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Abstract

This paper revisits the issue of what factors motivated the macroeconomic policies that led to the Great Inflation of the 1970s. A satisfactory explanation must be consistent with (1) the estimated monetary policy reaction function; (2) the timing patterns relating monetary policy developments and inflation; and (3) the record of economic views (manifested in statements by policymakers and prominent financial commentators). It is argued that the monetary policy neglect hypothesis—which claims that policymakers took a nonmonetary view of the inflation process—meets all three criteria. Other explanations are ruled out, with one exception (the output gap mismeasurement hypothesis), which supplements the monetary policy neglect hypothesis. This conclusion is based on a study of the Great Inflation in both the U.K. and the U.S., and draws on both quantitative and archival evidence, particularly news coverage.

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1. Introduction

A substantial literature has developed that revisits the inflation experience of the 1970s in the United States and other countries.[1] This literature has advanced a variety of explanations for why macroeconomic outcomes were poor in this "Great Inflation" period compared to the period since around 1982, when inflation has been lower and more stable. Across all explanations, there is important common ground: monetary policy was, in retrospect, too expansionary in the 1970s, and a tighter monetary policy would have been required to produce lower growth in nominal aggregate demand and, hence, lower inflation. The differences in view lie in accounting for the background to this policy: in what macroeconomic objectives and models of the economy drove the policy decisions that actually took place.

Taylor (1992, p. 13) argues that the source of the change in policy behavior is "the impact of economic research and changes in the perceptions of how the economy works." In particular, he contends that policymakers chose high inflation rates in the 1970s because they believed that there was "a permanent long-run trade-off between the level of unemployment and the level of inflation." This argument has been formalized by Sargent (1999). By the early 1980s, both economic theory and empirical evidence were unfavorable for the belief in a strong permanent trade-off; and this change in circumstances may have prompted the shift to a low-inflation monetary policy.

A different explanation of the policy mistakes in the 1970s is the *output gap mismeasurement* hypothesis, advanced by Orphanides (2003a, 2003b). According to this view, the key distinction between policymaking in the 1970s and afterward was not in views about the model of the economy or the costs of inflation. Rather, policymakers overestimated the degree of productive potential in the economy. Monetary policy did not intentionally target either high inflation or positive output gaps, but nevertheless pursued what *ex post* appears to be an excessively expansionary monetary policy, because policymakers were too optimistic about the economy's productive potential. Some support for the output gap mismeasurement hypothesis as an account of the U.S. Great Inflation has been provided by Lansing (2001) and Bullard and Eusepi (2003).

Other explanations of the Great Inflation include those due to Clarida, Galí, and Gertler (CGG) (2000) and Chari, Christiano, and Eichenbaum (1998); in both these accounts, inflation arose when policymakers accommodated a bubble in the private sector's expectation of inflation.

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[1] Early discussions include Taylor (1992) and DeLong (1997) for the U.S., while several more recent contributions are discussed below. References for the U.K. include Laidler (1989), Goodhart (2003), and Nelson and Nikolov (2002, 2003).

A weakness of all the above explanations, however, is that none of them recognize a key aspect of policymaking during this period: namely, Poole's (2000, p. 15) observation that in the 1970s, "Milton Friedman's dictum that inflation is always and everywhere a monetary phenomenon was by no means widely accepted."[2] Indeed, Friedman himself, writing in 1978, observed that in diagnosing the inflation problem, there were

> many factors other than money that politicians, economists and journalists write about… [They] attribut[e] the acceleration of inflation to special events—bad weather, food shortages, labor-union intransigence, corporate greed, the OPEC cartel…

Recalling this period a quarter-century later, Friedman (2003) argued:

> Central banks performed badly prior to the '80s… because they [had] a wrong theory…. Inflation, according to this vision, was produced primarily by pressures on cost that could best be restrained by direct controls on prices and wages.

An alternative explanation of the Great Inflation, the *monetary policy neglect hypothesis*, attributes the Great Inflation to the flawed analysis that Poole and Friedman highlight. The "monetary policy neglect hypothesis" label is due to Nelson and Nikolov (2002), but the hypothesis synthesizes the account of the Great Inflation given by several earlier authors. These include Hetzel (1998), Mayer (1999, pp. 99–102), Bordo and Schwartz (1999, p. 193), McCallum (1999), and Laidler (2003, p. 23) for the U.S., and Laidler (1989), King (2000), Nelson (2001), and Nelson and Nikolov (2002) for the U.K. The 2002 Jackson Hole contribution of Romer and Romer (2002) also lends some support to the monetary policy neglect hypothesis, and Section 4 below will note some comparisons of their description of the U.S. experience with the account here.

This paper details the monetary policy neglect hypothesis, and adds to the evidence in its favor. Relative to the existing literature, the evidence I present draws on a wider range of sources. First, in contrast to the concentration on the U.S. experience in the existing literature, I examine both the U.S. and the U.K. symmetrically. This analysis includes an examination of estimated policy rules, which I argue can be interpreted best using the monetary policy neglect hypothesis.

Second, for the U.S., in ascertaining policymakers' views on monetary policy and the economy, I draw on a wider range of policymakers. Views of Federal Reserve personnel are obviously an important part of the evidence, and are emphasized in the abovementioned papers. But views in the Federal Reserve are relatively less important

[2] Similarly, Laidler (2003, p. 23) argues that an omission in the discussions of DeLong (1997) and Sargent (1999) of the monetary policies pursued in the 1970s is that they "had absolutely nothing to do with deliberately inducing higher inflation in order to reduce the unemployment rate."

over the 1970s than in other recent decades, because of the prevalence of other policymaking agencies concerned with inflation. As early as January 1970, prior to the swearing-in of Arthur Burns as Federal Reserve Chairman, the *Wall Street Journal* noted that "[t]o a degree that astonishes veterans… the Nixon team often seems oblivious of the board's independence" (*WSJ*, 01/14/70).[3] Consistent with this, President Nixon, observing applause for Burns at Burns' swearing-in, said on the record: "That is a standing vote of approval, in advance, for lower interest rates and more money," and noted, "I have very strong views, and I expect to present them to Mr. Burns. I respect his independence, but I hope that he independently will conclude that my views are the right ones" (*KCS*, 02/01/70).[4] In light of this, the views on inflation and monetary policy of the President and other Administration officials deserve special attention. Analysis of their statements supports the monetary policy neglect hypothesis, and explains why these views evolved from the Council of Economic Advisers Chairman's confident statement in 1970 that "inflations do respond to therapy" (*KCS*, 08/17/70) to the position of the director of the Cost of Living Council, John Dunlop, in 1974 that "we just don't know how to control inflation" (*DFP*, 03/18/74).

Third, this paper draws on archival evidence in the form of newspaper articles—22 newspapers for the U.S.; 12 newspapers for the U.K. Examining contemporaneous coverage of the Great Inflation in newspaper sources brings out the statements of the "politicians, economists and journalists" that Friedman (1978) refers to, and so gives a better picture of the climate of opinion behind policy actions.

This paper proceeds as follows. Section 2 examines some basic facts about the U.S. and U.K. Great Inflations, and rules out several of the alternative explanations of the Great Inflation on that basis. Section 3 outlines the monetary policy neglect hypothesis. Sections 4 and 5 provide evidence from archival sources from the U.S. and the U.K. Section 6 returns to policy-rule estimates for the U.S., while Section 7 concludes.

2. The U.S. and U.K. Great Inflations

This section describes some basic features of the Great Inflation in the U.S. and the U.K., and discusses some alternative explanations of that period. The examination in this paper uses the criteria that a satisfactory explanation must be consistent with (1) the estimated monetary policy reaction function; (2) the timing patterns between monetary policy developments and inflation; and (3) the record of economic views (manifested in statements by policymakers and prominent financial commentators).

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[3] News articles that form part of the archive used in this paper are cited by the newspaper acronym and date. The Appendix contains a list of the acronyms and bibliographical details for each article cited.
[4] The official record of the occasion confirms a version of Nixon's reported comments (Wells, 1994, p. 42).

2.1 The Record of the Great Inflation

Table 1 gives data on inflation as well as some key monetary policy variables for the period 1969–1983 for both the U.S. and the U.K. Both money growth and interest-rate data are provided. For the U.S., M2 growth is used as the measure of money growth, and it clearly foreshadows the two peaks of inflation in 1974 and 1980. Real interest rates in the table are the annual average of the nominal federal funds rate minus the next quarter's realized annualized inflation rate. Because these *ex post* rates contain unanticipated inflation, they can exaggerate how low real rates became in the 1970s. For example, the table suggests that U.S. real rates reached all-time lows in 1978 and 1979, but these may be distorted by the sudden and temporary impact of oil price and mortgage-rate increases on the CPI. Other measures of U.S. monetary policy suggest instead that the most easy monetary conditions occurred prior to 1978: M2 growth slowed sharply in 1978 from its high rates of 1976 and 1977; while policymakers in 1978 allowed nominal interest rates to rise by more than double the increase in the current year's inflation rate. From this perspective, the table supports the claim by Friedman and Friedman (1984, p. 89) and Romer and Romer (1990, p. 161) that the turnaround in monetary policy that produced the early 1980s disinflation began in 1978.

The U.K. records a peak in inflation in 1975 of around 25 per cent, with lower double-digit rates for most years until 1982. Two U.K. money growth series are reported: those for the monetary base and a broad aggregate, Sterling M3. Because of changes in the use and effectiveness of reserve requirements in monetary policy for the U.K., both series are distorted at various times in the 1970s. The monetary base is not adjusted for reserve-requirement changes, which makes a difference for certain years, especially 1972, when reported base growth substantially understates the degree of monetary expansion, in the wake of the cut in reserve requirements in late 1971. On the other hand, the slowdown in broad money growth after 1973 and pickup in 1980 are exaggerated by the attempts by the authorities to influence Sterling M3 using marginal reserve requirements, which were of questionable macroeconomic significance. Therefore, Sterling M3 growth is preferable for analysis up to 1974, while base growth is the more reliable series from 1975 onward. With this in mind, the money growth and interest-rate data match up with the subsequent inflation record: the most expansionary monetary policy occurred in the first half of the 1970s, with a correction that is then partially reversed, and a decisive shift to a disinflationary monetary policy only occurring after the election of the Thatcher government in 1979.

A further summary of monetary policy over the period is given in Table 2, reporting estimated interest-rate reaction functions before and after the 1970s. The reported parameter estimates are the long-run responses of the short-term nominal interest rate to

Table 1. Data on Inflation and Monetary Policy Variables									
	United States				United Kingdom				
		Money growth	Short-term interest rates			Money growth		Short-term interest rates	
	Inflation (CPI)	M2	Nominal	Real (ex post)	Inflation (RPI/RPIX)	Base	£M3	Nominal	Real (ex post)
1969	5.4	6.1	8.2	2.0	5.5	4.4	3.2	7.6	2.6
1970	5.9	3.9	7.2	2.4	6.4	4.7	6.7	7.0	–1.6
1971	4.2	12.1	4.7	1.2	9.5	8.2	12.1	5.6	–2.4
1972	3.3	12.4	4.4	0.0	7.1	6.1	23.6	5.5	–2.4
1973	6.3	9.7	8.7	–1.2	9.2	12.1	25.5	9.3	–3.5
1974	11.0	5.9	10.5	–0.6	16.1	11.9	15.6	11.3	–9.4
1975	9.1	9.4	5.8	–0.5	24.7	14.1	8.8	10.2	–13.1
1976	5.8	12.8	5.0	–0.9	16.3	11.5	8.5	11.2	–5.1
1977	6.5	12.4	5.5	–0.9	15.8	11.1	8.1	7.7	–2.6
1978	7.6	8.3	7.9	–1.9	8.6	15.1	15.2	8.5	–0.0
1979	11.3	7.8	11.2	–3.0	12.6	13.1	12.5	13.0	–5.5 (–0.2[a])
1980	13.5	8.0	13.4	2.1	16.9	8.4	15.7	15.1	2.3
1981	10.4	9.0	16.4	8.8	12.2	5.6	16.4	13.0	2.2
1982	6.2	9.2	12.3	8.6	8.5	2.5	11.1	11.4	5.1
1983	3.2	7.3[b]	9.1	4.5	5.2	5.9	9.8	9.6	5.0

a. Number in parentheses excludes estimated impact of 1979 indirect tax increases on consumer prices.
b. Adjusted for impact of MMDA introduction in 1983.

Table 2. U.S. and U.K. Policy Rule Estimates		
	Long-run inflation response	Long-run output gap response
United States: estimates based on revised data		
1966 Q1–1979 Q2, lagged inflation in rule	0.47	0.95
1966 Q1–1979 Q2, expected inflation in rule	0.67	0.74
1980 Q1–1995 Q2, current and lagged inflation in rule[a]	2.13	0.47
1980 Q1–1995 Q2, current and expected inflation in rule	1.44	0.65
United States: estimates based on real-time data		
1966 Q1–1979 Q2, expected inflation in rule[b]	1.64	0.57
United Kingdom: estimates based on revised data		
1970 Q1–1979 Q1, lagged inflation in rule	0.13	2.04
1970 Q1–1979 Q1, expected inflation in rule	0.38	1.30
1992 Q4–2003 Q1, lagged inflation in rule	1.50	1.62
1992 Q4–1997 Q1, expected inflation in rule[c]	1.27	0.47
1979 Q3–2002 Q3, expected inflation in rule	1.56	2.86
United Kingdom: estimates based on real-time data		
1970 Q1–1979 Q1, lagged inflation in rule[c]	0.32	0.52

Sources: a. Rotemberg and Woodford (1997). (Giannoni and Woodford (2004) find very similar responses for 1980–2002.)
b. Orphanides (2003b). c. Nelson and Nikolov (2002).

inflation and to a gap or detrended output variable.[5] These are not the only criteria by which interest-rate rules should be judged; for example, avoidance of inflation also requires appropriate choice of the constant term in the rule. But the table brings out the contrast between pre-1979 and post-1979 policy stressed by Clarida, Galí, and Gertler (2000) that interest rates in the earlier period responded less than one-for-one to inflation. As the estimate from Orphanides (2003b) in the table indicates, when the Federal Reserve's rule is re-estimated using real-time official estimates of the output gap and internal forecasts of inflation, the pre-1979 response to inflation is above unity. On the surface, this finding is inconsistent with the claim—common across several explanations of the Great Inflation, including the monetary policy neglect hypothesis—that central bankers did not respond vigorously to the outbreak of inflation in the 1970s. Section 6 will reconcile Orphanides' result with the monetary policy neglect hypothesis.

The table also shows pre- and post-1979 policy rules for the U.K. Regardless of whether the inflation targeting period since 1992 is considered, or the whole post-1979 policy is treated as a single regime, monetary policy clearly exhibits a stronger response to inflation in later years than was present in the 1970s, and that this is the case whether real-time or final gap estimates are used to estimate the pre-1979 policy rule.

These summary tables, together with other background for these countries, shed light on the plausibility of a number of alternative accounts for the Great Inflation.

2.2 Belief in a Long-Run Trade-Off

The long-run trade-off view of 1970s developments is exemplified by Sargent (1999). It postulates that the Great Inflation reflected policymakers' belief that a permanent gain in output relative to potential could be obtained by accepting a permanently higher inflation rate. Policymakers then permitted successive increases in the inflation rate because it was believed that the long-run trade-off had deteriorated (i.e. that greater inflation rates were required to achieve a given degree of output in excess of potential). Only after inflation had risen to very high levels did policymakers become convinced that there was no long-run trade-off, and disinflated.

The explanation does not accord with either the empirical evidence on policy rules, or the record of policymakers' views on inflation. If the rise in inflation in the 1970s reflected a shift to a higher inflation target, it should imply a rule with a high intercept term together with a greater than one-for-one response to deviations of inflation from target—showing that policymakers took vigorous actions to support the high-inflation target. Instead, as

[5] For the estimates not sourced from other papers, the estimated rule uses consumer price inflation as the inflation measure, and HP-filtered log GDP as detrended output.

Table 2 shows, we observe less than one-for-one pre-1979 long-run inflation responses for both the U.S. and the U.K.

In addition, U.K. policymakers did not subscribe to a Phillips curve model of inflation in either the 1960s or the 1970s,[6] while, as documented below, the cost-push view of inflation embraced by U.S. policymakers from 1970 also amounted to a rejection of a Phillips curve model of inflation. The long-run trade-off account is therefore not a satisfactory explanation of the Great Inflation in either the U.S. or the U.K.

2.3 The Sunspot Hypothesis

Clarida, Galí, and Gertler's (2000) account concentrates on the fact that the inflation response in the interest-rate rule was below unity before 1979. They argue that a policy rule of this type leaves no scope for monetary policy to stop arbitrary disturbances from exerting a persistent effect on inflationary expectations and so on actual inflation. In particular, they contend that the oil shock of 1973 led to a burst of higher inflationary expectations by the private sector, which monetary policy effectively accommodated.

As a description of the Great Inflation, the CGG hypothesis has two key problems. First, it cannot account for the different timing of the inflation problem across countries. As CGG's explanation provides no *a priori* grounds for why inflation rose rather than fell in the 1970s, it must appeal to a positive sunspot shock hitting every country that experienced the Great Inflation. CGG nominate the 1973 oil shock as a possible sunspot, but for the U.K. this explanation is unsatisfactory because so much of the rise in inflation preceded the oil shock. In light of these differences in timing, the CGG explanation must explain the international rise in inflation in the 1970s in terms of different sunspot shocks across countries, all of which happened to take a positive value, which is implausible.

Second, at best, the CGG hypothesis can account for a transitory change in inflation away from a constant steady-state rate. This is because the sunspots that affect inflation in their hypothesis are stationary. CGG's hypothesis is only an appropriate explanation if the Great Inflation period is treated as one where the long-run mean of inflation underwent no shift. But this treatment is untenable for the U.K. and the U.S.[7] If the long-run inflation rate was unchanged over the Great Inflation, then there should be little or no Fisher effect observed in nominal yields on very long-term securities. But in the U.K., consol rates—i.e., nominal returns on infinite-maturity instruments—rose steeply, from 6.43% in 1965 to 15.17% in 1975 (Capie and Webber, 1985, p. 495). For the U.S., consol-rate data are unavailable, but both theory and evidence suggest that real money

[6] See e.g. Laidler (1989) and Nelson (2001).
[7] Beyer and Farmer (2002) also argue that the nonstationary behavior of inflation is an important aspect of the U.S. Great Inflation.

base demand should depend on a consol-type rate (Anderson and Rasche, 2001). If the Great Inflation had little effect on this rate, then the growth rate of monetary base velocity should have been unchanged before and after the Great Inflation. But base velocity growth shifted from positive to flat once the early 1980s disinflation occurred. The CGG hypothesis can therefore be rejected, because it is contradicted by both the international evidence and the evidence on the mean of inflation.

2.4 The Expectations Trap Hypothesis

The expectations trap hypothesis is outlined in detail in Christiano and Gust (2000). It has some similarities with the CGG hypothesis. A distinguishing characteristic of the trap hypothesis, however, is that it postulates that the U.S. Great Inflation resulted from a conscious decision by the Federal Reserve to create money growth in response to a variety of nonmonetary events, such as the 1973 commodity price explosion, that threatened the stability of output. This aspect of the hypothesis is sufficient to rule it out as a valid explanation of the Great Inflation. Money growth preceded the mid-1970s peak in CPI inflation by 22 to 25 months, depending on money definition; and the 1980 peak by 21 to 38 months (Batini and Nelson, 2001). Because money growth peaked before the key nonmonetary events, a story that relies on a sequence running from those events to monetary accommodation to inflation does not fit the facts well.[8]

2.5 Perceived Costs of Inflation

Taylor (1992, p. 14) suggests one reason the Great Inflation occurred is that policymakers saw few costs of inflation, and so were unwilling to take steps to bring it down. But the record, by contrast, suggests that in the 1970s inflation was believed to be costly; Batten (1981, p. 20) noted that U.S. "policymakers have called it 'public enemy No. 1' at least four times in the last decade." U.K. policymakers emphasized even more the costs of inflation. Prime Minister Harold Wilson, for example, said in speeches in July 1975 that "[i]nflation is causing unemployment" and that his anti-inflation strategy was "a plan to save our country" (Wilson, 1979, pp. 266–272); in February 1976, he spoke of "our determination to eliminate inflation" and claimed that the country "is more united in a national effort against inflation than ever before" (*FT*, 02/03/76; *DT*, 02/03/76). Nor were policymakers unwilling to contemplate real costs to bring down inflation: the incomes policies pursued in the 1970s usually involved planned cuts in real wages, as well as rationing and shortages of goods. Most dramatically, the Heath Government imposed in the U.K. a three-day working week in response to labor-union opposition to its anti-inflation policy (which consisted of wage controls). The U.S. and U.K. records

[8] Furthermore, as documented by Darby and Lothian (1983) and Barsky and Kilian (2001), much of the 1970s commodity price explosion was itself a response to the prior monetary easing.

suggest that policymakers believed that inflation created high costs for output and employment, and were prepared to take unpopular actions to bring down inflation.

2.6 Commitment to Low Unemployment

DeLong (1997, pp. 257, 270–271) argues that U.S. political and legislative commitments to full employment sacrificed price stability. DeLong contends that the political debate, as well as legislation such as Humphrey-Hawkins, obliged policymakers to target unemployment at a level that they knew was incompatible with low inflation.

But the evidence suggests that policymakers were aware that the full-employment unemployment rate had risen over time; and that they incorporated this rise into their policy decisions. For example, Paul McCracken, President Nixon's first head of the Council of Economic Advisers, said in February 1969 that "the important thing is not to calibrate [policy targets] too narrowly in terms of unemployment… I don't think one can set this kind of target figure" (*CT*, 02/24/69), and, when proposing a program in 1970 intended to achieve a non-inflationary path back to full employment by mid-1972, did so in terms of real growth rates; the unemployment rate associated with this plan was shifted up in light of evidence that the natural rate had increased (*KCS*, 12/15/70). This practice continued later in the decade, with Federal Reserve Chairman Miller testifying in July 1978 that the unemployment rate was higher than in earlier expansions because of institutional changes in the labor market (Miller, 1978, p. 645).[9] It is difficult to argue that the Carter Administration's endorsement of the Humphrey-Hawkins legislation led to a lower unemployment target than before: as a Presidential candidate, Carter's goal for unemployment matched the Ford Administration's estimate of the natural rate;[10] the Administration's main target for 1977 was expressed in terms of real GDP growth, not unemployment, and these growth targets were in line with pre-existing estimates of the degree of spare capacity in the economy. Moreover, the Humphrey-Hawkins legislation was not passed until October 1978, by which time U.S. monetary policy had already begun to shift to disinflation. Therefore, intentional targeting of beyond-full-employment unemployment rates does not seem to be the source of the U.S. Great Inflation.

2.7 Output Gap Mismeasurement

The output gap mismeasurement hypothesis has been advanced by Orphanides (2003a, 2003b). He argues that the loose monetary policy settings observed in the U.S. in the

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[9] A recognition that the natural rate had risen also took place in the U.K. (Nelson and Nikolov, 2003).
[10] Carter in 1976 gave his goal as "4 or 4½ percent" unemployment (Biven, 2002, p. 31); the Ford Administration associated full employment with 4 to 5 per cent unemployed (*DFP*, 01/26/76). Both sets of numbers are consistent with the 4.5% natural unemployment rate estimate that Orphanides and Williams (2003) contend was shared by successive Administrations throughout the mid-1970s.

1970s can be accounted for by a monetary policy that responds strongly both to inflation forecasts and to the output gap. The excessive monetary expansion of the 1970s arose from the response to the gap series, which had systematic errors.

The explanation favored in this paper—the monetary policy neglect hypothesis—rules out output gap mismeasurement as the *primary* source of policy mistake behind the Great Inflation, but nevertheless allows policy errors from gap mismeasurement to account for a sizable "chunk" of the increase in inflation in the 1970s. In light of this position, in this section I focus on objections to the plausibility of Orphanides' account advanced by Taylor (2000) and Svensson (2000).

Taylor (2000) objects that the published output gap series are not representative of what was used by policymakers, because the published figures were "politicized." But it is hard to see why it would be of political benefit for the government to exaggerate how negative the output gap is. President Ford, for example, was attacked by Democratic candidate Jimmy Carter in a 1976 television debate for the size of the output gap, which Carter gave as minus 27 per cent, even larger than the official published estimates (*DFP*, 09/24/76). Furthermore, as described in Section 4, outside commentators and advisors to previous administrations used numbers on the output gap and productive potential that were essentially consistent with the official published series.

Svensson (2000) argues that the official gap estimates must *a priori* not be those used in decisions, because high inflation outcomes would have led policymakers to revise their actual estimates of the gap to more realistic values. This description of the revision process presumes that policymakers accepted a monetary view of inflation—that is, that they regarded inflation as arising from excessive monetary ease, manifested in positive output gaps. The monetary policy neglect hypothesis claims that policymakers instead took a nonmonetary or cost-push view of inflation. In that case, high inflation outcomes would *not* provoke policymakers to regard their negative output gap estimates as inplausible. We will see that the cost-push view of inflation was prevalent among policymakers and outside commentators in both the U.S. and the U.K.

Therefore, the existing criticisms of the output gap mismeasurement hypothesis are not valid, provided that the hypothesis is regarded as a supplementary explanation of the Great Inflation to the monetary policy neglect hypothesis. The basic planks of this hypothesis are outlined in the next section.

3. The Monetary Policy Neglect Hypothesis

A conventional, monetary view of inflation, as well as a cost-push alternative, may be written as restricted versions of the following standard New Keynesian Phillips curve:

$$\pi_t = c + \beta E_t \pi_{t+1} + \alpha(y_t - y_t^*) + u_t \,, \qquad (1)$$

where β is close to unity, $y_t - y_t^*$ is the output gap, π_t is inflation, and u_t is an exogenous disturbance. Decompose u_t as $u_t = \mu_{u,t} + \hat{u}_t$, where $\mu_{u,t}$ is the unconditional mean of u_t (which may be time-varying), and $\hat{u}_t$ the deviation from mean with AR(1) parameter ρ_u. It follows that the solution for inflation and one-period-ahead expected inflation may be written as:[11]

$$\pi_t = \gamma + \alpha E_t \Sigma_{i=0}^{\infty} \beta^i (y_{t+i} - y_{t+i}^*) + u_t + \beta[E_t \Sigma_{i=1}^{\infty} \beta^i (\mu_{u,t+i})] + \beta[\rho_u \hat{u}_t / (1 - \beta\rho_u)]. \qquad (2)$$

$$E_t \pi_{t+1} = \gamma + \alpha E_t \Sigma_{i=0}^{\infty} \beta^i (y_{t+i+1} - y_{t+i+1}^*) + E_t[\Sigma_{i=0}^{\infty} \beta^i (\mu_{u,t+i+1})] + [\rho_u \hat{u}_t / (1 - \beta\rho_u)]. \qquad (3)$$

where $\gamma = c\Sigma_{i=0}^{\infty} \beta^i$. A *monetary* view of inflation postulates that $\alpha > 0$; that u_t is white noise (i.e., $\rho_u = 0$) with zero mean (i.e., $\mu_{u,t} = 0$ for all t); and that (log) real aggregate demand y_t is interest-elastic. Under these restrictions, terms in square brackets vanish; expressions (2) and (3) then imply that shocks that shift the u_t disturbance but not the current or expected output gap affect the current price level and recorded inflation π_t, but not the expected inflation rate; while the cost-push term does not enter the calculation of the mean inflation rate. Therefore, to be a "cause" of ongoing inflation, an event such as greater labor-union activism or higher world inflation, must affect the path of the output gap—either by creating a sustained drop in potential GDP, or by provoking a monetary policy response that stimulates real aggregate demand. Both of these developments can be avoided by a monetary policy which keeps the path of real aggregate demand close to potential (including allowing real demand to follow potential output when the latter declines). That is the sense in which inflation is a monetary phenomenon—fluctuations in inflation are transitory in the absence of monetary accommodation.[12]

The monetary interpretation of inflation attributes the 1970s to excessive output gaps, in turn due to excessively easy monetary policy, and holds that nonmonetary events such as

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[11] Formally, the New Keynesian Phillips curve is an approximation of inflation behavior assuming a constant steady-state inflation rate, an assumption which (as argued above) is inappropriate for the 1970s. A more general specification that allowed the c, α, and β parameters to be functions of the steady-state inflation rate would still leave the fundamental distinction between monetary and nonmonetary theories of inflation described in the text.

[12] The economic grounds for acknowledging fluctuations in u_t, but expecting them to have zero mean, is well outlined by the following quotation:

> Higher oil prices may lead people to spend more money on oil. But if so, they have less to spend on other goods, which leads to downward pressure on the prices of those goods… so that the price level in general need not be affected. However, most prices are slow to adjust. Hence, a sudden upward jump in the price of a product that is widely used… may temporarily raise the rate of inflation before the downward pressure becomes effective. That… is the element of validity in the argument that rises in particular prices cause inflation. (Friedman and Friedman, 1984, p. 84)

To match the Friedmans' claim that the "downward pressure becomes effective" only in later periods, one would have to make all terms in the Phillips curve beside the cost-push shock predetermined, which is a standard assumption in empirical applications (e.g. Rotemberg and Woodford, 1997).

oil shocks did not exert any independent effect on the mean of inflation.[13] The monetary policy neglect hypothesis asserts that the monetary interpretation is correct, and claims that the 1970s outcomes reflect policymakers' failure to accept this diagnosis of inflation. Nelson and Nikolov (2002, p. 27) spell out the hypothesis as follows:

> [P]olicymakers viewed monetary policy as disconnected from inflation, for two reasons. First, inflation was perceived as largely driven by factors other than the output gap; secondly, policymakers were highly skeptical about the ability of monetary policy to affect aggregate demand or the output gap appreciably… Monetary policy was not seen as essential for inflation control; the latter, instead, was largely delegated to incomes policy (wage and price controls). Such views, we argue, led to a combination of easy monetary policy and attempts to control inflation through other devices, and contributed heavily to the breakout of inflation in the 1960s and 1970s.

The erroneous views on inflation and monetary policy, according to this hypothesis, thus consists of three planks.

3.1 Plank 1: Ineffectiveness of Monetary Policy in Influencing Aggregate Demand

This plank amounts to the view that monetary policy cannot affect nominal aggregate demand (and so real aggregate demand y_t). One version of this position is to deny outright that monetary variables (interest rates or quantities) matter for aggregate demand. A related position is that certain monetary variables do matter for aggregate demand, but that the scope for policy to affect those particular variables is extremely limited. Either way, the plank implies that monetary policy cannot appreciably affect y_t and so, by equation (1), cannot influence inflation. This view influenced U.K. policy more in the 1960s than it did in the 1970s, though, as we will see, it became prominent in U.S. policymakers' statements over 1975–78.[14]

3.2 Plank 2: Inflation Is a Cost-Push Phenomenon

The second plank of the views that underlay monetary policy neglect in the 1970s is that inflation is a cost-push rather than a monetary phenomenon. In terms of equation (1), a cost-push interpretation of the Great Inflation attributes the majority of the fluctuations in inflation over that period to shifts in the value of u_t, and—in contrast to the monetary view—claims that u_t was both persistent and frequently had a positive mean. Cost-push

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[13] This statement should apply to inflation as measured by broad indices such as the CPI and the GDP deflator. Barsky and Kilian's (2001) monetary interpretation of inflation allows oil shocks to have lasting effects on CPI inflation due to the presence of imported oil in the CPI. But this interpretation neglects substitution effects, which mean that cost-push events that raise particular components of the CPI, should have no lasting effect on inflation (for a given path of the output gap); see Batten (1981, pp. 24–25), Friedman (1966, pp. 101–102), and the Friedman and Friedman (1984) quotation given above.

[14] Doubts by Federal Reserve Board members about the effectiveness of monetary policy surfaced in earlier decades too, including the 1920s (Meltzer, 2003, p. 159).

events then have persistent effects on both inflation and expected inflation for a given path of the output gap.

A simple case that conforms to the cost-push view is the parameter restriction $\alpha = 0$. Then inflation is exogenous and disconnected altogether from output-gap movements.[15] Some observers of the Great Inflation during the 1970s did adopt precisely this position. For example, there is abundant evidence that U.K. policymakers from the mid-1960s to the mid-1970s believed in an asymmetric Phillips curve relation, whereby positive output gaps produced inflation, but negative output gaps exerted no negative pressure on inflation (Nelson, 2001). But essentially all of the implications of the cost-push view of inflation are satisfied with the weaker position that α is very low when the output gap is negative. In that case, while extremely negative output gaps in principle can offset the positive influence of cost-push effects on inflation, the required gaps are so large that to a first approximation, tight monetary policy is ineffective in controlling inflation. As discussed below, this view of inflation was prevalent in the U.S. for much of the 1970s.[16]

3.3 Plank 3: Incomes Policy as a Substitute for Aggregate Demand Restraint

The Case for Wage and Price Controls in the Conventional Framework. A case for wage and price controls as a complement to aggregate demand restriction can be made when inflation is determined by monetary factors. Consider a situation where the monetary authorities, having run inflationary policies in the past, commit themselves to a policy of zero output gaps and a target inflation rate γ; but the private sector, wary from past behavior, expects a policy that implies positive output gaps from next period onward of k percent for $N > 0$ periods. This mismatch between the government's intended disinflationary policy and the private sector expectations that actually matter for inflation will mean, from equation (3), that expected inflation is $\gamma + \alpha k \Sigma_{i=1}^{N} \beta^i$ rather than γ; and that achievement of the inflation target of γ today will require a negative output gap today of $-k\Sigma_{i=1}^{N}\beta^i$ rather than a zero gap. The zero-gap, inflation-on-target policy can be achieved by the original disinflationary plan for monetary policy, combined with price and wage controls that effectively overwrite the private sector expectations embodied in wage and price contracts with an enforced expectation of an inflation rate of γ. Once the private sector accepts that monetary policy is following low-inflation policies, the

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[15] This is also the restriction on the expectational Phillips curve that Friedman and Schwartz (1982, p. 61) argue corresponds to the cost-push view of inflation.

[16] This is consistent with Taylor's (1997, p. 279) observation that in the 1970s policymakers believed that inflation was highly inelastic with respect to excess supply. But what Taylor describes is only part of this view of inflation. Other things equal, a decrease in the elasticity of inflation with respect to output gaps would reduce the variance of inflation. To rationalize the rise in the mean and variability of inflation, this view must go hand-in-hand with the position that the 1970s inflation behavior reflected fluctuations in the mean and variance of the cost-push shocks u_t.

controls can be removed without generating an outbreak of inflation. It is this kind of idealized situation, where controls minimize the real cost of a disinflation, that led Paul Samuelson to state: "The best way to ruin the genuine contribution [wage-price] guideposts can make is to try to use them as a substitute for macroeconomic policies" (*NW*, 02/05/68).

The Case for Wage and Price Controls Under Monetary Policy Neglect. The case for price and wage controls is very different in the policymaking framework described here as "monetary policy neglect." Under this framework, policymakers neglect the appearance of the output-gap term in equation (2), favoring instead a cost-push view of inflation behavior, and so see no need to coordinate their goals for aggregate demand with their goals for inflation. The latter are pursued directly by controls, leaving policymakers free to use the aggregate demand management tools to pursue targets for output and employment. The typical policy combination that arises—as in the 1971 examples of the U.S. and the U.K. described below—is strict price and wage controls to control inflation, together with stimulative monetary policy to eliminate a perceived deficiency in aggregate demand. Since this policy combination implies that monetary policy responses to outbreaks of inflation are weak or absent, the monetary policy neglect hypothesis can rationalize the low pre-1979 policy responses to inflation summarized in Table 2.

4. The United States

This section shows how U.S. macroeconomic policy during the 1970s conformed to the "monetary policy neglect" framework.

4.1 1969–71: Cost-Push Views Gain Ground

The coverage here begins at the end of 1969, a year during which the Nixon Administration and the Federal Reserve had pursued what Treasury Secretary David M. Kennedy described as an "objective… [of] guiding the economy from an overheated, inflationary state" (*KCS*, 09/01/70). This strategy reflected a conventional, excess-demand or monetary interpretation of the inflation that had developed in the U.S. since 1965,[17] to which the Administration responded with what CEA Chairman McCracken described as "policies long confidently relied upon to guide the economy's path" (*LCJ*, 09/27/69)—i.e., monetary and fiscal restriction.

[17] Note that even if policymakers had a nonvertical long-run Phillips curve (β far below unity in equation (1)) in mind in 1969, that would still correspond to a monetary view of inflation, which rests instead on the belief that α is positive in (1).

On December 4, 1969, Sylvia Porter, a financial journalist whose daily column was syndicated to 350 newspapers in the U.S., claimed in a column entitled "Inflation: 1970-Style" that the U.S. was entering an era of a new type of inflation:

> We are moving rapidly [away] from the type of inflation in which an excessive demand for goods and services pulls up prices (technical name: demand-pull)… We are swinging fast into an even worse type of inflation in which whopping wage increases will push up prices (technical name: cost-push). This type of wage-price spiral will distort our economy in 1970… This is the background for the emergence of the second type of inflation in our land. (*NYP*, 12/04/69)

Cost-push views of inflation were nothing new, of course,[18] but Porter's column described an interpretation of U.S. economic developments that would become prevalent among financial commentators and policymakers alike: namely, that, while the rise in U.S. inflation in the 1960s had been due to excess demand, inflation in the 1970s had a cost-push character that it previously lacked. Porter reminded readers that she had been

> reporting to you the fears that the U.S. might be in the process of creating an economic nightmare—namely inflation AND recession. The nightmare well may be now approaching. (*NYP*, 12/04/69)

This quotation illustrates one reason why the cost-push view of inflation attracted adherents: it was one framework that could rationalize the "stagflation" or "slumpflation" patterns of inflation and output behavior that did indeed emerge in the 1970s. It was far from the most theoretically satisfactory way of doing so: conventional macroeconomics in the 1970s would be able to accommodate such phenomena by incorporating aggregate supply shocks and the expectational Phillips curve into the analysis. But the mechanical cost-push view of inflation was a pre-existing analysis that seemed to accord with some of the 1970s experience.

This seeming attraction of the cost-push view explains why it gained support from U.S. policymakers from early 1970, a period when inflation was continuing to rise. The support included endorsements from members of both Houses of Congress and both major political parties. Senator Barry Goldwater (R–AZ) said that "higher and higher union wage hikes" were "the unmentioned factor" behind inflation, and were frustrating Administration policies to control inflation (*KCT*, 01/15/70). Congressman Henry S. Reuss (D–WI) called for the President to organize a six-month price freeze and an agreement with labor on wages: "We should now have learned that tight money and tight fiscality alone are not enough" (*MJ*, 01/27/70). Former Federal Reserve Chairman

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[18] See Humphrey (1998) for a discussion of pre-20th century advocacy of the cost-push view. Friedman (1966, p. 101) refers to the "popularity" of cost-push theories of inflation in the U.S. For the most part, however, such theories had been advanced in the U.S. before 1970 as an explanation for the residual behavior of inflation not accounted for by excess demand, rather than as a replacement for orthodox explanations of inflation (see e.g. Hafer and Wheelock, 2001, for discussion).

William McChesney Martin opposed controls but called for the return of the previous Administration's wage-price guidelines because, he said, "under present circumstances, fiscal and monetary policy isn't enough" to fight inflation (*KCT*, 11/06/70).

The incumbent Federal Reserve Chairman, Arthur Burns, argued that U.S. policymakers "should not close our minds" about some form of incomes policy in a May 18, 1970 speech (in Burns, 1978, p. 99). He saw advantages for such a policy in the current situation which, in his assessment, consisted of the output gap having been made negative but "costs and prices continuing to advance." Despite this, the speech did not represent a switch to a cost-push interpretation of inflation; rather, its argument falls into the conventional case for an incomes policy described in Section 3.[19] In particular, Burns emphasized that "primary reliance in the battle against inflation must always be placed on policies that impinge on aggregate demand" (p. 100) and that incomes policy would serve as "a supplement to overall fiscal and monetary measures" that might speed up the response of inflation to the restrictions on demand already undertaken (p. 99).

David M. Kennedy, Secretary of the Treasury, also endorsed the view that the coexistence of inflation and rising unemployment reflected delays in adjustment of inflationary expectations. He argued that as of late August 1970, the restriction of aggregate demand was "beginning to pay off" in lower inflation, showing:

> The laws of economics do work—although slowly and not perfectly. Monetary and fiscal policy have the impact we would anticipate. We have made great progress in controlling inflation… without implementing controls or in any other manner artificially restraining the free play of economic forces. (*KCS*, 09/01/70)

This confidence by policymakers in conventional inflation-control devices would dissipate over the following year.

By the end of 1970, Burns had switched to a cost-push, nonmonetary view of inflation. The continuation of high inflation beyond mid-1970 had convinced him that "[t]he inflation we are still experiencing is no longer due to excess demand…" (December 7,

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[19] For the alternative view that Burns had a cost-push interpretation of inflation "from the beginning," see Romer and Romer (2002, p. 25). Burns' position from late 1970 that monetary policy was ineffective in controlling inflation came as a surprise to those who knew him, including Milton Friedman, who wrote to Burns after the imposition of wage and price controls that he never would have imagined that Burns would support such a package. Some FOMC *Minutes* do record Burns viewing inflation as cost-push from early on (e.g. April 7, 1970, p. 50). However, it should be noted that Burns in 1970 used the term "cost-push inflation" broadly to include inflation that was a delayed reaction to earlier monetary expansion. For example, in Tokyo in July 1970 he said that "for a time we must expect to see a continuation of cost-push inflation, with increases in wage rates and prices reflecting excess demand, the effects of which have not yet fully worked their way through" (*MST*, 07/02/70).

1970 speech, in Burns, 1978, p. 112). He explicitly rejected the ability of restrictive monetary policy, even if employed over long periods, to eliminate this type of inflation:

> monetary and fiscal tools are inadequate for dealing with sources of price inflation such as are plaguing us now—that is, pressures on costs arising from excessive wage increases (December 7, 1970 speech, in Burns, 1978, pp. 112–113).

> A year or two ago it was generally expected that extensive slack… would lead to significant moderation in the inflationary spiral. This has not happened, either here or abroad… Despite much idle industrial capacity, commodity prices continue to rise rapidly. And the experience of other industrial countries, particularly Canada and [the U.K.], shouts warnings that even a long stretch of high and rising unemployment may not suffice to check the inflationary process. (July 23, 1971, testimony, in Burns, 1978, p. 118).

These quotations are at variance with the interpretation of Chari, Christiano, and Eichenbaum (CCE) (1998) that the Federal Reserve in the 1970s understood the monetary nature of inflation, and that it consciously accommodated the pressure on inflationary expectations arising from real shocks. To support this argument, CCE quote later speeches of Burns that acknowledge that the ability of high inflation to continue will be exhausted in the absence of monetary accommodation. But to the extent that this was also Burns' view in 1970–71, the above quotes establish that he denied the relevance of the observation for the inflation observed in the 1970s. Absence of monetary accommodation amounts to the creation of negative output gaps. But Burns was explicit in his view that inflation could occur and even go on rising for prolonged periods—in the 1970 speech he indicated that such periods could be five years or more[20]—alongside substantial negative output gaps, and (as his 1971 observations on Canada and the U.K. indicate) could continue even if still larger output gaps were created.

4.2 1971–74: Planks 2 and 3 Guide U.S. Policy

Despite Burns' recommendation, the Nixon Administration was initially reported as firmly against a formal incomes policy, and hopeful that inflation would still exhibit a delayed response to the slowdown (*KCS*, 12/10/70; *KCS*, 12/31/70). Indeed, inflation did begin to fall over this period, with the six-month annualized growth of the CPI falling below 5% in the first quarter of 1971 (from a peak of 6.6% in February 1970). The progress was too slow, however, to prevent commentators such as Joseph Kraft from claiming that "the country is experiencing a relatively unfamiliar and poorly understood set of troubles—stagflation" (*WP*, 02/25/71). The U.S. performance on real activity in the first half of 1971 does not now seem unusually poor—current CBO estimates give the

[20] Note that, since the output gap tends to respond to monetary policy actions with a delay, Burns' belief that simultaneous negative output gaps and high inflation could prevail for more than five years implies an even longer period where contractionary monetary policy and high inflation could coexist.

output gap in the first half of 1971 at roughly zero, while four-quarter growth in real GDP in early 1971 is now estimated at about 3%. But as Orphanides (2003b) shows, it is exactly this period when output gap mismeasurement became more serious: initial estimates of GDP and potential gave the gap at around −6%. President Nixon introduced compulsory price and wage controls, beginning with a three-month freeze, in August 1971. His Administration was already committed to restoring full employment by mid-1972, so the policy combination was now one of controls to manage inflation alongside expansionary aggregate demand policy—the very combination described by the monetary policy neglect hypothesis.

As Table 1 shows, monetary policy was highly expansionary over this period. Chairman Burns would subsequently characterize the Federal Reserve's role in this expansionary phase as feeling obliged to monetize the Federal government's higher deficits, as "the Federal Reserve, among other things, is the Government's banker" (February 26, 1974, testimony, in Joint Economic Committee, 1974, p. 746). This position, however, understates the Federal Reserve's contribution to 1971−72 macroeconomic policy, for three reasons: (i) the monetary easing that occurred was larger than can be rationalized by accommodation of deficits;[21] (ii) Burns' endorsement of cost-push helped promote the policy combination in force from 1971; and (iii) his cost-push perspective also prolonged the problems created by output gap mismeasurement. A Fed tightening in 1970 would likely have been politically infeasible, as the quotation from President Nixon in Section 1 indicates; but as of early 1970, it was expected that inflation would recede. Had the cost-push interpretation of inflation not found favor, the continued inflation of 1970−71 would have been an argument against easing monetary policy. Contemporaneous reports suggest that a substantial Fed easing in 1971 was on the cards even if the Nixon Administration failed to agree to an incomes policy (*WP*, 01/24/1971). The adoption of controls, however, removed any sense for the Fed that there existed a dilemma between such an easing and further progress on inflation. As Hetzel (1998, p. 40) notes, once Burns' cost-push analysis was endorsed by the Administration, the combination of further monetary easing and direct controls to fight inflation was able to emerge.[22] And because the cost-push interpretation rationalized the coincidence of negative output gaps and high inflation, its popularity delayed any tendency for those estimates to be revised to more accurate levels.

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[21] See Hetzel (1998, p. 37) and Section 3.2 below.

[22] This episode illustrates the limitations of the debate on whether the Federal Reserve was independent of the Administration over this period (see e.g. Christiano and Gust, 2000, pp. 35−36). The price-controls debate was one where Chairman Burns prevailed over the Administration rather than vice versa, but the outcome was one where monetary policy would be *less* directed toward inflation control, not more as discussions of independence often presume. It has been argued here that the Administration's influence was significant not in determining the Fed's agenda in 1971, but in putting monetary tightening off the agenda in 1970.

The controls, coupled with the fact that inflation tends to respond less rapidly than output to monetary stimulus, were effective in disguising the degree of inflationary pressure unleashed by the new policy combination. President Nixon in late 1972 said that "we have a good chance to reduce the overall rate of inflation to 2.5 percent by the end of 1973" (quoted in *DFP*, 03/18/74). By October 1972, with four-quarter CPI inflation below 3.5%, so few ill-effects of the 1971–72 expansion had appeared that Milton Friedman concluded that recent money growth rates "are higher than I myself favored but, *for this period,* they have not been dangerously high" (*NW*, 10/16/72).

That judgment was to be revised when a surge in the CPI in early 1973 brought the inflation out into the open. Many other commentators, however, blamed cost-push factors rather than the prior monetary expansion for the outbreak. The Federal Reserve Chairman was among those taking this position. In January 1973, the six-month annualized CPI inflation rate rose to 4.4%, above the level prevailing when controls were introduced; in August 1973, it stood at 9.5%. Burns blamed the initial rise on "abuses of economic power by both business firms and trade unions" (*WP*, 02/21/73); and in September 1973, he offered a detailed account of the upturn in inflation since January. There, he rejected arguments that expansionary Fed policy in 1972 bore the blame for the rise in inflation, contending that the "severe rate of inflation that we have experienced in 1973 cannot responsibly be attributed to monetary management" and that, while boom conditions were one factor behind the inflation, a "more restrictive [monetary] policy" before 1973 would have had real costs "without limiting to any significant degree this year's upsurge of the price level" (Burns, 1973, p. 21). A newspaper report would later summarize Burns' view of inflation as "a worldwide disease caused by complex forces" (*CPD*, 05/05/74), and the list of causes of inflation provided by Burns in September 1973 reflected this: crop failures, environmental regulation, the depreciation of the U.S. dollar, and "critical shortages of basic materials." Burns also cited the fact that "fuel prices spurted upward," a factor that would gain much greater prominence in cost-push analyses of inflation following the OPEC oil price rise in October 1973. Though the remedy proposed by cost-push analysts for inflation—direct wage and price controls—collapsed in 1973–74, the cost-push analysis of inflation was more popular than ever.

A typical cost-push analysis of the OPEC oil shock was that by *Washington Post* economics columnist Hobart Rowen, who noted (correctly) that oil-price increases exerted an excess-demand impact on inflation due to the reduction in potential output, but insisted that the oil shock had a "double-barreled inflationary impact" because "higher gasoline, fuel oil and electricity prices will have a 'cost-push' effect, making other products more expensive" (*WP*, 11/08/73). In a monetary view of inflation, by contrast, for a given level of real aggregate demand relative to potential, the higher energy prices

tend to make other products *less* expensive, and so an oil shock affects relative prices but has no permanent impact on the CPI.

The nonmonetary interpretation of the inflation process also led to several "nightmare scenarios" about the response of the U.S. economy to the commodity price shocks. Cost of Living Council director John Dunlop portrayed a state of affairs where the food and energy price increases in 1973 were embedded into cost-of-living wage agreements for 1974, thus turning "potentially reversible" commodity-price increases into a permanent general inflation (*DMN*, 05/12/74). Similarly, Federal Reserve Governor Andrew Brimmer said that a "very serious problem is posed by the lag in wages behind price increases during the past year," because it foreshadowed a wage-price spiral due to catch-up wage demands (*CPD*, 06/02/74). By contrast, a monetary view of inflation would emphasize the ability of monetary policy to exhaust any such spiral. According to this view, if the monetary authority fails to allow money growth to rise in response to the commodity-price increases, it precludes a necessary condition for a permanent shift to higher inflation. The drain on aggregate demand from the non-accommodative policy puts downward pressure on wage growth and inflation. The prediction of the monetary view appears to have been borne out by the events of 1973–74: as Table 1 shows, money growth was lowered substantially in these years, so that monetary policy did not provide conditions that would sustain the rise in inflation. In March 1975, Walter Heller observed that the wage explosion feared for 1975 was not occurring (*DFP*, 03/21/75).

4.3 1974–75: Some Retreat from Planks 2 and 3; More Emphasis on Plank 1

Despite the cost-push analysis in his 1973 letter, and his contention that wage and price controls had delivered "benefits" in 1971–72, Burns affirmed that "[p]rimary reliance in dealing with inflation… will have to be placed on fiscal and monetary policies" (1973, p. 21). This shift was consistent with his recognition that boom conditions now prevailed: advocates of the cost-push view of inflation, both in the U.S. and the U.K., typically accepted that pushing output above potential contributes to inflation, while often denying that upward shifts of output *toward* potential were a source of inflationary pressure. Burns' acknowledgement, combined with changes of personnel in the Administration, produced a limited retreat in 1974–75 from the nonmonetary strategies for inflation that had prevailed in 1971–73. Alan Greenspan, who became Chairman of the CEA in 1974, was reported as regarding "jawboning" to influence wage and price outcomes as "irrelevant" for inflation control (*DFP*, 08/19/74), while President Ford made it clear soon after taking office that he would not use compulsory wage and price controls to fight inflation, stating that "the real weapons against inflation are the old-time virtues—a sound budget and a sound monetary policy" (*NYP*, 08/13/74). By July 1974, Sanford Rose noted in *Fortune* magazine that "[w]hat had earlier been ignored or denied is now

consistently taken as axiomatic: changes in the rate of growth of the money supply play an important role in bringing about inflations," a shift also manifested in Congress' requirement from 1975 that the Fed report monetary aggregate targets. As Romer and Romer (2002, p. 26) document, 1974 witnessed a move in Federal Reserve deliberations towards "more conventional" views of inflation.

Rose also noted, however, that "spokesmen for the Fed sometimes deny that it is even possible to control the money supply" (*FOR*, 07/74), and denials like this would become an important part of policymakers' position for the rest of the decade. In terms of the planks of monetary policy neglect described in Section 3, policymakers' adherence to Plank 2 diminished somewhat in 1974–75 as they adopted a more orthodox analysis of inflation, but they embraced Plank 1 more vigorously. Policymakers would increasingly concede the importance of excessive demand in creating inflation, but maintain that they could not affect the key variables that determined aggregate demand. Burns, for example, having noted that the "interest rate that really counts in the economy" is the long-term interest rate, claimed that "all of us recognize that the influence that the Federal Reserve has on long-term interest rates is negligible" (July 24, 1975 testimony, in House of Representatives, 1975, p. 152). Outside commentary in 1975 lent credence to the Fed's claim of negligible influence. A *New York Times* article asked if the U.S. economy was in a liquidity trap, which it defined as central-bank inability to raise growth in bank deposits (*NYT*, 02/26/75; *DFP*, 02/28/75), while financial columnist Eliot Janeway claimed that the "money supply can't and won't increase until the customers of the banks use the credit the Fed makes available to them. They haven't and aren't. That is why the Fed is so frustrated in its recent efforts to expand the money supply" (*DFP*, 03/02/75).

Another important facet of this argument was to characterize the government's contribution to inflation as its creation of budget deficits. Burns claimed that "our Federal deficits have been a major cause of the inflation we have had" (July 30, 1974, testimony, in House of Representatives, 1974, p. 278), both by adding to aggregate demand and by forcing monetary accommodation by the Fed. He conjectured that "there ultimately may be little anyone can do to prevent galloping inflation" without budget reform (*DMN*, 05/11/75). Numerous private commentators concurred that the deficits were the source of the United States inflation; for example, columnist James J. Kilpatrick suggested that Federal deficits "were a prime causative influence" behind the 1974 inflation (*DFP*, 04/23/75); John L. Ingle, President of the First Texas Financial Corp., declared Federal deficit spending "the greatest single cause of today's inflation," and dismissed the role of monetary policy (*DMN*, 09/01/74); and former California Governor Ronald Reagan stated in 1975: "Inflation has one cause and one cause alone: government spending more than government takes in" (*DFP*, 05/11/75). The CEA Chairman, Herbert

Stein, also labeled fiscal policy the culprit for inflation when he said in a 1974 television interview that U.S. inflation had risen during the Nixon Administration because "people would not stand for a tax increase" (*DFP*, 07/25/74).

Since the U.S. enjoyed lower inflation in the 1980s combined with much higher levels of public debt and deficits, the connections between deficits and inflation invoked by Burns and other commentators in the 1970s seem extremely overstated in retrospect. Even on the basis of knowledge at the time, Burns misapplied the argument that deficits forced easy monetary policy. Monetary accommodation of deficits is intended to offset the upward pressure on real interest rates that would otherwise occur. This can at best account for the failure of real rates to rise relative to the 1960s; it cannot account for why monetary policy permitted real rates to fall drastically for a long period relative to their 1960s levels. Overall, U.S. commentators severely exaggerated the role of fiscal policy in inflation—and in particular, misjudged the extent to which monetary policy could control inflation in a period of fiscal expansion.

This background shows that while price controls no longer had the role in policy that they had in 1971–74, and an influence of aggregate demand on inflation was acknowledged, an acceptance of the importance of monetary policy was still missing. Furthermore, cost-push views on inflation still had an important role both in official actions and outside commentary. A September 1974 summit on inflation held by President Ford was dominated by cost-push analysis of inflation. In the leadup to the conference, *Newsweek* claimed that "the old rules of supply and demand no longer seem to apply as far as wages and prices are concerned," and quoted Wassily Leontief as saying: "The long-standing claim of economists that they knew how to control inflation is an empty pretense" (*NW*, 09/30/74). Garry Wills summarized the message of the economic summit as that the U.S. inflation was not due to excessive demand (*DFP*, 10/17/74). A *Los Angeles Times* news item in May 1974 described tight monetary policy as an "old inflation cure… When it was last tried in 1969 and 1970, it failed." (*LAT*, 05/06/74).

Following the conference, President Ford himself embraced several aspects of the cost-push position, claiming that "[f]ood prices and petroleum prices in the United States are primary inflationary factors…" His anti-inflation program consisted principally of measures to affect prices of particular products, including increasing U.S. food output, a "vigorous enforcement of antitrust laws," and an effort to reduce "inflationary effects of [government's] regulatory activities." He also announced that "Miss Sylvia Porter, the well-known financial writer, [will] help me organize an all-out nationwide volunteer mobilization" against inflation. This campaign asked members of the public to sign a coupon which was headed "WIN" (Whip Inflation Now) and read: "Dear President Ford: I enlist as an Inflation Fighter and Energy Saver for the duration…" (*DMN*, 10/09/74).

The principal aggregate demand measure announced by President Ford in his October 1974 program was a proposed tax increase; this was withdrawn, and in early 1975 Ford proposed a tax cut. Sylvia Porter praised the tax cut proposal as an "under-the-surface anti-inflation move" because the "spiral we are now into is not demand-pull inflation, in which excessive demand pulls up prices. It is cost-push inflation, in which rising costs push up prices. Any catch-up in pay outside of wage hikes themselves is an automatic curb on that type of inflation" (*DFP*, 01/17/75). This tax/wage-push view of inflation and disinflation had already featured prominently in cost-push analysis in the U.K. (see Section 5).

4.4 1975–78: All Three Planks Shape U.S. Policy

By the end of the 1970s, U.S. inflation was matching or surpassing its peaks of earlier in the decade, which suggests that the policy mistakes of the earlier 1970s were being repeated. Other accounts such as DeLong (1997) and Romer and Romer (2002, pp. 29–32), specify 1977 or 1978 as the year that U.S. macroeconomic policy shifted back to the erroneous framework of earlier in the decade, dates that match up with the onset of the Carter Administration and a new Federal Reserve Chairman. As shown above, however, the reversion to more orthodox views on inflation in the mid-1970s was extremely limited, and still left the Federal Reserve denying the significance of its actions for inflation. Moreover, while inflation did not start rising until early 1977, Table 1 shows that money growth picked up markedly in 1975–76, consistent with the inflation upturn being a lagged reaction to monetary developments. This evidence, together with that in the preceding discussion of developments in 1975, suggests that the shift back to monetary policy neglect occurred in 1975, rather than 1977; and that it reflected a comeback of cost-push views of inflation that occurred well before the change in administration.

An examination of policymakers' statements and economic commentary in newspapers from mid-1975 confirms this conjecture. On the surface, it appears puzzling that the 1975–76 period, characterized by a substantial decline in inflation alongside prolonged unemployment, would be a period where cost-push views of inflation underwent resurgence. Three key factors explain this puzzle.

First, since much of the slowing in inflation in 1975 was arithmetically attributable to slower food and fuel price inflation, the downturn in inflation did not contradict the view that the driving force for inflation was the behavior of certain key specific prices, rather than the balance of aggregate demand and potential output. It was occasionally acknowledged that the downward pressure on food and energy prices was coming from weaker aggregate demand (e.g. *DFP*, 01/13/75). But more often, the downturn in these prices (and so, in popular analysis, inflation) was seen as resting on "hair trigger" events

that could easily be reversed. For example, George Perry of the Brookings Institution opposed President Ford's proposed oil price tax on the grounds that it would "undo most of the expected improvement in the inflation rate" (*DFP*, 01/31/75); a spike in food and fuel prices in mid-1975 triggered fears of revived double-digit inflation (*DFP*, 09/02/75); while in mid-1976 columnist Hobart Rowen said that the progress on inflation could not "last very long" because "raw materials prices have been creeping upward" (*WP*, 05/13/76).

Second, substantial price increases in the steel, aluminum, and automobile industries in the second half of 1975 seemed to contradict the claim that the downturn was having a braking effect on prices. A Sylvia Porter column in this period said that "the eruption of price hikes in industries still operating far below capacity is frightening. 'Has the law of supply and demand been repealed?' is a question heard with mounting emphasis" (*NYP*, 10/08/75). Walter Heller answered the question in the affirmative, being quoted as saying: "Concentrated industries and powerful trade unions are able to raise prices and wages in woefully weak markets. They have decided to repeal the law of supply and demand…" (*DFP*, 09/02/75). A related article claimed that the wave of price increases "has heated up an old debate about… 'administered price inflation'" (*DFP*, 09/09/75). A dissenting opinion was offered by Phillip Cagan, who said that the industrial price increases reflected the once-and-for-all restoration of profit margins that typically occur early in an expansion (*DFP*, 09/02/75); in retrospect, this more sanguine interpretation of the episode appears more appropriate than the better-publicized cost-push analysis.

The third factor is that the output gap mismeasurement at this time was in a direction that seemed to confirm the absence of a connection between inflation and economic slack. The reported output gap series stood at more than 12% in late 1975, beside which the fall in inflation may have seemed modest. Sylvia Porter's columns during 1975 relayed this message repeatedly, maintaining that "while real GNP has been falling, our potential has been continuing to climb" (*DFP*, 06/05/75) and that "the traditional 'slump' weapon is obviously inadequate to deal with the inflation spirals now cursing economies around the globe" (*DFP*, 10/09/75). Taylor (2000) disputes that "serious economists" accepted the reported gap estimates. But analysis at this time by such economists as Walter Heller (*DFP*, 06/05/75) and James Tobin (1975) was clearly consistent with a belief that a double-digit output gap existed, while Paul Samuelson called for 7% real growth in both 1976 and 1977 to help close the output gap (*WP*, 02/15/76). Two core ingredients of the large negative gap estimates—a natural unemployment rate estimate of about 4.5% and a continued belief in 4% potential output growth—continued to be widely accepted. A 4 to 5% number for the full-employment unemployment rate was confirmed on the CBS television program *Face the Nation* by CEA Chairman Greenspan in January 1976 (*DFP*, 01/26/76), while prominent economists who continued to affirm the 4% potential-growth estimate included Arthur Burns (July 24, 1975 testimony, in House of Representatives,

1975, p. 158), Arthur Okun (July 23, 1975 testimony, in House of Representatives, 1975, p. 77), and Paul Samuelson (*NW*, 07/28/75). The Ford Administration itself did not substantially reduce its estimate of potential until January 1977 (Orphanides, 2003a).

In the face of such perceived gaps, therefore, the decline in recorded inflation would have seemed unimpressively small. In light of this, it is less surprising that economists inside and outside government continued to rely largely on cost-push or special-factors explanations of inflation. The Ford Administration's own projections in early 1976 had the economy returning to full potential in 1980 with inflation falling by around three percentage points to 4% over the same period (*DFP*, 02/05/76). In other words, a change in the output gap from large negative levels to zero was seen as consistent with falling inflation. This is inconsistent with a Phillips curve (whether long-run vertical or nonvertical) approach to inflation since, according to that approach, inflation should pick up along the way to full employment. It is more in the tradition of a pre-Phillips curve or U.K. Keynesian approach to inflation, according to which excess-demand factors become relevant for inflation only once output reaches potential. This perspective on inflation was not only implicit in the Ford Administration's model; it was explicitly endorsed by Democratic Presidential candidate Carter in his statement in a 1976 Presidential debate that "we have a long way to go before we have inflationary pressures" (*DFP*, 09/24/76); and was repeated as late as mid-1978 by Walter Heller who, writing a defense of the Carter Administration's policies, denied that expansionary policy would promote inflation: "Not so in an economy still running well below its potential" (*WSJ*, 05/01/78).

Like its predecessor, the Carter Administration believed it possible to achieve a reduction in inflation alongside an elimination of the negative output gap believed to be prevailing in early 1977. This cost-push outlook led to what columnist Joseph Kraft called "a long-standing commitment by the Carter [A]dministration to take direct action against inflation" (*SFC*, 01/17/78), while aggregate demand policies were directed toward the full-employment goal. Accordingly, Carter and Burns agreed on a 6% target for real growth in 1977 (*NW*, 01/10/77), while Carter announced in April 1977 a separate program designed to reduce inflation to 4% by the end of 1979. This program consisted of what a *Newsweek* report described as "a laundry list of contributions the government itself could make to keep prices down" (*NW*, 04/25/77), including a commodity stockpile program. Carter rejected restriction of aggregate demand as an anti-inflationary tool, and characterized his package as one that "directly addresses the roots of inflation and, at the same time, permit[s] us to have expansion in our economy and a simultaneous reduction in unemployment" (*WP*, 04/16/77). By July 1977, the 4% goal for inflation had been deferred to 1980, with an Administration senior official adding that "we'll never get" 4% inflation unless business and labor cooperated on wage-price restraint (*CST*, 07/28/77).

At the Federal Reserve, Burns continued to adhere to cost-push views in his last year in office, criticizing the Administration for talking down the U.S. exchange rate and attacking legislative proposals for farm-price support and a minimum-wage increase as inflationary (*NW*, 01/09/78). In addition, he continued to support voluntary government guidelines on wage increases, with *Business Week* noting: "The demand for some form of 'incomes policy' comes not only from the liberals but also from such staunch conservatives as Chairman Arthur Burns of the Federal Reserve Board" (*BW*, 04/04/77).

The judgment that incomes policy should be the principal instrument against inflation was in line with much outside opinion. Tom Wicker in the *New York Times* said Carter "needs to pull back from reliance on indirect fiscal and monetary policies that haven't succeeded, and launch a direct, simultaneous attack on both economic slack and inflation" (*NYT*, 10/14/77). Incomes policies indeed became a prominent part of the Carter Administration's anti-inflationary packages—so in terms of the monetary policy neglect hypothesis, the Administration subscribed to Plank 2 and now increasingly adopted Plank 3 as well. Carter announced incomes policy arrangements in the form of guideposts in both April and October 1978. The April 1978 measures consisted of restrictions on wage growth for Federal government employees: with these, Carter said, "I am asking American workers to follow the example of Federal workers and accept a lower rate of wage increase. In return, they have a right to expect a comparable restraint in price increases" (*LAT*, 04/12/78). The scheme therefore worked on a wage-push view of inflation, with no role for monetary and aggregate demand restraint. In fact, it was reported that Carter "pledged not to let unemployment rise while attempting to control wages and prices" (*WP*, 04/12/78), with the President claiming that inflation "resisted the most severe recession in a generation… [and] persists because all of us—business and labor, farmers and consumers—are caught on a treadmill" (*LAT*, 04/12/78).

A second incomes policy program was announced in October 1978. Referring to this program in his 1979 State of the Union address, President Carter described it as "a balanced anti-inflation program that couples responsible government restraint with responsible wage and price restraint... It's imperative that we in government do our part. We must stop excessive government growth, and we must control government spending habits…This budget is a clear message that, with the help of you and the American people, I am determined, as President, to bring inflation under control." (*NYT*, 01/24/79). It was reported that Carter's view was that fiscal tightening mattered not in any effect it had in reducing the government's contribution to aggregate demand or money growth, but through a "psychological effect on Americans because it would show the government is serious about cutting its own spending… set[ting] an example others might follow" (*TST*, 03/14/80). In his October 1978 address, Carter reaffirmed that a strategy against

inflation of "a deliberate recession… would not work," and instead sought preferential tax treatment for wage-earners who adhered to the new guidelines (*NYT*, 10/25/78).

G. William Miller became Federal Reserve Chairman in February 1978. In an interview in July 1978, he endorsed several aspects of the cost-push view of inflation, contending that announced increases in payroll taxes and the minimum wage "will contribute substantially to inflation," and applauding the April 1978 incomes policy as a "process [that] has to continue." As well as embracing Planks 2 and 3 of monetary policy neglect with these statements, Miller endorsed Plank 1 by suggesting that monetary policy was becoming ineffective at restraining demand: "the public has built up some sort of antibodies that resist the impact of higher interest rates" (*WP*, 07/30/78). Although, in principle, this perspective might mean pushing interest rates up further than otherwise in fighting inflation, Miller said he expected interest rates to peak soon and to begin declining in 1979, with no recession.

4.5 The Disinflation Begins

During 1978, both policymakers and the financial press placed special emphasis on the exchange rate in their cost-push interpretation of inflation. Columnist Sylvia Porter continued to argue that "[f]or many, many years… we have been in the clutch of cost-push inflation in the U.S." (*WST*, 10/31/78); to her, exchange-rate depreciation was the latest source of cost-push pressure, with the dollar's fall "a prime factor in fueling the speedup of inflation in 1978" (*NYDN*, 11/07/78). Chairman Miller took a similar view of the relationship between dollar depreciation and inflation. In July 1978 testimony, Miller (1978, p. 644) said that "[m]onetary policy has been—and continues to be—designed to restrain inflation. But monetary policy cannot do the job alone." As measures against the "structural problem of inflation," along with familiar proposals for deficit reduction and lower government regulation, Miller named "steps as well to bolster our position in international trade and thereby to strengthen the dollar" (1978, p. 646).

There was a fundamental difference, however, between the weakness of the dollar in 1978 and earlier events cited as cost-push sources of inflation. OPEC or wage-push interpretations of inflation did not lend support to a tightening of monetary policy as a countermeasure. By contrast, because the link between international interest differentials and the exchange rate was widely accepted, monetary policy tightening did appear an appropriate action to arrest dollar depreciation. The FOMC cited dollar weakness as a reason for its shift to tighter policy during 1978. Financial columnist Hobart Rowen rationalized the Fed's tightening in August 1978 in cost-push terms: not only would depreciation raise import prices but "a plunging dollar… would force OPEC to raise prices—or worse, price oil in some currency other than dollars" (*WP*, 08/31/78). He argued that this was why the White House had supported the Fed's tightening with its

own statement that "the administration fully understands the reason for this action." Further pressure on the dollar led to President Carter announcing new measures in November, on the grounds that the dollar's decline "threatens… our anti-inflation program" (*LAT*, 11/02/78*a*). Carter's announcement, coordinated with increases in interest rates by the Fed, was interpreted as an acceptance that a recession should be risked as part of the fight against inflation, reversing his earlier position (*LAT*, 11/02/78*b*).

The perceived channel by which policymakers saw their actions as anti-inflationary—from policy tightening to a stronger dollar, to lower import price inflation, to lower inflation—was misconceived, and neglected the fact that exchange-rate depreciation can occur in conditions of price stability. But the depreciation did act as a circuit-breaker that brought forth tightenings of monetary policy and so, the contractions in aggregate demand that the cost-push view of inflation had previously ruled out as a strategy against inflation. By November 1978, Porter noted that "the Federal Reserve System recently has been aggressively… tightening credit and boosting interest rates to double-digit ranges" (*WST*, 11/02/78); as Table 1 shows, the rise in nominal interest rates was larger than the rise in inflation in 1978, and this tightening led to a lasting decline in M2 growth.

These measures took place alongside continued espousal of cost-push views of inflation, and pursuit of wage-price guidelines, by Administration officials.[23] A turning point had nevertheless been reached, in that monetary policy had moved in the direction of restraint, with the support of the Administration. Acceptance of the *central* role of monetary policy for inflation control took longer; Miller (1978, p. 646) insisted there were "limitations of monetary policy as the main bulwark against inflation."

Although the U.S. turned the corner on monetary policy in 1978, the lag of inflation behind monetary developments meant that inflation deteriorated throughout 1979, leading to further pressure on the Federal Reserve to improve its monetary control. This produced the new operating procedures announced in October 1979, a better-known watershed than the shift to disinflation in 1978. Reaction to the 1979 policy change reflected the continuing, though receding, influence of cost-push views on economic commentary. The Monday after the new operating procedures were announced, a *New York Post* article stated: "It's nail-biting time in the economics business… it's time to find out if tight money stops inflation" (*NYP*, 10/08/79). The article said that the rise in interest rates over the preceding two years "hasn't put any dents in inflation," but

[23] For example, Alfred Kahn, President Carter's chief adviser on inflation, described data on higher profits as a "catastrophe" indicating "the business community has not been doing its share in the anti-inflation fight" (*TST*, 03/21/79).

conceded that until recently the interest-rate increases had been inadequate to keep the real interest rate positive. Jim Sasser (D–TN) of the Senate Budget Committee criticized the Fed's move because "we appear to be in a new ball game. We have higher and higher interest rates with no discernible impact [o]n the inflation rate" (*COM*, 10/08/79). Skepticism about monetary policy as an anti-inflationary weapon was also manifested in a November 1979 *New York Times* article by James Tobin entitled "Why the Fed's Cure Won't Work," which restated doubts about the output-gap channel to inflation ("If five years of 8 percent unemployment lower domestic wage-price inflation by 4 points, we will be lucky") and praised President Carter's "unfairly maligned guideposts" for holding down wage inflation (*NYT*, 11/11/79). Several months later, J.A. Livingston reported that "modern economists" accepted that "[i]nflation has become recession-resistant, and America inflation-prone" (*PHI*, 04/23/80). The sustained decline in U.S. inflation after 1980, however, settled the debate on whether monetary policy was an effective weapon against inflation.

5. The United Kingdom

This section covers the evolution of policy and economic commentary during the U.K.'s Great Inflation. The United Kingdom had sharply different "initial conditions" in 1970 from the U.S. due to a different 1960s macroeconomic consensus, so the situation as of 1970 is considered first.

5.1 The U.K. in 1970: A Cost-Push Consensus

The case of the U.K. is different from that of the U.S. in that policymaker skepticism about monetary policy was prevalent throughout the 1960s. Not only was there doubt about the effectiveness of monetary policy actions on aggregate demand—Plank 1 of monetary policy neglect—but cost-push views of inflation (Plank 2) were dominant. Brittan (1977, p. 8) observes that U.K. macroeconomic policy for most of the postwar period was "managed by people most of whom do not at heart believe that inflation is a monetary phenomenon," while Alan Walters, economic adviser to Margaret Thatcher in the 1980s, recalled: "For three decades… [i]nflation was blamed on trade unions, greedy businessmen, property speculators, import prices, taxes, government regulations…" (*TE*, 05/04/85). The U.K.'s adherence to a fixed exchange rate nevertheless put a brake on periods of expansionary monetary policy, and when price and wage controls were employed in the 1960s, they served to supplement restrictive aggregate demand policies.

The reduced priority given to exchange-rate stability after 1966 gave greater scope for macroeconomic policy to be directed by domestic views—which, at that time, were concentrated on the wage-push variant of the cost-push explanation of inflation. Increases in nominal wage inflation in the late 1960s—which in retrospect do not appear

out of line with the pickup in U.K. monetary growth—led to renewed emphasis on cost-push. The London *Sunday Times* financial columnist claimed in early 1968 that "the whole structure of wage bargaining has become much more inflationary in the 1960s than the 1950s" (*ST*, 03/17/68), while *The Economist* argued that "incomes policy is an indispensable weapon for managing the British economy…" (*TE,* 01/18/69). When the *Daily Mail* provided its readers with a glossary of economic terms, it felt it had to define "inflation" as follows:

> *Inflation*: rising prices, or a decrease in the value of money. This is caused by the excess of demand over supply (demand inflation) and some economists believe that it may originate, independently of demand inflation, in an excessive rise in wage rates. (*DML*, 09/24/69).

The wage-push view of inflation formed the basis for the diagnosis of inflation by Roy Jenkins who, as Chancellor of the Exchequer, had responsibility for both fiscal and monetary policy.[24] In February 1970, Jenkins stated: "In my view what this country needs is a respite from the inevitably steep [rise in] prices which we have had in the two years following devaluation." (*TS*, 02/09/70). He argued that union wage demands were responsible for the continuation of inflation following the 1967 devaluation. This diagnosis is notable for its acceptance of three aspects of the cost-push view: (i) the belief that devaluation "inevitably" raises the aggregate price level—in effect, extrapolating from particular prices (import prices) to the total price index; (ii) the role assigned to wage-push in propagating inflation; (iii) the absence of a role for monetary policy in determining whether devaluation and wage-push have a lasting impact on inflation. By contrast, a monetary view of inflation contends that, even when a fall in the nominal exchange rate occurs, an aggregate CPI response is not inevitable, and neither is any subsequent wage-price spiral. Both can be contained if monetary policy puts a lid on nominal spending and, therefore, allows the exchange-rate movement to create a shift in relative prices rather than aggregate prices.[25]

5.2 1970–76: Easy Money, Tough Incomes Policies

The Conservative Government of Edward Heath that was elected in June 1970 also subscribed to a nonmonetary view of inflation. The new Chancellor of the Exchequer, Iain Macleod, had been reported as describing the U.K. as "in the grip of the worst cost-push inflation since 1951" (*TT*, 04/20/70), while the Conservative Party's election platform stated: "Britain now faces the worst inflation for twenty years. This is mainly the result of tax increases and devaluation." (1970, p. 116). This diagnosis saw the inflation as arising from wage-push triggered by the reduction in real disposable income

[24] The Bank of England did not become independent of the U.K. Treasury until 1997.
[25] A non-inflationary monetary policy is also, of course, likely to be helpful in avoiding or reversing exchange-rate depreciations.

from tax increases. Continuing this theme, a *Sunday Times* analysis of an economic statement Heath had given just before the election concluded: "Heath's diagnosis of the present inflation is not that there is too much money chasing too few goods, but rather, 'too much taxation chasing too little income.'" (*ST*, 06/21/70). The new Government's views were reflected in several nonmonetary measures taken against inflation in 1970–71, including tax cuts, restrictions on price increases for government-sector output, and limitations on the wage increases given public employees.

While the Government did not attribute inflation to excess demand, some commentators expected that contractionary policies would be imposed, in the absence of better tools to attack union wage-push (*DML*, 06/16/70). Certain restrictive measures were introduced in the second half of 1970 with the arrival of the Government's second Chancellor of the Exchequer, Tony Barber. Barber during this period conceded some role for monetary policy in controlling inflation, while emphasizing wage-push as the fundamental cause (*BKR*, 02/71). His restrictive actions in 1970–71, however, principally took the form of fiscal contraction; the monetary steps consisted of an increase in reserve requirements and a call for less commercial bank lending (*KCS*, 10/29/70). Short rates were held constant at their pre-election levels. This ensured that the measures were ineffective in restraining money growth: higher reserve requirements could be met by greater reserve provision by the Bank of England at the pre-existing nominal interest rate, while commercial banks could respond to the lending restriction by switching to greater investment in government securities, without needing to contract total balance sheets.

The eclectic position of policymakers was superceded from early 1971 by a stricter cost-push interpretation of the U.K.'s Great Inflation, according to which restrictions on aggregate demand were inappropriate. To contemporary observers, the 1970 inflation seemed to be proceeding in spite of an exceptionally weak economy. One financial columnist before the election observed, "we are drifting into the worst of states—stagnation and inflation" (*DML*, 06/16/70), while a businessman, Lord Shawcross, was reported a month later urging a correction of the two problems of "the present economic stagnation and unprecedented inflation…" (*DE*, 07/16/70). The same day, a *Daily Mail* column observed, "stagflation is a deadly bug…," the first known case of the word "stagflation" appearing in a newspaper article (*DML*, 07/16/70). In retrospect, U.K. real growth proceeded at an annualized rate of over 2.5% in the first half of 1970, so talk of "stagflation" seems overdone. But initial estimates gave this rate at only 0.4%, and the apparent coincidence of inflation and stagnation undermined the Government's remaining confidence in the role of monetary policy in controlling inflation. In December 1970 it was reported that the Government "is not so sure now, as it once was, that inflation is sensitive to total demand" (*ST*, 12/20/70). Early in 1971, it was further reported that Treasury officials had made a "firm recommendation… that the only way

[to] bring a quick halt to Britain's dangerous inflation is to impose a prices and incomes freeze. Officials have warned that orthodox deflationary techniques still favored by the Government are neither appropriate nor adequate to stop inflation…" (*ST*, 01/10/71).

The shift in views about inflation control produced a new policy package: from early 1971, the Government explicitly followed a policy of boosting aggregate demand and assigning the control of inflation to other devices. The Government's March 1971 Budget shifted to fiscal expansion, and this was accompanied by a cut in interest rates. The policy shift was not seen as acquiescence to high inflation: Chancellor Barber said "the first priority must be to defeat cost inflation" (*UKPD*, 03/30/71, p. 1361), while press coverage of the interest-rate cut argued that it was anti-inflationary for cost-push reasons: "High interest rates have been one of the factors fuelling inflation so a reduction… will exert a cooling effect on prices" (*EN*, 04/01/71). Further cuts in interest rates followed (and, in June 1972, the floating of the exchange rate). Policy became still more expansionary in the first quarter of 1972 as rising unemployment and high productivity growth persuaded the Government that the potential growth rate had risen from 3% per year in the 1960s to 3.5% in the 1970s, and that the U.K. output gap as of early 1972 was around −5% when, in retrospect, it appears close to zero (Nelson and Nikolov, 2003).

In November 1972, after several attempts at inflation control through indirect interventions in the price and wage-setting process, the Government imposed direct wage and price controls. The compulsory controls formalized the regime in force since early 1971: nonmonetary measures against inflation alongside monetary expansion—in the terminology of this paper, Planks 2 and 3 of monetary policy neglect. This combination was qualitatively also that recommended by many outside observers. For example, Roy Jenkins, now in the Opposition Labour Party, stated: "We on this side of the House, and the T[rades] U[nion] C[ongress], have urged for… anti-inflationary results this way—by a combination of an approach to price control and an expansionary economic policy…" (*UKPD*, 07/20/71, p. 1281), while the reaction of the financial markets to the price and wage controls was reported as: "Thank heavens, it's a freeze, not a squeeze… keeping growth strong in a period of freeze followed by rigorous controls…" (*DML*, 11/07/72).

Goodhart (2003, p. 27) recalls: "The Prime Minister, Ted Heath, had sought to rely on incomes policy in 1973 to hold the line on inflation." Heath regarded the commodity price increases of 1972–73 as an additional source of cost-push inflation which, together with labor-union resistance, prevented the success of his wage and price control program. He denied that a slower monetary growth path could have contained the rise in inflation that followed the commodity shocks (Nelson and Nikolov, 2002, p. 30). By this point, the Government had accepted that monetary policy exerted important effects on

aggregate demand;[26] but Heath believed that his expansionary monetary policy was anti-inflationary because it added to total output (Heath, 1998, p. 405), a position that seemingly neglected the distinction between additions to demand and additions to supply. The Opposition Labour Party in 1973 had announced plans for "a wide-ranging and permanent system of price controls" (quoted in Holmes, 1985, p. 5), and when the party returned to office in 1974, it pursued nonmonetary initiatives against inflation, including agricultural subsidies and cuts in indirect taxes. "We have set out to tackle inflation at the price end," Prime Minister Harold Wilson explained in a television interview in August 1974. "By the rents freeze. By holding mortgages down. By food subsidies. By a much tighter control over food prices in the shops."[27] To the extent that these measures had an aggregate effect, it could only be expected to be one-time downward pressure on the price level, and so ineffective against ongoing inflation; in any case, a rising budget deficit in 1975 forced the government to withdraw many of its earlier subsidies. Another nonmonetary tool used by the government was a wages agreement with labor unions.

On the aggregate demand side, the government pursued expansionary policies, so that U.K. anti-inflation strategy and demand management policies continued to be in conflict. The government did take one important step that shifted monetary policy in a less expansionary direction, when in early 1974 it revised estimates of potential GDP growth down from 3.5% per year to 3%. According to the rule estimates in Table 2, this measure alone implied that nominal interest rates at the start of 1975 were about 125 basis points higher than they would have been had the government not revised the estimates.

The peak of inflation at over 25% in 1975, which the government blamed on union wage-push rather than the preceding years of monetary expansion, prompted moves to make the wages agreement more legally binding. The Government's paper on inflation in July 1975 announcing the change made it clear that demand restriction would not accompany the incomes policy: "there can be no solution to the problem of inflation which relies on… under-utilization… The direct and sensible solution is to reduce our rate of increase in wages and salaries" (*TT*, 07/12/75). An illustration of how commentators believed inflation had a life of its own, disconnected from monetary policy, is an article in the *Birmingham Evening Mail* at the time of the new incomes policy, which suggested that the U.K. might shift into hyperinflation with a new shock such as "if the pound collapses next year" (*BEM*, 07/02/75). In the event, a pound collapse *did* occur—the sterling/dollar exchange rate did fall by 30% in the following 15 months—but inflation fell almost continuously from 1975 to 1978, in line with the withdrawal since 1973 of some of the monetary stimulus.

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[26] For example, Chancellor Barber acknowledged the "important and strong effects that monetary policy can have on the economy" (*UKPD*, 03/21/72, p. 1346).
[27] Quoted in Day (1993, p. 115).

5. 3 1976–77: The Turnaround that Didn't Last

In 1976, there was some movement away from monetary policy neglect in the U.K., manifested in a public acknowledgement by Prime Minister Callaghan of the links between aggregate demand and inflation, as well as the announcement of targets for broad money growth (see Holmes, 1985, p. 92). On this basis, the Chancellor of the Exchequer said in 1978 that the Labour Government was "perhaps the first in Britain for very many years which has given monetary policy the importance it deserves" (*TT*, 10/20/78). However, strong elements of cost-push analysis remained: the Government continued to rely on an incomes policy (aimed at wage growth) in its anti-inflation strategy. And part of the acceptance of higher nominal interest rates reflected the fact that the exchange rate was weak in 1976: just as in the U.S. in 1978, monetary tightening was a natural response to depreciation even from a cost-push perspective.

Perhaps even more important, the renewed emphasis on monetary policy did not, in fact, signal that the Government was now willing to use conventional monetary tightening—downward pressure on money base growth and upward pressure on nominal rates—to rein in inflation. With the exchange rate no longer depreciating by early 1977, the Government cut interest rates aggressively, so real interest rates became even more negative. It relied on measures such as marginal reserve requirements to hit its money targets, which tended to be only an artificial restraint on deposit growth, ineffective in restraining aggregate demand.[28]

The shortcomings of the macroeconomic arrangements in this period were compounded by failure to recognize the post-1973 productivity slowdown. Throughout 1974–79, policymakers assumed potential growth of 3%, whereas after 1973 an assumption of 2% growth would have been more realistic. The outcome was that the estimated output gap, which interest rates responded strongly to over this period, was overstated by approximately 10% by late 1977 (Nelson and Nikolov, 2003).

5.4 1977–79: Back to Monetary Policy Neglect

From 1977 to early 1979, U.K. policy is well described by Planks 2 and 3 of monetary policy neglect, as the Government was pursuing a stricter incomes policy for wages alongside a strong rebound in money growth and cuts in nominal interest rates. Prime

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[28] Congdon (1982, p. 64) and Minford (1993, p. 423) concur that the marginal reserve requirement program was ineffective in restricting aggregate demand. Another flawed aspect of U.K. attempts to implement monetary control was that policymakers erroneously believed they could restrict growth in deposits by reducing the amount of government debt held by commercial banks, while leaving short-term interest rates and the money base unchanged. See Laidler (1989, pp. 1151–1152) for a critique of this approach.

Minister Callaghan stated in January 1978 that he was aiming for 5% price inflation in 1979 (Holmes, 1985, p. 125), and the Government attempted to limit wage increases to 5% over 1978–79 in pursuit of this goal. The wage goal was inconsistent with the upward pressure on wage and price inflation in the pipeline from prior monetary easings, and heavy strike activity resulted. Following a Parliamentary defeat, the Government announced an election for May 1979.

The Conservative Party under Margaret Thatcher ran during the election campaign on a program to reject wage and price controls in favor of monetary control in fighting inflation. The discussion during the campaign, however, reflected the continuing faith in incomes policy by elements of both sides of politics. Former Prime Minister Edward Heath was quoted as describing monetary policy to fight inflation as "intellectually bogus," and it was reported that he "believed and continues to believe that incomes policy is the basic tool to combat inflation" (*TST*, 08/04/79). The Labour Government's policy document for the election had a three-point program to reduce inflation to 5% by 1982. All three points of the program consisted of nonmonetary measures: strengthening the Price Commission; reform of agricultural supplies; and a new wage agreement with the unions (*DT*, 04/07/79). The Government also indicated that it would "aim at a rate of growth of 3 per cent or more" to restore full employment, indicating both that the incomes policy would be accompanied by expansionary demand policies, and that the Government still viewed potential growth as around 3% per annum, an estimate out of line with the post-1973 experience. These promises amounted to a continuation of the policies used to deal with inflation for most of the preceding eight years: policies classified here as Planks 2 and 3 of monetary policy neglect.

With the election of the Thatcher Government, the remaining price and wage control machinery was abandoned. On monetary policy, the government differed from its predecessors in rejecting quantitative controls and concentrating on a more non-inflationary setting of the interest-rate rule: marginal reserve requirements were abolished, while nominal and real interest rates increased sharply, with Margaret Thatcher acknowledging that it was "necessary to raise interest rates to conquer inflation" (*UKPD*, 11/15/79, p. 1498). Another major step the Government took in 1979 was a sharp downward revision of potential growth to reflect the post-1973 slowdown; this action eliminated output gap mismeasurement as a source of inflationary policy errors in the first half of the 1980s. After the usual two-year lag in the effect of monetary policy actions, the tighter setting of monetary policy implied by the stronger response to inflation and reliance on a more realistic gap series were manifested in much lower inflation rates from 1982.

6. The Great Inflation and Estimated Monetary Policy Rules

The evidence presented above suggests 1970s policymakers in both the U.S. and the U.K. delegated inflation control to nonmonetary devices. It therefore provides a rationalization for the findings in previous studies that pre-1979 policy rules exhibit a weak response to inflation. For the U.K., this finding holds irrespective of whether real-time or final data are used, and is robust to the specific dates used in the pre-1979 sample period (see Table 2). On the other hand, for the U.S., Orphanides (2003b) finds that pre-1979 policy does exhibit a larger-than-unity interest-rate response to inflation, if real-time data are used. Here, I reconcile this finding with the monetary policy neglect hypothesis.

Orphanides argues that the pre-1979 policy rule for the nominal funds rate (R_t) is well-characterized by:

$$R_t = \pi^* + r^* + \phi_\pi (E_F \pi_{t+k} - \pi^*) + \phi_y(gap_t^{rt}) \qquad (4)$$

up to dynamics. This is essentially a forward-looking rule of the type that Clarida, Galí, and Gertler (2000) find characterizes post-1979 policy well. The difference is that the inputs are policymakers' real-time gap series (gap_t^{rt}) and the Fed's internal forecast of inflation ($E_F \pi_{t+k}$). I have argued that the gap series that Orphanides uses is a plausible measure of what 1970s policymakers viewed was the value of the gap. Any doubt about Orphanides' estimates should therefore focus on the inflation-forecast series.

Previous studies blamed high U.S. inflation on policymakers permitting too accommodative a policy—a value of ϕ_π below unity—or intentionally targeting a higher inflation rate (a high π^*). Orphanides argues, however, that neither of these conditions prevailed, and that instead the source of high inflation was output gap mismeasurement—both because policy responded to gap_t^{rt} aggressively, and because these erroneous gap numbers informed policy agencies' forecasts of inflation, $E_F \pi_{t+k}$. His estimates of equation (4), giving $\phi_\pi > 1$ before 1979, seemingly support this position, and therefore appear to identify output gap mismeasurement as the primary source of 1970s inflation.

But because it is the Fed's *forecast* of inflation that appears in the rule, one cannot conclude that output gap mismeasurement is the sole source of systematic error. Consider the $k = 1$ inflation forecast; according to equation (2), it should be given by:

$$E_t\pi_{t+1} = \gamma + \alpha E_t \Sigma_{i=0}^{\infty} \beta^i (y_{t+i+1} - y_{t+i+1}^*) + E_t[\Sigma_{i=0}^{\infty} \beta^i (\mu_{u,t+i+1})] + [\rho_u \hat{u}_t / (1-\beta\rho_u)]. \qquad (5)$$

If policymakers (correctly) subscribe to a monetary view of the inflation process, the absence of output gap mismeasurement would indeed prevent systematic policy error, since $E_F gap_{t+i}^{rt} = E_t(y_{t+i} - y_{t+i}^*)$, and the inflation forecast error becomes:

$$E_t[\pi_{t+1} - E_F\pi_{t+1}] = E_t[\pi_{t+1} - E_t\pi_{t+1}] = E_t[u_{t+1}] = E[\mu_{u,t+1}] + \rho_u \hat{u}_t = 0,$$

using the fact that $\rho_u = 0$ and $E_t(\mu_{u,t+k}) = 0$ for all k under a monetary view of inflation. However, policymakers clearly did not subscribe to this view of inflation during the 1970s. Rather, they attributed shifts in inflation to movements in the mean of u_t; regarded cost-push shocks as highly persistent; and frequently treated the influence of the output gap on inflation as negligible. Indeed, under a pure cost-push view of the inflation process ($\alpha = 0$), output gap mismeasurement does not contribute to inflation forecast errors at all! Nonzero mean inflation forecast errors then arises from an entirely separate source of error by policymakers and their advisors—the invalidity of the nonmonetary view of inflation. It is therefore illegitimate to conclude from Orphanides' forecast-based monetary policy rule estimates that policymakers followed a conventional policy rule in the 1970s, precisely because the inflation forecasts were driven heavily by a nonmonetary view of the inflation process. For example, because policymakers frequently attributed inflation to autonomous forces, it is plausible that they treated the imposition of price controls (and later wage guidelines) as producing a permanent fall in inflation (i.e. by shifting the mean of future cost-push shocks, $\mu_{u,t+k}$, from positive to zero values) rather than one that would be reversed once the controls were removed.

A straightforward way of determining whether output gap mismeasurement, combined with an aggressive response to the gap, is the only notable difference between pre- and post-1979 policy is to estimate a 1970s interest-rate rule that uses the real-time output gap but specifies responses to inflation outcomes only. Post-1979 U.S. policy rules exhibit similar responses to inflation regardless of whether the estimated rule responds to observed data or inflation forecasts (Table 2). On the other hand, if inflation forecasts and therefore monetary policy before 1979 were distorted by a nonmonetary model of inflation, Orphanides' finding of a strong pre-1979 inflation response should not be robust to using current and lagged inflation in the rule. Table 3 shows that it is not robust: the inflation response before 1979 is weak even when real-time output gap data are used. This supports the monetary policy neglect hypothesis: the cost-push view of inflation held in policy circles led to an overweighting of nonmonetary developments when forecasting the path of inflation, generally producing sanguine inflation predictions, and weak monetary policy responses to actual inflation.

Table 3. U.S. policy rule estimates using real-time gap and lagged inflation			
Specification: $R_t = c + \rho_R R_{t-1} + (1-\rho_R)\phi_\pi \pi_t + + \Sigma_{i=0}^{2} \delta_{\pi i} \Delta\pi_{t-i} + (1-\rho_R)\phi_y \, gap_t^{rt}$			
	Long-run inflation response (ϕ_π)	Long-run gap response (ϕ_y)	Smoothing coefficient (ρ_R)
1966 Q1–1979 Q2	0.854 (0.116)	0.294 (0.074)	0.490 (0.118)
1970 Q1–1978 Q1 (Burns period)	0.816 (0.137)	0.334 (0.101)	0.363 (0.166)
Note: Standard errors in parentheses. Source for gap series: Orphanides (2003b). Lags 0 to 3 of inflation are included to allow for a response to the four-quarter inflation rate.			

7. Conclusion

This paper has looked at the record of policymakers' views and economic commentary during the Great Inflation, focusing especially on a source not employed in the existing literature—newspaper coverage. This examination lends considerable support to what Nelson and Nikolov (2002) label the monetary policy neglect hypothesis. Not only, as McCallum (1999, p. 176) notes, "[i]n the U.S. and the U.K. there was a tendency for central banks to deny their own behavior was an essential ingredient to the inflation process," but policy in both countries up to 1978 focused on nonmonetary strategies for dealing with inflation. These concluding remarks discuss the relation of this finding to the existing literature on the Great Inflation, then make some general points about how policies that did not feature monetary policy neglect would have fared in the 1970s.

The analysis here suggests that several accounts of the Great Inflation do not accord with: (1) estimated monetary policy reaction functions; (2) timing patterns of monetary developments and inflation; and (3) the record of economic views, manifested in statements by policymakers and prominent financial commentators. The argument by Taylor (1992) and Sargent (1999) that policymakers pursued a long-run trade-off fails on criteria (1) and (3): neither U.K. nor U.S. policymakers viewed inflation through a Phillips curve (whether of a vertical or nonvertical variety) over the 1970s, while estimated policy rules suggest weak responses to inflation, contradicting a conscious targeting of high inflation. The expectations trap hypothesis does not meet criterion (2).

Differences with other studies are more in details. Orphanides' (2003a) emphasis on output gap mismeasurement has been affirmed, although I have argued that this was not the principal 1970s policy mistake. That mistake instead was the prevalence of cost-push views of inflation. The claim that adherence to nonmonetary views of inflation produced major policy mistakes has been advanced for the U.K. by Laidler (1989) and Nelson and Nikolov (2002), and for the U.S. by Hetzel (1998), McCallum (1999), and Romer and Romer (2002). The additional evidence in this paper supports this claim for both countries. The analysis here also supports Romer and Romer's (2002) contention that U.S. policymakers' support for cost-push views temporarily receded around 1974.

However, their dating of the reversion to cost-push views of inflation to 1977 is too late (given the lags in effect of monetary policy) to account for the policies that produced the sharp pickup of inflation from 1977. According to the alternative analysis here, the lack of confidence by U.S. policymakers in monetary policy was reversed only briefly, in 1974–75; and then only to a limited degree—so limited that in 1974 the *Los Angeles Times* was referring to monetary policy as an "old inflation cure that failed," and in 1975 the *New York Times* ran an article seriously asking if the U.S. was in a liquidity trap. The U.K. too had a brief move away from nonmonetary views of inflation, in 1976–77. Significantly, in both countries, the reversion to nonmonetary views (the U.S. in 1975, the U.K. in 1977) occurred during periods of apparently double-digit negative output gaps and continuing high inflation. Far from this phenomenon promoting revisions of gap series, it led to an embrace of cost-push views that seemed to resolve the anomaly.

Cost-push views magnified the implications of output gap errors for inflation in two ways. First, the cost-push perspective suggested monetary policy was an inappropriate instrument against inflation, and so promoted a low inflation response in interest-rate rules. This implied that excessive easings produced by policy responses to faulty gap measures, did not produce subsequent tightenings as inflation turned up. Second, cost-push views slowed down the correction of errors in estimates of potential GDP. The monetary view of inflation insists that high inflation is evidence of excessive aggregate demand. Output gap estimates that did not reflect this would have been corrected. By contrast, a cost-push view of inflation rationalized arbitrary inflation/gap combinations, and therefore provided no automatic mechanism for gap estimates to be revised.[29]

The circuit-breaker that led to the U.S. disinflation was not a conversion to monetary views of inflation, but an event (exchange rate depreciation) in 1978 that legitimized monetary tightening as an appropriate response to inflation even from a cost-push perspective. Conversion to a monetary interpretation of inflation only came later. In the U.K., the 1976 depreciation also started to trigger a tightening, but when downward pressure on the pound dissipated in 1977, the rationale for a monetary tightening was lost, and monetary policy neglect resumed. When disinflation began in 1979, it was under a new government that did accept a monetary view of inflation.

If policymakers had adhered to a monetary view of inflation in the 1970s, and therefore used monetary policy vigorously, there are strong grounds for believing both inflation outcomes and real outcomes would have been superior. Because real interest rates were

[29] The explanation here is also complementary with accounts where the 1970s inflation outcomes partly reflected private agents' learning behavior (e.g. Bullard and Eusepi, 2003; Orphanides and Williams, 2004). When the government assigns inflation control to ineffective devices such as price controls, the steady-state inflation rate is a particularly difficult parameter to learn. As private agents adjust their estimates of steady-state inflation, policymakers may mistake the resulting inflation fluctuations for cost-push inflation. See Bernanke (2004) and Orphanides and Williams (2004) for discussion.

so negative in the 1970s—especially in the U.K.—it is difficult to avoid the conclusion that real rates would have been higher on average in both countries under a more inflation-vigilant monetary policy, and so the peaks in output would have been lower. This, however, should not be interpreted as a *cost* of a more orthodox policy, even leaving aside the likelihood that high inflation had negative supply-side effects on potential GDP. The lower level of *output* under the alternative policy would have been with the intention of eliminating positive *output gaps*. If, as has become the consensus view, the goal of monetary policy should be to stabilize output around potential, then a policy that avoided the negative real rates of the 1970s would have been welfare-enhancing.

Appendix 1. Abbreviations for Newspapers Cited in the Text

United States		
BW	*Business Week*	U.S.
COM	*Commercial Appeal*	Memphis, TN
CPD	*Cleveland Plain Dealer*	Cleveland, OH
CST	*Chicago Sun-Times*	Chicago, IL
CT	*Chicago Tribune*	Chicago, IL
DFP	*Detroit Free Press*	Detroit, MI
DMN	*Dallas Morning News*	Dallas, TX
FORT	*Fortune*	U.S.
KCS	*Kansas City Star*	Kansas City, MO
KCT	*Kansas City Times*	Kansas City, MO
LAT	*Los Angeles Times*	Los Angeles, CA
LCJ	*Louisville Courier-Journal*	Louisville, KY
MJ	*Milwaukee Journal*	Milwaukee, WI
NW	*Newsweek*	U.S.
NYDN	*New York Daily News*	New York, NY
NYP	*New York Post*	New York, NY
NYT	*New York Times*	New York, NY
PHI	*Philadelphia Inquirer*	Philadelphia, PA
SFC	*San Francisco Chronicle*	San Francisco, CA
WP	*Washington Post*	Washington, DC
WSJ	*Wall Street Journal*	New York, NY
WST	*Washington Star*	Washington, DC
United Kingdom		
BEM	*Birmingham Evening Mail*	Birmingham, U.K.
BKR	*The Banker*	London, U.K.
DE	*Daily Express*	London, U.K.
DML	*Daily Mail*	London, U.K.
DT	*Daily Telegraph*	London, U.K.
EN	*Evening News*	London, U.K.
FT	*Financial Times*	London, U.K.
ST	*Sunday Times*	London, U.K.
TE	*The Economist*	U.K.
TS	*The Scotsman*	Edinburgh, U.K.
TT	*The Times*	London, U.K.
UKPD	*U.K. Parliamentary Debates* (*House of Commons Official Report*)	London, U.K.
Newspapers from other countries		
MST	*Montreal Star*	Montreal, Quebec, Canada
TST	*Toronto Star*	Toronto, Ontario, Canada

Appendix 2. Chronological List of Newspaper Articles Cited in the Text

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