the Conservative Party Conference in Blackpool... Mr. Barber believes that by expanding the money supply he will increase the production of goods... (*Irish Times*, October 13, 1972.)

#### *Later views on aggregate demand and inflation*

Interest rates were increased substantially in 1973, but this did not reflect acceptance of modern views about using interest rates against inflation. Instead it reflected an import-price-push diagnosis. When the policy rate was raised in July 1973, Chancellor Barber gave the aim as "sustained expansion" of output, with the interest-rate increase designed to prevent inflationary pressure by strengthening the exchange rate (*TG*, July 28, 1973).<sup>27</sup> Indeed, from early 1973 the Government relied on direct financial controls as a means of withdrawing stimulus to demand. Absent the exchange rate pressure, Heath likely would

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<sup>26</sup> This would mean specifying equation (2) so that part of  $u_t$  is in per-unit terms, i.e.,  $u_t = v_{1t} + \gamma(v_{2t} - y_t)$ , where  $\gamma > 0$ , with both  $v_{1t}$  and  $v_{2t}$  exogenous.

<sup>27</sup> Austerity messages in December 1973 reflected the coalmining dispute rather than acceptance that the state of demand was excessive; these measures included more financial control but no interest-rate increase.

have opted even more for direct controls rather than rate increases, and focused on incomes policy in fighting inflation. Indeed, Heath later said he did not agree that “high interest rates are the right way of dealing with inflation or the money supply” (in *South China Morning Post*, July 3, 1981).

### *Policy objectives*

After leaving office, Heath said, “There are some people who say I was intent on growth at any price. This is untrue.” (*TG*, September 16, 1976.) Heath’s protest is supported by the fact that there is no evidence that he consciously targeted a positive output gap. In 1966 he had said: “We must manage a full employment economy and not an overfull employment economy, and we must achieve cost stability and price stability.” (*HCD*, July 26, 1966, col. 1462.) The expansionary measures under Heath in 1971–73 were seen as aligning aggregate demand with existing supply potential, though this potential was overestimated.<sup>28</sup> Heath monitored the Government’s communication of its policies to make clear its zero-gap goal. Declassified materials show that Heath, in response to a passage of the draft March 1972 Budget speech that said the U.K. economy “should move into top gear,” wrote in the margin: “? [*This*] implies overheating.” (*Cabinet Documents*, March 12, 1972). The passage was consequently not included in the speech.

Another sense in which Heath did not pursue expansion at all costs is that he still regarded himself as giving priority to inflation control. A 1969 speech by Heath emphasized price stability and rejected any trade-off concept:

The so-called choice between stable prices and full employment is a mirage. There is no such choice. It is precisely the fall in the value of money today that presents the greatest threat to full employment in the years to come. The most important task facing the next Conservative Government will be to... restore the nation’s faith and trust in its currency. (Heath speech, March 22, 1969, in *Sunday Times (ST)*, March 23, 1969.)

On a related note, Heath later spoke of “the two interlocking domestic problems of inflation and unemployment,” adding, “There is no doubt that the rapid rate of inflation which we inherited—which was faster than we had recognized—has caused the great increase in unemployment.” (*Evening Standard*, June 1, 1972.)

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<sup>28</sup> I have not covered output gap mismeasurement in this paper, but it was substantial in the U.K. (see Nelson and Nikolov, 2004), exceeding even the U.S. case discussed by Orphanides (2004). It is desirable to see this problem as a function of other conceptual errors affecting policymaking since, as Romer and Romer (2002) observe, the errors surely interact. In particular, cost-push views of inflation rationalize any gap/inflation combination, and so encourage policymakers to take existing gap estimates at face value.

Increased rates of inflation over 1970–73 did not seem to produce an increase in what Heath believed was an acceptable rate: the incomes policy phase introduced in October 1973, for example, was intended to arrest domestic cost-push forces in a manner consistent with inflation being brought down into the 4–5% range by late 1974, from which point it could fall further (*Daily Telegraph*, October 9, 1973).

### 5.3 Harold Wilson (1974–76 administration)

#### *Aggregate demand behavior*

Wilson reentered office accepting, as his Government had in the late 1960s, that short rates mattered for aggregate spending via an investment channel (see e.g. *HCD*, November 19, 1973, col. 962). But Wilson still advocated credit controls (*HCD*, November 19, 1973, cols. 963–964), and direct financial controls were deployed in his new administration.

#### *Inflation behavior*

In 1972 Wilson wrote that he still believed in “urging the distinction between cost-push and demand inflation” (*ST*, August 6, 1972). Wilson favored a national wage agreement and compulsory price controls. In late 1973, Wilson said that the “ready weapon” of indirect tax cuts and subsidies could “mitigate the damage threatened to Britain” by the commodity price explosion (*Cambridge Evening News*, October 20, 1973).

Another aspect of inflation analysis endorsed by the new Wilson Government was the speed-limit dimension of inflation. As noted above, during 1971–74 the Treasury believed that  $\delta = 0$  in equation (2). But examination of the 1973 experience convinced Denis Healey (Chancellor of the Exchequer 1974–79) that  $\delta > 0$ . Healey argued in a March 1976 paper to the National Economic Development Council that fast growth generated bottlenecks and inflationary pressure even when the economy-wide output gap remained negative (*TG*, March 1, 1976).<sup>29</sup> Wilson affirmed the speed-limit view when in February 1976 he said that while there were “large parts of our productive capacity unused” (*TG*, February 3, 1976), for the Government to “reflate now on a massive scale” would be to generate “yet another inflationary boom” (*FT*, February 3, 1976).

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<sup>29</sup> This was also the position of the Callaghan Government (see Healey’s remarks, *HCD*, July 6, 1976, col. 1188).

As 1973 was believed (accurately) to have witnessed both excess demand levels and above-potential growth, demand factors were granted some role in producing the inflation the Government inherited in 1974. The Government nevertheless saw inflation as primarily cost-push, particularly since excess demand in the economy was believed to be gone by early 1974. The Government's 1974 actions included the nonmonetary measures Wilson had foreshadowed in 1972–73, including an agreement (the Social Contract) with unions on wage growth, and subsidies to key prices. When inflation nevertheless rose to over 25% in 1975, the Government again cited cost-push forces, specifically wage-push—Chancellor Healey having said that wage growth had become the “most important single factor in determining the rate of inflation” (*HCD*, November 12, 1974, col. 249). The incomes policy negotiated in July 1975 was subsequently cited by Wilson as having “cut back the rate of inflation very considerably.” (BBC1, September 1, 1982, p. 9.)

In announcing the 1975 anti-inflation program, Wilson said that it was consistent with employment improving (*HCD*, July 11, 1975, col. 905), and during 1975 the Government greatly cut short-term interest rates. The monetary easing over this period was consciously carried out in the face of high inflation, and reflected the continuing belief that inflation control was appropriately handled by incomes policy. For the United States in the 1970s, Orphanides (2004) has argued that policymakers thought they were actually raising the interest rate vigorously in response to inflation. The same is clearly not true of the United Kingdom; as a report in the *Wall Street Journal* (April 24, 1975) noted,

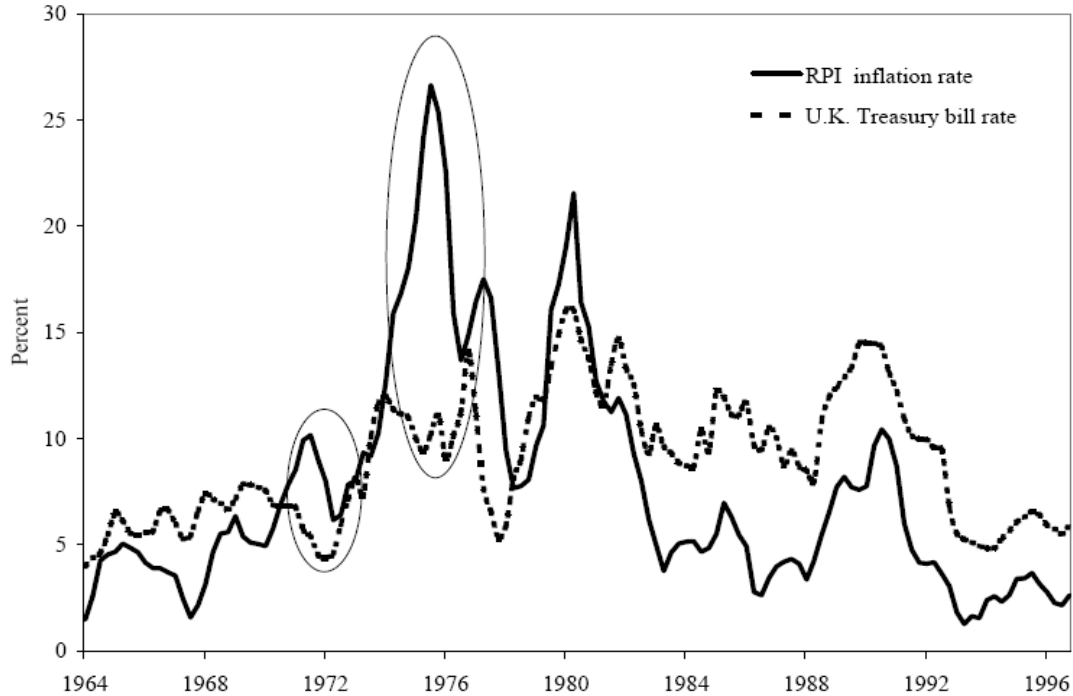
Britain's Labour Party Government is trying to defy a law of capitalist economics by bringing interest rates down at a time inflation is accelerating.

This interest-rate/inflation combination is brought out in a plot of the U.K. Treasury bill rate and four-quarter RPI inflation (Figure 1). The circled episodes are the periods in the first half of the 1970s when interest rates were cut in the face of high inflation (1971–72) or rising inflation (1975).

### *Policy objectives*

The Government rejected Phillips curve analysis: Wilson said in 1972 that the idea that inflation and unemployment were inversely related was “a fantasy” (*ST*, August 6, 1972), adding in 1975, “We cannot have a little of one and less of the other. The more inflation we have, the more unemployment we have.” (*Daily Mirror*, July 8, 1975.)

Figure 1. U.K. short-term interest rate and inflation



In 1974, Chancellor Healey gave price stability as a policy objective (*HCD*, November 12, 1974, col. 280). Wilson spelled out this objective as to “bring down the level of inflation in this country to a level comparable with that of our major competitors,” “keep it there,” then “eliminate inflation” (*FT*, February 3, 1976). The Government also had a zero-output-gap objective: Healey said that demand management should “avoid the twin dangers of mass unemployment and overheating” (*HCD*, November 12, 1974, col. 256).

#### 5.4 James Callaghan (1976–79 administration)

##### *Aggregate demand behavior*

When Callaghan was Chancellor of the Exchequer, a financial column noted, “Mr. Callaghan, like most of his colleagues, has little regard for Bank Rate and other monetary weapons as effective economic regulators...” (*GH*, February 12, 1965). But as Prime Minister, Callaghan accepted that short rates mattered for aggregate demand (see e.g. *HCD*, November 1, 1978, col. 52). The interest-rate policy his Government followed was, nevertheless, not enlightened by modern standards. After big increases to contain sterling depreciation in 1976, nominal rates were greatly cut (and real rates made steeply

negative) in 1977. Targets for broad money growth were in effect throughout Callaghan's tenure, but substantial use was made of banking controls to hit the targets.

The Government's outlook on long-term bonds was also not enlightened. Officials leapt from the observation that commercial banks bought short-term Treasury debt, to the unwarranted conclusion that deposit expansion would be reduced if fewer Treasury bills were available. Effort was therefore wasted on securing long-term debt financing. Attempts to treat long-term interest rates as a policy instrument resumed. In 1977 the authorities were said to be signaling the "return of market management by the Bank and Treasury" for long-term securities (*Yorkshire Post*, May 31, 1977).

### *Inflation behavior*

Two events in 1976 are often claimed to have marked a change in the Callaghan Government's economic doctrine (see e.g. Smith, 1987, Ch. 5). First, monetary targeting began. But to be a genuine breakthrough, monetary targeting must entail giving up nonmonetary approaches to analyzing inflation. In the U.K. case it did not: in 1977 Chancellor Healey contrasted the view that wage pressures require monetary accommodation to produce inflation, with what "[e]veryone else believes," that wage growth automatically produces inflation (*Yorkshire Post*, February 19, 1977). Likewise, in 1979 Healey told Parliament, "I do not think that fiscal and monetary policies alone can control inflation even at the cost of heavy unemployment." (*HCD*, January 25, 1979, col. 755). Healey added in 1980 that "we couldn't conceivably have got inflation down [in 1975–78]... unless we'd had pay policy as well as a monetary policy." (BBC2, March 22, 1980, p. 19.) Also in 1980, Callaghan criticized "reliance on monetary policy as the single or sole weapon" against inflation (*HCD*, February 28, 1980, col. 1588).

The second 1976 event is a speech Callaghan made with the message that inflation and unemployment moved up together over longer periods (*Evening Standard*, September 28, 1976). This might be a turning point if pre-1976 governments had believed in an inverse relationship, but they did not—see the Wilson and Heath statements quoted above.

### *Policy objectives*

The Government wanted a zero output gap, reflected in a 1976 program for achieving full



employment (*TG*, April 8, 1976). This was specified as implying 3% unemployment, acknowledging a structural increase in the unemployment rate since the 1960s. As for inflation, Callaghan labeled beating it “Essential Policy Number 1” (*TG*, July 1, 1978). He stated “the Government’s target of reducing inflation to 5% or less within the next three years” (*GH*, May 2, 1979), and added that the price stability objective was “common ground” with Margaret Thatcher (*HCD*, February 28, 1980, col. 1588).

## 6. Consistency with other evidence

My determination of official doctrine from statements by the Prime Minister and senior colleagues is justified by the fact that they were in control of monetary policy—and of nonmonetary measures against inflation—throughout the old-doctrine period. I now consider objections that might be raised about this approach. First, it might be argued that political constraints so prevented candor that official statements ran counter to the views held internally. Second, it could be claimed that politicians’ descriptions of the economy reflected their inadequate understanding of economic policy. According to this argument, the old doctrine was not accepted at the “technocratic” level of senior Treasury and Bank of England staff, and therefore was not used as the basis for policy decisions.

I refute these objections in this section. I present evidence that (*OD3*) and (*OD5*)—the most nonstandard aspects of the old doctrine—were articulated by policymakers and officials alike; and I provide further support for my hypothesis of constant policymaker objectives, a hypothesis embodied in articles (*OD7*) and (*OD8*).

One of the most nonstandard aspects of the old doctrine, item (*OD3*), implied that long-term rates can be manipulated as a policy instrument independent of the short rate. As we have seen, this was a Radcliffe Committee position taken up by 1960s policymakers. The clearest confirmation that it was also believed in private is in Prime Minister Harold Macmillan’s diaries. Macmillan’s October 10, 1962, entry states, “the Chancellor seems against lowering the Bank Rate—at any rate for the present. But he will concentrate on trying to reduce the long-term rate of interest.”<sup>30</sup> Similar positions were endorsed at the technocratic level in Bank of England publications over the 1960s. For example, in 1967 the Bank stated that by varying “official sales of stock... the authorities encouraged a moderate fall in yields” (*Bank of England Report*, July 1967) and in 1970 it described

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<sup>30</sup> In Macmillan (1973, p. 386).

recent long-rate movements as having been “allowed” by the Bank (*QB*, June 1970, pp. 132–133). Further into the 1970s, the Bank’s statement that it was issuing a new long-term bond “to retain a means of influencing long-term interest rates directly” (*QB*, March 1972, p. 15) conclusively shows that the authorities perceived long-rate control as within their capacity, and a power that they had exercised in recent years.

Turning to article (*OD5*), let us consider the following testimony from July 1974 by the Chief Economic Adviser to the Government, Sir Kenneth Berrill:<sup>31</sup>

*Berrill*: I would say that we do not believe the Phillips curve over quite a large band, but starting at the top end, when you reduce unemployment, you can begin to see shortages of skilled labor, bottlenecks, and so on developing which affect the balance of payments and also earnings and prices. Then there is a large flat band. What happens at the heavy levels of unemployment we do not know because we have not had that since the 1930s.

*Question*: Between the summer of 1971 and the summer of 1972 we did see a distinct downturn in the rate of inflation. You would not attribute that to the rise in unemployment which had preceded it?

*Berrill*: No. Import prices were in our favor during that period. Nationalized industry prices were reduced during that period, and so on. I do not think we would draw the correlation which you have just drawn.

Berrill’s testimony is fully consistent with the views of Wilson and Heath on inflation, and with my representation of these views in article (*OD5*) and in equation (2). Therefore, the economic views of leading politicians were consistent with authoritative statements made at the technocratic level.

Since Berrill’s testimony was made in public, should it be discounted as insincere? Contemporaneous reporting of Berrill’s testimony helps answer this question. The *Guardian*’s economics correspondent during the 1970s was Frances Cairncross, the daughter of Sir Alec Cairncross, one of Berrill’s predecessors. If Berrill’s testimony reflected mere political cover and not genuine Treasury thinking, Cairncross was in an ideal position to recognize this and therefore discount his statements. But Cairncross accepted Berrill’s statements as authoritative, and endorsed his characterization of inflation behavior. In a late 1974 column, Cairncross quoted from the Berrill testimony given above, and took it as reflecting Berrill’s sincere views (*TG*, December 2, 1974). She herself affirmed that “letting unemployment rise does not reduce inflation” (*TG*, December 2, 1974), and claimed that the “links between what happens to demand and

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<sup>31</sup> In House of Commons (1974, p. 136).

what happens to inflation are very difficult to establish” (*TG*, March 4, 1978). The National Institute of Economic and Social Research also quoted and endorsed the passage of Berrill’s testimony given above (*FT*, March 14, 1975). So the view of a flat Phillips relation was not a political invention—it was common ground among policymakers, policy advisors, and leading commentators.

Let us now consider my position that policymakers in the old-doctrine era did not have different objectives from their successors. Goodhart and Bhansali (1970) argue on the basis of polling data up to 1968 that high unemployment was penalized much more than moderate or high inflation. After the 1960s, values of unemployment above 2% became accepted as normal; unemployment had to reach far higher values to inflict political damage. Is this evidence that policymakers’ objectives changed? No, because I characterize objectives in terms of inflation and the *output gap*. I claim that the objective function expressed in this form has been the same since the 1950s; in particular, priority for a price-stability goal has been frequently stated, and subject to that priority, policymakers also had a zero-gap goal. A constant-parameter objective function encapsulating these goals is easily reconcilable with the observation that there was an increase in the unemployment rate regarded as acceptable. The Okun’s-Law relation between production and unemployment changed. It was widely recognized by the late 1960s, largely on the basis of shifts in the Beveridge relation between unemployment and vacancies, that the full-employment rate of unemployment rate had risen. This recognition was stated authoritatively in both “technocratic” and political forums from late 1968. A structural rise in unemployment was noted publicly by the Treasury (*Economic Trends*, October 1968, p. iv), the Bank of England (*QB*, March 1969, p. 19), and by Cabinet member Anthony Crosland, who said that the “apparent change in the character of unemployment” meant that “unemployment figures since 1966 do not necessarily indicate the same degree of slackness as would have been assumed from the same figures previously” (*HCD*, May 6, 1970, col. 434).

The Goodhart-Bhansali findings on the political costs of unemployment refer to a sample ending in 1968. They therefore have no bearing on the cost of unemployment after the widely acknowledged structural change in the labor market, and are completely consistent with the policymaker objective function, written with inflation and the output gap as arguments, being constant over the 1960s and beyond.

Accounts of the Heath Government sometimes point to its “U-Turn” of 1971–72 as implying a shift in objectives, toward a greater weight on the output gap relative to inflation. Logically, this claim is unsupportable. The Heath Government believed that the economy was in a zone where demand stimulus would *reduce* inflation; therefore, no policy dilemma was perceived, and the shift to expansionary policy is not revealing at all about a change in objectives. In addition, Heath’s memoirs provide unmistakable support for my claim, based on the contemporary record, of constant policymaker objectives: Heath (1998, p. 416) writes that his 1972 measures were “not a departure from our underlying aims and objectives.”

## **7. The era of modern doctrine**

I now consider how modern doctrine describes policymakers’ views since 1979.

### **7.1 Margaret Thatcher (1979–90 administration)**

#### *Aggregate demand behavior*

Thatcher went on record acknowledging that investment was sensitive to both short-term interest rates (e.g. *HCD*, November 9, 1978, col. 1160) and long-term interest rates (e.g. Thatcher press conference, September 29, 1983). Financial controls were judged ineffective (see e.g. H.M. Treasury, 1980, p. 11) and were abolished.

Though not seeing the long rate as a policy instrument, the Thatcher Government at first distinguished between long-term and Treasury-bill financing of fiscal deficits, viewing bill issue as monetization. From 1981, this view dissipated; the Government’s move to base money as its main money concept lent itself to a distinction between money and securities, rather than between different security types. By the mid-1980s, the Government fully subscribed to modern doctrine on aggregate demand.

#### *Inflation behavior*

In the mid-1970s, Thatcher still favored a voluntary incomes policy (*HCD*, November 29, 1976, col. 610) and believed that incomes policy mattered for inflation (LWT, May 9, 1976). She also had a speed-limit perspective, contending that downward pressure on wage inflation ceases when unemployment stops rising (LWT, May 9, 1976).

By the time Thatcher came to office, she accepted the monetary view of inflation.<sup>32</sup> Complementing this, her Government's policies were clearly guided by a long-run vertical Phillips curve view of inflation behavior.<sup>33</sup> For example, Chancellor Geoffrey Howe said that higher unemployment is “not the bill we pay for reducing inflation now. It is the bill we pay for having allowed it to continue so long in the past.” (*The Times*, May 13, 1982.)

Smith (1987, p. 122) argues that Thatcher abandoned the expectational Phillips curve framework in 1985, citing an interview in which she said she did not embrace the “natural rate of unemployment” concept. Smith, however, overlooks the fact that Thatcher made an essentially identical statement in 1981 (*HCD*, March 26, 1981, col. 1074). While Thatcher did not care for the “natural rate” terminology, she effectively accepted the concept (see e.g. Thames TV, February 18, 1982).

The Government rejected speed-limit views of inflation. For example, the Treasury (1980, p. 9) said that provided a “firm basis for expectations about future inflation” was created, sustained growth could take place. In 1987, Thatcher described the U.K. economic recovery that had proceeded during the 1980s (which included several years of a narrowing output gap, something seen by old doctrine as a trigger for speed-limit inflationary pressure) as featuring “durable, non-inflationary, sustained growth” (*Sydney Morning Herald*, June 11, 1987).

### *Policy objectives*

The Treasury, in its “explanation of Government strategy,” referred to the “ultimate objectives of price stability and high output and employment” (1980, pp. 8, 9), with the reference output level determined by real factors, and with price stability to be achieved over several years. Chancellor Howe had before coming to office indicated that 2–3% inflation was the long-run goal (*Liverpool Daily Post*, April 16, 1979). Similarly, Thatcher said in 1987 that she could promise low but not zero inflation (BBC1, June 8, 1987).

Developments in 1987–90 are considered in my discussion of John Major.

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<sup>32</sup> Many accounts erroneously attribute to Thatcher monetarist views on inflation in 1975 or even earlier. An exception is Campbell (2000, p. 372), who sees her monetary view of inflation as crystallizing in 1978.

<sup>33</sup> This was acknowledged by Goodhart (1983, p. 219); see also H.M. Treasury (1980, p. 13).

## 7.2 John Major (1990–97 administration)

Throughout 1987–97, John Major served in important positions bearing on monetary policy: Chief Secretary of the Treasury, 1987–89; Foreign Secretary during intense debate on entering the Exchange Rate Mechanism (ERM), July–October 1989; Chancellor of the Exchequer, 1989–90; and Prime Minister, 1990–97.

### *Aggregate demand behavior*

Major regarded investment as elastic with respect to both short-term and long-term real interest rates, being more sensitive to the latter (e.g. *HCD*, November 3, 1982, col. 68; July 6, 1989, col. 463), and rejected credit controls (*HCD*, October 31, 1989, col. 207). A refinement during Major's years at the Treasury, and preserved subsequently, was stress on the consumption channel. Earlier, the Treasury (1980, p. 10) had stated that monetary policy only had "small effects" on consumption, but Major said that "interest rates exert downward pressure on the growth of consumer credit" (*HCD*, January 26, 1989, col. 1170). Thatcher herself recognized the consumption channel when she noted that interest rates had been raised "[t]o encourage people to spend less and save more" (Reuters, October 14, 1988).

### *Inflation behavior*

Both Chancellors Lawson and Major acknowledged the sensitivity of inflation to output gap and inflation, so they accepted the modern Phillips curve view encapsulated in proposition (*MD5*).<sup>34</sup> But both Lawson and Major wanted a change in policy regime, namely, U.K. participation in the ERM. With this regime choice in mind, 1987–90 interest-rate actions sought stabilization of the sterling/mark rate.

Among the arguments they advanced for this policy, Lawson and even more so Major stressed the interconnection of exchange rate stability, low import price inflation, and low CPI inflation. For example, Lawson said in 1989, "The exchange rate is of particular importance in the conduct of monetary policy. The Government's clear commitment not to accommodate increases in domestic costs by exchange rate depreciation remains a key

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<sup>34</sup> Also, in line with postulate (*MD6*), Major implied that speed-limit dynamics were not a feature of inflation (see *HCD*, January 14, 1988, col. 549; April 26, 1988, col. 215).

safeguard against inflation. In this context, we will continue to work with our G7 partners to maintain the greater exchange rate stability that has been a feature of the past two years.” (*HCD*, March 14, 1989, col. 296.) Major similarly observed: “A falling exchange rate directly raises the prices of things we buy from abroad... That can only feed inflation... I favor a firm exchange rate.” (*HCD*, October 31, 1989, col. 203.)

It is true that in many open-economy models there is a distinct exchange rate/import-price term in the Phillips curve. Thus public recognition by Lawson and Major of the exchange rate/inflation link did not imply a nonmonetary view of inflation or a qualitative break with 1979–87 official views of the transmission mechanism. But it amounted to a quantitative break: by emphasizing the exchange rate’s importance for inflation, and treating exchange rate stability as equivalent to a non-accommodative monetary policy, Lawson and Major by implication played down the output gap channel. The result was that when the exchange rate was strong or stable over 1987–89, the authorities underestimated the stimulus being given to aggregate demand. In partial mitigation, it is true that when strong spending data arrived in 1988–89, monetary policy was greatly tightened and Major recognized that the “problem at the moment is excess demand” (*HCD*, January 26, 1989, col. 1170) and that the “only effective way to slow excessive demand is to put up the cost of borrowing” (*HCD*, March 15, 1989, col. 427).

A symmetric error occurred during ERM membership: overemphasis on the exchange rate in the transmission mechanism produced the danger of excessively *falling* inflation. In 1990 Major stated, “A firm exchange rate is a vital part of our policy to maintain tight monetary conditions in order to reduce inflation.” (*HCD*, October 15, 1990, col. 928.) The ERM did produce “tight monetary conditions” for the United Kingdom. But in seeing exchange rate decline (either through ERM exit or realignment) as implying inflation, Major continued to have an over-mechanical view. Even granting—in light of his acceptance of a monetary view of inflation—that Major understood that a rise in inflation following a depreciation cannot be sustained without monetary ease, he must still have underestimated the extent to which weak domestic economic conditions were burying U.K. inflation expectations and so preventing even a short-run inflation spike after ERM exit. It is appropriate to conclude that Major consistently overestimated the exchange rate channel of monetary policy.

## *Policy objectives*

Bernanke, Laubach, Mishkin, and Posen (1999, p. 151) note accurately that U.K. policymakers did not see ERM membership (1990–92) as making exchange rate stability an ultimate objective; instead, the ERM was a vehicle for pursuing domestic objectives.<sup>35</sup> Though not cited by these authors, a more senior policymaker, Major himself, made this explicit on several occasions. In particular he stated that the purpose of entering ERM was “to bear down on inflation and bring it down.” (*The Independent*, October 8, 1990.) Reinforcing this is the revealing formulation of King (1997b, pp. 82, 84) that the ERM represented a “conflict between domestic and external constraints.” The reference to a domestic *constraint* rather than domestic objectives relays the notion that the external constraint would be tolerated if, and only if, it succeeded in delivering domestic objectives. Therefore it is appropriate to regard Major’s policy objectives as the same as those of his predecessors, i.e. a zero output gap and a stable low inflation rate (the latter to be achieved in steps when starting from high inflation).<sup>36</sup>

Major stressed the desirability of low inflation: “Britain has nothing to gain—not now, not ever—by tolerating a high rate of inflation or even a modest rate of inflation.” (*HCD*, January 23, 1990, col. 757.) In 1990 he even said, “Ultimately I would like to see zero inflation.” (Reuters, October 7, 1990.) Indeed, while the inflation target band assigned to the Bank of England by Chancellor Norman Lamont in 1992 did not include zero, it was seen as a precursor to a long-run inflation target of 0–2%.<sup>37</sup> But talk of zero inflation represented, both in 1990 and 1992, a conjecture about what was desirable in the far future; on other occasions Major expressed satisfaction with getting “back to a low or no-inflation economy” (Reuters, February 9, 1991).<sup>38</sup> Major was consistent in defining low inflation as somewhere below 4%. This definition was implied by his statement that 4.1% inflation was “lowish” rather than low (Reuters, March 27, 1992), and was made explicit by the fact that the inflation target band announced in 1992 was 1–4%, accompanied by an instruction to reach the lower half of this range by 1997.

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<sup>35</sup> As argued above, fixed exchange rates were also not a final objective of the 1964–70 Wilson Government.

<sup>36</sup> Major’s zero-gap objective is clear from his reference, noted above, to excess demand as a “problem.”

<sup>37</sup> See King (1997b, p. 91).

<sup>38</sup> Furthermore, shortly before his defeat Major confirmed he wanted a 2.5% inflation target for 1997–2002 (*The Guardian*, April 2, 1997), and soon after losing office spoke of the dangers of pushing inflation below this rate (Market News International, May 14, 1997).



### 7.3 Mervyn King (U.K. inflation targeting regime, 1992–)

The Bank of England assumed a greater and more public role in policymaking once inflation targeting was introduced in 1992, and became the policymaking agency when made independent in 1997. Even before becoming Bank Governor in 2003, Mervyn King was the principal communicator of the economic analysis underlying monetary policy in the inflation targeting era. Therefore, I focus on his views. As shown below, King's positions since the 1990s fully reflect modern doctrine.

#### *Aggregate demand behavior*

King's (1977) outline of investment behavior is in line with modern doctrine. Investment depends on the short rate, and alternative sources of short-term funds are closely linked to the short-term securities market in equilibrium. By emphasizing the short-rate channel and pointing out that “[t]o say that we do not have a complete theory of investment is not the same thing as saying that we know nothing” (1977, p. 229), King's analysis amounts to a rejection of the Radcliffe Report, with its denial of a short-rate elasticity.

More recently, King has reaffirmed that investment depends on short-term real interest rates, but has added that consumption also depends on these rates (e.g. King, 1999, p. 41). He has noted that long-term interest rates, which are sensitive to expectations of the short rate, do “a lot of the work” in the monetary transmission mechanism (King, 1996, p. 79); and that credit controls are not an appropriate policy instrument (King, 1995a, p. 431).

#### *Inflation behavior: early views*

In contrast to his early work on aggregate demand issues, King's initial writings on inflation behavior were in keeping with the old doctrine. For example, writing in *The Guardian* in 1973, King seemed enthusiastic about incomes policies: “tax policy has an important role to play in the operation of an incomes policy” (*TG*, November 14, 1973). In 1977 he was even more clearly in favor: while “some theorists say we don't need” incomes policies, “[e]veryone concerned in a practical way with the management of the British economy agrees that we do.” (Matthews and King, 1977, p. 7.)

A detailed outline of King's views on macroeconomic policy in the 1970s is given in Matthews and King (1977). The authors firmly align themselves with the nonmonetary view of inflation, and thus the old doctrine, by characterizing the U.K.'s problem as one of simultaneous prolonged slack and high inflation. They subsequently give (p. 4) a

figure of minus 12 percent for the U.K.'s output gap for 1977, roughly the same (erroneous) estimate used in policymaking at the time. A section entitled "Crude Monetarism" describes expectational Phillips curve/natural-rate theory as "debatable," and concludes that, after monetary restriction, "the ultimate recovery of the economy [is] problematical" (Matthews and King, 1977, p. 3).

King capped off his "antimonetarist" phase by joining 363 other economists in signing an open letter criticizing the Thatcher disinflation program and declaring that the time had come to "reject monetarist policies." The signatories included a "rogues' gallery" of hard-line skeptics about monetary policy, including Nicholas Kaldor, Frank Hahn, and Robert Neild.<sup>39</sup>

Comparing King's 1973–81 "antimonetarist" phase and his modern writings, it is clear that sometime after 1981 he rethought his macroeconomic views in a way that put matters such as the natural rate hypothesis and the monetary theory of inflation in a much more favorable light. By the mid-1990s King was voicing assessments clearly informed by the monetarist canon, such as his observation that "we have had cause to resort to 'long and variable time lags' in our description of the transmission" (King, 1992, p. 309) and his warning that it was unwise to "attempt to fine-tune in our present state of ignorance" (King, 1995b, p. 393). In fact, I have felt that King has overcompensated for his earlier antipathy toward monetarism, in the sense that he now rarely seems to encounter an argument for looking at money that he doesn't like, so that (alongside sound ones) some frankly shaky arguments in favor of monetary aggregates have appeared in his writings.<sup>40</sup>

### *Inflation behavior: revised position*

When King joined the Bank of England in 1991, the United Kingdom was a participant in the ERM; the choice of monetary regime was officially a settled matter. Nevertheless, at a conference in Sydney in July 1992, King made it clear that he did not regard other policy options as off the table; his conference discussion covered alternatives to pure discretion without even mentioning the ERM. King (1992, p. 311) even granted that a

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<sup>39</sup> The full list of signatories is given in *The Times*, March 31, 1981.

<sup>40</sup> To take a recent example, King (2007, p. 281) argues that the fact that "inflation was subdued" in 1973 (then rising subsequently) alongside rapid money growth provides lessons about the transmission mechanism. This happens to be an especially unsuitable argument if the intention is to convince money's critics of money's importance. The year 1973 was the only one in the last half-century in which U.K. prices were under general statutory control for the whole of the calendar year; therefore, subdued behavior of inflation in that year is not revealing at all about the transmission mechanism.

move to inflation targeting might be “the appropriate direction to pursue” in the U.K. His discussion made clear that he had a far less apocalyptic view of the consequences of ERM exit than what Prime Minister Major was expressing over this period. By the time King’s remarks saw print in late November 1992, the ERM experiment was over and inflation targeting had begun.

Relative to Major’s perspective on inflation control in 1990–92, the main refinement under King has been much less emphasis on the role of import-price or exchange rate behavior in securing low U.K. inflation. He has made use of the fact that many of the principles that are valid in closed-economy monetary analysis hold true for the open economy.<sup>41</sup>

King (1992, p. 309) viewed inflation dynamics as a reflection of shifting private forecasts of future monetary policy stance. Lagged terms in estimated inflation equations therefore did not reflect economic structure.<sup>42</sup> This view implies that the growth rate of the output gap is not an element of the correct Phillips curve specification.<sup>43</sup>

### *Policy objectives*

The explicit inflation targets in the United Kingdom since 1992 are set by the Chancellor of the Exchequer. But the targets (now 2% but never far from that rate) are consistent with King’s writings on the desirable rate. For example, in 1977 King noted that “hardly anybody says that we must have absolutely zero inflation,” suggested that a rate of 2% or 3% was tolerable, and that higher rates damaged the economy (Matthews and King, 1977, p. 3); while King (1997a, p. 93) observed that 2% inflation was “often associated with price stability.” King has also indicated the desirability of a zero output gap, notably in Matthews and King (1977) and King (1997b, 1999), with potential output and the implied natural unemployment rate determined by real factors (see e.g. King, 1996, 1997b).

## **8. Conclusions**

U.K. postwar macroeconomic policy can be split into two eras, corresponding to two doctrines, old and modern. By viewing policy developments in light of these doctrines, it

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<sup>41</sup> An early indication of this was King’s statement in a 1996 *Inflation Report* press conference that the rising pound was “no substitute” for monetary policy actions (AFP, November 6, 1996).

<sup>42</sup> King’s stress on the distinction between price-level shocks and inflation (e.g., King, 1995b, p. 392) similarly implies that lagged inflation does not enter the Phillips curve with a heavy weight.

<sup>43</sup> This contrasts with King’s early belief in speed-limit terms, clear from Matthews and King (1977, p. 4).

is possible to explain and reconcile the statements and actions of leading U.K. policymakers, both before and after 1979. The doctrinal changes in the U.K. have not included changes in objectives.

Many have argued that U.K. policymakers in the 1960s and 1970s consciously chose high inflation out of belief in a permanent inflation/unemployment trade-off. The advocates of this argument have not provided supporting documentation from U.K. policymakers' statements. In fact, belief in a trade-off was not part of U.K. policymaking doctrine either before or after 1979. Policymakers in the 1960s and 1970s repeatedly and explicitly rejected the idea of a trade-off; furthermore, their policy actions were not consistent with a Phillips curve philosophy. It was an overhaul of doctrine—and not altered faith in a Phillips curve trade-off—that set off changes in U.K. monetary policy, and that overhaul of doctrine remains the underpinning of inflation targeting in the United Kingdom.

## **Appendix. Details of newspaper articles and documents mentioned in text**

'Our Labour Correspondent,' "Convincing World That 'We Mean Business'—Mr. Morrison Calls For New Effort: Why Some Investment Projects Must Be Postponed," *Manchester Guardian*, August 21, 1947, page 5.

Harold Wilson, "Remedies for Inflation—I: Contradictory Policies," *Manchester Guardian*, October 23, 1957, page 6.

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