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6

America's Peacetime Inflation: The 1970s

J. Bradford De Long

In a world organized in accordance with Keynes' specifications, there would be a constant race between the printing press and the business agents of the trade unions, with the problem of unemployment largely solved if the printing press could maintain a constant lead.

Jacob Viner, "Mr. Keynes on the Causes of Unemployment"

6.1 Introduction

Examine the price level in the United States over the past century. Wars see prices rise sharply, by more than 15% per year at the peaks of wartime and postwar decontrol inflation. The National Industrial Recovery Act and the abandonment of the gold standard at the nadir of the Great Depression generated a year of nearly 10% inflation. But aside from wars and Great Depressions, at other times inflation is almost always less than 5% and usually 2–3% per year—save for the decade of the 1970s.

The 1970s are America's only peacetime outburst of inflation. The sustained elevation of inflation for a decade has no parallel in the past century (fig. 6.1). The 1970s was the only era in which business enterprise and financing transactions were also "speculation[s] on the future of monetary policy" (Simons 1947) and concern about inflation was an important factor in nearly all business decisions.

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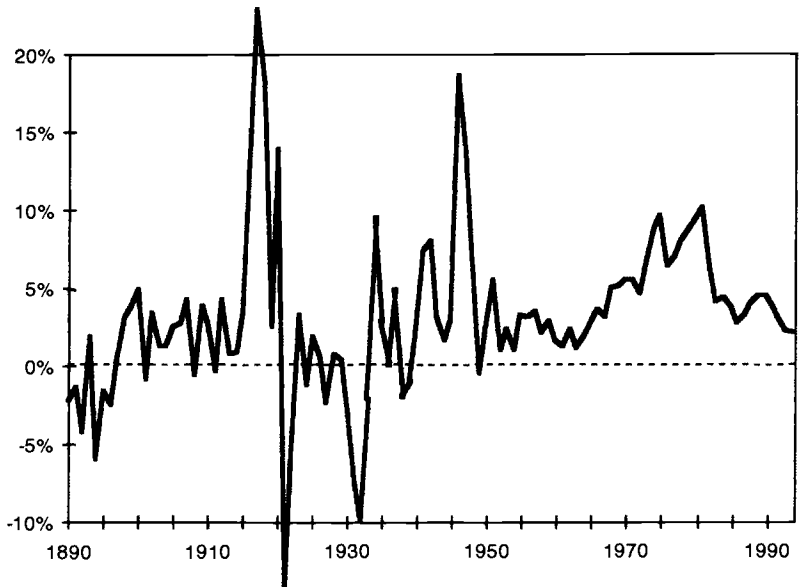


Fig. 6.1 Annual inflation (GDP deflator), 1890–1995

The cumulative impact of the decade of 5–10% inflation was large, as figure 6.2 shows. Since 1896, there has been a steady upward drift in the price level. Superimposed on this drift are rapid jumps as a result of World War I and the removal of World War II's price controls, and a sharp decline during the slide into the Great Depression. On this scale, the inflation of the 1970s was as large an increase in the price level relative to drift as either of this century's major wars. And the inflation of the 1970s was *broad-based*: as figure 6.3 shows, the qualitative pattern is similar no matter which particular price index is examined.

Economists' instincts are that uncertainty about current prices, future prices, and the real meaning of nominal trade-offs between the present and the future; distortions introduced by the failure of government finance to be inflation-neutral; windfall redistributions; and the focusing of attention not on preferences, factors of production, and technologies but on predicting the future evolution of nominal magnitudes *must* degrade the functioning of the price system and reduce the effectiveness of the market economy at providing consumer utility. The cumulative jump in the price level as a result of the inflation of the 1970s may have been very expensive to the United States in terms of the associated reduction in human welfare.¹

1. For a discussion of the failure of public finance to be inflation-neutral, see Feldstein (1982). For an argument that the real costs of inflation just might be quite high, see Rudebusch and Wilcox (1994). For an argument that the reductions in consumption and the increases in risk occasioned by inflation of the magnitude seen in the United States in the 1970s are relatively low (and thus

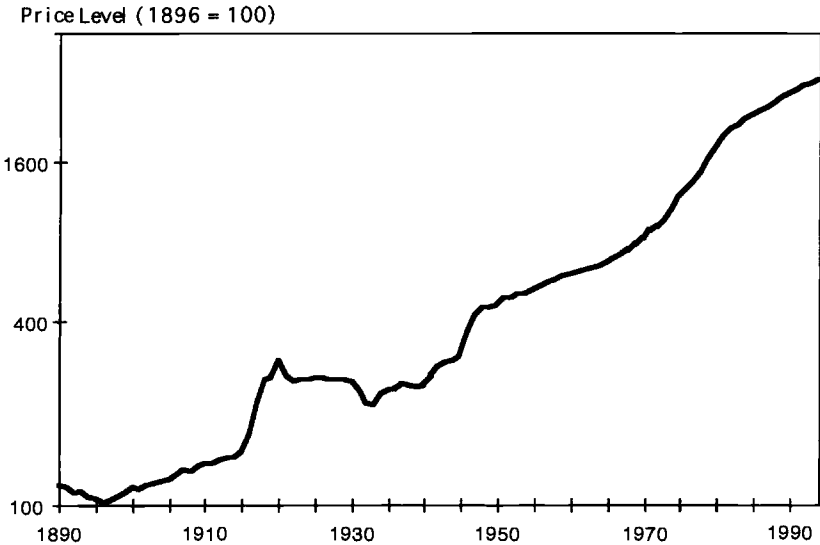


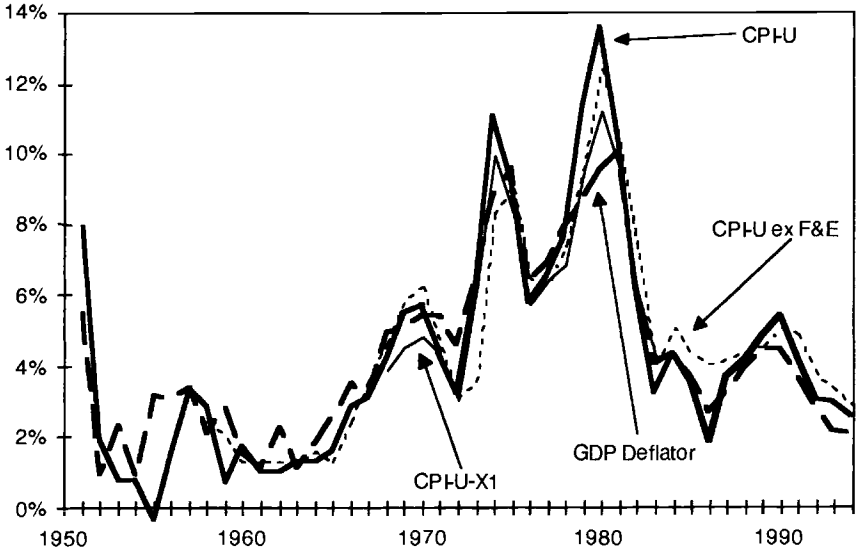
Fig. 6.2 Price level (GDP deflator, log scale), 1890–1995

Why did the United States—and, to a greater or lesser extent, the rest of the industrial world—have such a burst of inflation in the 1970s?

At the surface level, the United States had a burst of inflation in the 1970s because no one—until Paul Volcker took office as chairman of the Federal Reserve—in a position to make anti-inflation policy placed a sufficiently high priority on stopping inflation. Other goals took precedence: people wanted to solve the energy crisis, or maintain a high-pressure economy, or make certain that the current recession did not get any worse. As a result, policymakers throughout the 1970s were willing to run some risk of nondeclining or increasing inflation in order to achieve other goals. After the fact, most such policymakers believed that they had misjudged the risks, that they would have achieved more of their goals if they had spent more of their political capital and institutional capability trying to control inflation earlier.

At a somewhat deeper level, the United States had a burst of inflation in the 1970s because economic policymakers during the 1960s dealt their successors a very bad hand. Lyndon Johnson, Arthur Okun, and William McChesney Martin left Richard Nixon, Paul McCracken, and Arthur Burns nothing but painful dilemmas with no attractive choices. And bad luck coupled with bad cards made the lack of success at inflation control in the 1970s worse than anyone had imagined *ex ante*.

implicitly that the heavy cost paid to reduce moderate inflation did not increase the general welfare), see Blinder (1987). For an argument that people *feel* that the costs of inflation are very high—and perhaps that high inflation enters *directly* into the utility function with a negative sign—see Shiller, chap. 1 in this volume.



GDP Deflator: Price index for all final goods and services.
 CPI-U: Consumer price index for all urban consumers.
 CPI-U-X1: Consumer price index for all urban consumers with revised rental-equivalent housing price component for the 1970s.
 CPI-U-ex F&E: Consumer price index for all urban consumers omitting volatile food and energy prices.

Fig. 6.3 Inflation in the United States, 1951–94

At a still deeper level, the United States had a burst of inflation in the 1970s that was not ended until the early 1980s because no one had a mandate to do what was necessary in the 1970s to push inflation below 4%, and keep it there. Had 1970s Federal Reserve chairman Arthur Burns tried, he might well have ended the Federal Reserve Board as an institution, or transformed it out of all recognition. It took the entire decade for the Federal Reserve as an institution to gain the power and freedom of action necessary to control inflation.

And at the deepest level, the truest cause of the inflation of the 1970s was the shadow cast by the Great Depression. The Great Depression made it impossible—for a while—for almost anyone to believe that the business cycle was a fluctuation *around* rather than a shortfall *below* some sustainable level of production and employment. An economy would have to have some “frictional” unemployment, perhaps 1% of the labor force or so, to serve the “inventory” function of providing a stock of workers looking for jobs to match the stock of vacant jobs looking for workers. An economy might have some “structural” unemployment. But there was no good theory suggesting that either of these would necessarily be a significant fraction of the labor force. Everything else was “cyclical” unemployment: presumably curable by the expansionary

policies that economists would now prescribe in retrospect for the Great Depression.

The shadow cast by the Great Depression had the least impact on economic policy in the 1950s, when Eisenhower administration officials who were concerned about rising unemployment held the balance point between unreconstructed Keynesians on the one hand and those who still believed in the possibility of rolling back the New Deal on the other. But even Eisenhower-era Council of Economic Advisors (CEA) chairman Arthur Burns believed as strongly as anyone that changing economic institutions and economic policies had tamed the business cycle. And critics of Eisenhower-era policies were successful at *all* levels—among professional economists, among literate commentators, and in the voting booths—when they argued that a decade like the 1950s that showed above-par economic performance still fell far short of what the American economy could accomplish, and that it was important to “get the economy moving again.”

Sooner or later in post-World War II America, random variation would have led the economy to fall off of the tightrope of full employment and low inflation on the overexpansionary side. Although there was nothing foreordained or inevitable about the particular way in which America found itself with strong excess aggregate demand at the end of the 1960s, it was foreordained and inevitable that eventually some combination of shocks would produce a macroeconomy with strong excess demand. And once that happened—given the shadow cast by the Great Depression—there was no institution with enough authority, power, and will to quickly bring inflation back down again.

It took the decade of the 1970s to persuade economists, and policymakers, that “frictional” and “structural” unemployment were far more than 1–2% of the labor force (although we still lack fully satisfactory explanations for why this should be the case). It took the decade of the 1970s to convince economists and policymakers that the *political* costs of even high single-digit inflation were very high. Once these two lessons of the 1970s had been learned, the center of American political opinion was willing to grant the Federal Reserve the mandate to do whatever was necessary to contain inflation. But until these lessons had been learned, it is hard to see how the U.S. government could have pursued an alternative policy of sustained disinflation in response to whatever shocks had happened to create chronic excess demand.

It is in this sense that the inflation of the 1970s was an accident waiting to happen: the memory of the Great Depression meant that the United States was highly likely to suffer an inflation like that of the 1970s in the post-World War II period—maybe not as long, and maybe not in that particular decade, but nevertheless an inflation of recognizably the same *genus*.

Section 6.2 briefly sketches the background against which the decisions that led to the inflation of the 1970s were made. It examines the legacy left for economists and policymakers by John Maynard Keynes. It considers the

shadow cast by the Great Depression that created a climate in which few were willing to endorse any sacrifice of this year's higher employment for next year's lower inflation. It discusses whether economists' visions had any significant impact on economic policy. And it summarizes how the boom of the 1960s left the United States with the relatively high and apparently persistent rate of increase in nominal wages that, in combination with oil price shocks and the productivity slowdown, fueled the inflation of the 1970s.

Section 6.3 narrates how a relatively conservative administration as far as economic policy was concerned, the Nixon administration, wound up committed to a policy of inflation reduction through wage and price controls rather than through monetary and fiscal restraint. One powerful contributing factor was Nixon's sensitivity to what he saw as the adverse political consequences of slow growth for his own reelection. A second was the natural desire to postpone hard choices and to hope that good luck would make painful dilemmas go away. A third was that Federal Reserve chairman Arthur Burns had little confidence in the ability of higher unemployment to put downward pressure on inflation.

Section 6.4 considers the impact of the supply shocks of the 1970s on inflation. Section 6.5 discusses the slow and painful process by which a relative consensus to reduce inflation through monetary restraint emerged. Section 6.6 summarizes the paper.

6.2 The Background

Involuntary unemployment is the most dramatic sign and disheartening consequence of underutilization of productive capacity. . . . We cannot afford to settle for *any* prescribed level of unemployment.

John F. Kennedy (emphasis added)

6.2.1 The Legacy of Keynes?

Begin with the conclusion to Samuelson and Solow (1960), "Analytical Aspects of Anti-Inflation Policy" (emphasis added):

We come out with guesses like the following:

. . . In order to achieve the *nonperfectionist's* goal of high enough output to give us no more than 3 percent unemployment, the price index might have to rise by as much as 4 to 5 percent per year. That much price rise would seem to be the necessary cost of high employment and production in the years immediately ahead.

All this is shown in our . . . Phillips curve [fig. 6.4]. . . . The point A, corresponding to price stability, is seen to involve about 5.5 percent unemployment; whereas the point B, corresponding to 3 percent unemployment, is seen to involve a price rise of about 4.5 percent per annum. We rather

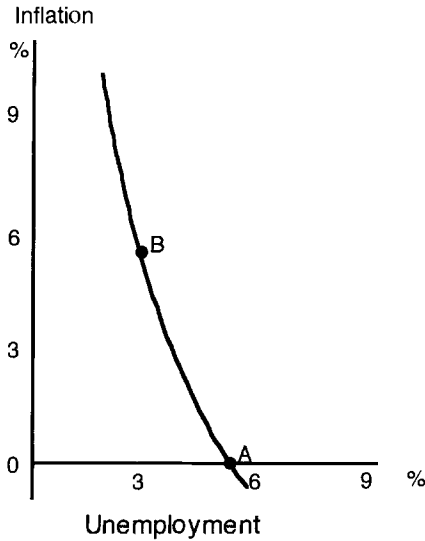


Fig. 6.4 Estimated Phillips curve from Samuelson and Solow (1960)

Note: Original caption reads: “Modified Phillips Curve for U.S. This shows the menu of choices between different degrees of unemployment and price stability, as roughly estimated from the last twenty-five years of American data.”

expect that the tug of war of politics will end us up in the next few years somewhere in between.

The authors are the best of the post–World War II American economics profession. Yet when we read these paragraphs and examine the associated figure, “Modified Phillips Curve for U.S.,” we wince.

Ignore the fact that the curve plotted between points *A* and *B* is not “as roughly estimated from [the] last twenty-five years of American data.” When Samuelson and Solow wrote, they were barely out of the age where “computer” was a job description rather than a machine; they lacked the batteries of statistical procedures, diagnostics, and sensitivity analyses that we use as a matter of course; and they did present the raw scatter of unemployment and wage growth (in which it is hard to see any Phillips curve). The regression for the twenty-five years before 1960 of American wage growth on unemployment has no slope to the regression at all.²

Ignore the suppression of the magnitude of sampling variability and of uncertainty in the estimated parameters—even though it had been nearly a decade since Milton Friedman (1953) had made an extremely powerful argument

2. It is possible—by throwing out the Depression years (during which wages and prices rose, even with unemployment in double digits), throwing out the years of World War II price controls, and adding the 1920s into the sample—to estimate a curve relatively close to Samuelson and Solow’s “menu of choices between different degrees of unemployment and price stability” with a *t*-statistic more than two. But you have to work hard to find such a Phillips curve.

Wage Growth - 2.5%

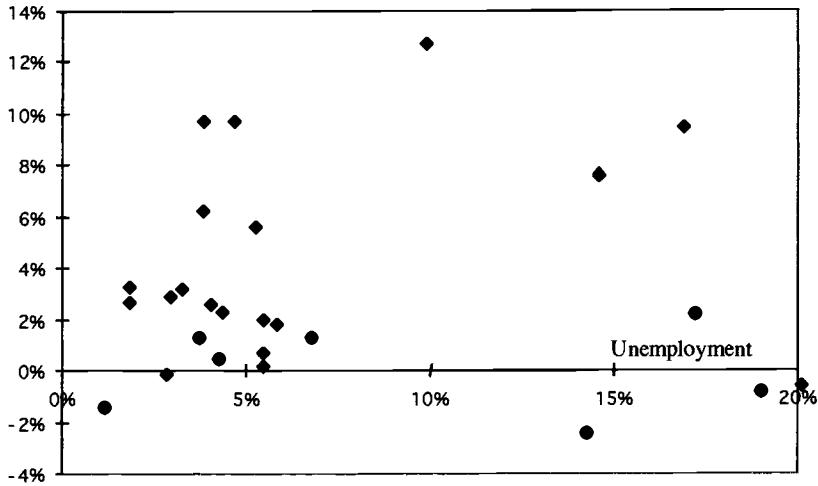


Fig. 6.5 Unemployment and wage growth minus 2.5% per year, 1935–60

that successful stabilization policy requires that you *know* the structure of the economy with substantial precision: using erratic instruments in response to noisy signals of the state of the system is likely to add variance and to make matters worse.

What makes us wince the most is the description of 3% unemployment—a goal outside the historical operating range of the peacetime economy—as a “nonperfectionist’s goal.”³

Samuelson and Solow were not exceptional. As late as April 1969, ex-CEA chair Arthur Okun (1970) was calling for a long-term “4 percent rate of unemployment and a 2 percent rate of annual price increase” as possibly “compatible” with what he called “an optimistic-realistic view” of the structure of the American economy, and certainly as a target worth aiming at—even though the post-World War II United States had been southwest of Okun’s target in only one year (fig. 6.6).

Thus economists in the 1960s were at least flirting with hubris by categorizing as “nonperfectionist” policy goals that required shifting the economy beyond and holding it indefinitely outside of its peacetime operating range.

One standard explanation of the source of this *hubris* is that it was part of the legacy left by John Maynard Keynes (1936). Jacob Viner’s review (1936)

3. The American economy had not seen unemployment less than or equal to 3% save in wartime: 1943–45 and 1952–53. Lebergott (1964) had estimated unemployment in 1926 at less than 3%. But his concept of unemployment is the shortfall of measured employment relative to a “normal” cyclically insensitive labor force. It is not comparable to post-World War II data and, as Romer (1986) has argued, incorrectly extrapolates employment patterns from manufacturing to other sectors of the economy.

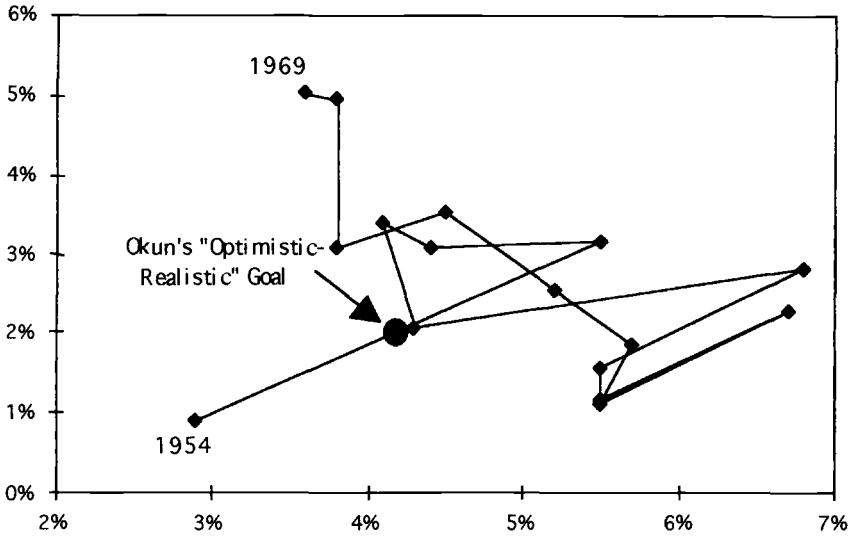


Fig. 6.6 Inflation and unemployment, 1954–69

had forecast that, “in a world organized in accordance with Keynes’ specifications, there would be a constant race between the printing press and the business agents of the trade unions, with the problem of unemployment largely solved if the printing press could maintain a constant lead.”⁴ The policies undertaken—on the recommendation of Keynesians—in the 1960s, and the inflation that followed, lend plausibility to this interpretation.

6.2.2 The Shadow of the Great Depression

But it may be more accurate to see the views of Okun (1970) and of Samuelson and Solow (1960) as a consequence of the very long shadow cast by the Great Depression. The Great Depression had broken any link that might have been drawn between the average level of unemployment over any time period, and the desirable, attainable, or sustainable level of unemployment. With the memory of the Great Depression still fairly fresh, it was extremely difficult to argue that the normal workings of the business cycle led to fluctuations around any sort of equilibrium position.

There was “frictional” unemployment—workers looking for jobs and jobs looking for workers before the appropriate matches had been made—which served as a kind of “inventory” of labor for the economy. There could be “structural” unemployment—people with low skills in isolated regions where it was not worth any firm’s while to employ them at wages they would accept—which could not be tackled by demand-management tools.

Everything else was “cyclical” unemployment: a smaller case of the same

4. Viner also called Keynes’s book one “likely to have more influence than it deserves.”

disease as the unemployment of the Great Depression, which could presumably be cured by the standard expansionary policy means that economists believed would have cured the Great Depression if they had been tried at the time.

The Great Depression had taught everyone the lesson that business cycles were shortfalls below, and not fluctuations around, sustainable levels of production and employment. As of the start of the 1960s, there was no good theory to explain why “frictional” and “structural” unemployment should even together add up to any significant fraction of the labor force.⁵ Thus anyone—it did not have to be John Maynard Keynes—developing a macroeconomics in a context in which the Great Depression was the dominant empirical datum would find that the path of least resistance led to expansionary policy recommendations: Depression-level unemployment certainly did not serve any useful economic or social function; the bulk of observed post–World War II unemployment looked like Depression-era unemployment; therefore policy should be expansionary.

6.2.3 Did Economists’ Optimism Matter?

Did economists’ overoptimism matter? Did it make a difference that they were talking at the beginning of the 1960s of 3% unemployment as a “nonperfectionist” goal, and were arguing at the end of the 1960s that 4% unemployment and 2% inflation was likely to be a sustainable posture for the American economy over the long run?

During periods of Republican political dominance, perhaps not: the 1950s saw not gap closing but rather stabilization policies of the kind that Herbert Stein had pushed for from the Committee on Economic Development (CED), as Eisenhower’s economic advisers balanced between Keynesians to the left and residual Hooverites to the right. But during periods of Democratic political dominance, economists’ overoptimism almost certainly did matter.

The core of the Democratic political coalition saw every level of unemployment as “too high.” And economists’ professional opinions about what was and was not feasible, given the policy tools at the U.S. government’s disposal, were in a sense the only possible brake on the natural expansionary policies that would have been pursued in any case by the post–World War II Democratic Party.

Perhaps economic advisers would have proven irrelevant in any case. If the profession had been less heavily concentrated toward the Keynesian end of the spectrum, and if Walter Heller and James Tobin had possessed views on macroeconomic policy like those of Arthur Burns and Herbert Stein, perhaps President Kennedy’s economic advisers would have had other names.

It may be that for every conceivable policy there is an economist who can wear a suit and pronounce the policy sound and optimal, and that to a large

5. Indeed, as of the middle of the 1990s there is still relatively little to account for cross-country and cross-era differences in “natural” rates of unemployment.

degree presidents and senators get the economic advice that they ask for. It may be that a less optimistic group of advisers drawn from the academic economics community would have had no more effect on macroeconomic policy in the 1960s than advisers from the academic economics community had on fiscal policy at the beginning of the 1980s, when they pointed out that revenue projections seemed, as Martin Feldstein (1994) politely put it, “inconsistent with the Federal Reserve’s very tight monetary policy.”

Perhaps the United States was likely to see a spurt of inflation in the 1960s even had Republican political dominance continued throughout the decade. It may be that even a Republican president and a Republican Congress would have exhibited the same unwillingness to use fiscal and monetary tools to slow economic growth during the buildup of American forces in Vietnam.

But sooner or later, the turning of the political wheel would bring a left-of-center party to effective power in the United States. And when that happened everything—the memory of the Great Depression, the elements of that party’s core political coalition, the theories of economists in the mainstream of the profession—would push for policies of significant expansion.

If 4% unemployment had turned out to be the natural rate, the cry would have arisen for a reduction in unemployment to 2%. It is well within the bounds of possibility that the United States might have avoided a burst of inflation in the late 1960s and early 1970s. But then it would have been vulnerable to an analogous burst of inflation in the late 1970s, or in the early 1980s. And if inflation had been avoided through the early 1980s, analogous policy missteps might well have generated inflation in the late 1980s. The “monetary constitution” of the United States at the end of the 1960s made something like the 1970s, at some time, a very likely probability. And I do not see how the “monetary constitution” could have shifted to anything like its present state in the absence of an object lesson, like the experience of the 1970s.

6.2.4 The Situation at the End of the 1960s

By the beginning of 1969, the United States had already finished its experiment: was it possible to have unemployment rates of 4% or below without accelerating inflation? The answer was reasonably clear: no. Average nonfarm nominal wage growth, which had fluctuated around or below 4% per year between the end of the Korean War and the mid-1960s, was more than 6% during calendar 1968.

A gap of 1.5 percentage points per year between wage and price inflation had prevailed on average in the post-Korean War 1950s and the late 1960s. Given such a differential, from the perspective of the end of the 1960s a reduction in inflation from 5% per year or more down to 2–3% required some significant deceleration of nominal wage growth.

Comparing patterns of wage and price inflation highlights an ambiguity in the character of inflation in the 1970s. In prices, as measured by the GDP deflator, the major jump in inflation occurred after 1968: from 5% in 1968 to

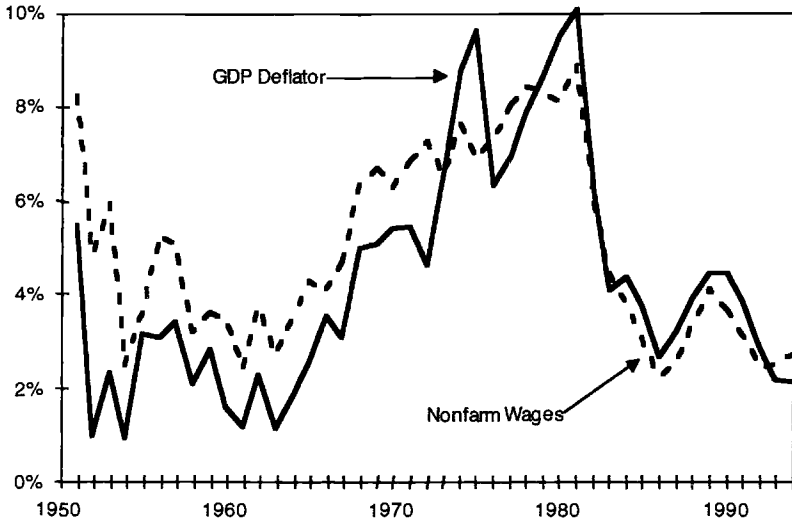


Fig. 6.7 GDP deflator and nonfarm wage inflation, 1950–94

the peak of just over 10% in 1981 (fig. 6.7). In wages, the major jump had already occurred by 1968: rates of increase in nominal hourly wages were already 6.5% per year, and rose to a peak of little more than 8% per year at the end of the 1970s. The difference springs, arithmetically, from the productivity slowdown (which erased the gap between core nominal wage inflation and core nominal price inflation) and the supply shocks of the 1970s (which pushed inflation temporarily above its “core” magnitude).

The magnitude of the inflation-control problem changed between the late 1960s, when the problem became apparent, and the end of the 1970s, when Federal Reserve chairman Paul Volcker embarked on the policies that produced the Volcker disinflation and the recession of 1982–83. But the qualitative nature of the problem did not change. By the end of the 1970s, average nominal wage growth was some 8% per year rather than 6% per year, and the wedge between nominal wage and nominal price growth had vanished as a result of the productivity slowdown. Thus Paul Volcker and his Open Market Committee at the end of the 1970s faced the problem of how to slow the rate of nominal wage growth, and thus the rate of core inflation, by some 5 percentage points per year or so. Arthur Burns and his Open Market Committee at the beginning of the 1970s faced the problem of how to slow the rate of nominal wage growth, and thus the rate of core inflation, by 2 percentage points per year or so.

Such a permanent deceleration in nominal wage growth might have been accomplished by shifting inflationary expectations downward directly (so that a lower rate of nominal wage increase would have been associated with the

same rate of increase in real wages), or by triggering a recession sufficiently deep and sufficiently long that fear of future excess supply in the labor market would restrain demand for rapid wage increases.

6.3 Nixon's Mistake

I know there's the myth of the autonomous Fed . . . [short laugh] and when you go up for confirmation some Senator may ask you about your friendship with the President. Appearances are going to be important, so you can call Ehrlichman to get messages to me, and he'll call you.

Richard Nixon to Arthur Burns

Could such a deceleration have been accomplished at the end of the 1960s? At a technical level, of course it could have. Consider inflation in the five largest industrial economies, the G-5 (fig. 6.8). Before the breakdown of the Bretton Woods fixed exchange-rate system, the price levels in these five countries were loosely linked together. But the Bretton Woods system broke down at the beginning of the 1970s, and thereafter domestic political economy predominated as inflation rates and price levels fanned out both above and below their pre-1970 track.

West Germany was the first economy to undertake a "disinflation." The peak of German inflation in the 1970s came in 1971; thereafter the *Bundesbank* pursued policies that accommodated little of supply shocks or other upward pressures on inflation. The mid-1970s cyclical peak in inflation was lower than the 1970–71 peak; the early-1980s cyclical peak in West German inflation is invisible.

Japan began its disinflation in the mid-1970s, in spite of the enormous impact of the 1973 oil price rise on the balance of payments and the domestic economy of that oil-import-dependent country. The other three of the G-5—Great Britain, France, and the United States—waited until later to begin their disinflations. France's last year of double-digit inflation was 1980. Britain's last year of double-digit inflation was 1981. Certainly there were no "technical" obstacles to making the burst of moderate inflation the United States experienced in the late 1960s a quickly reversed anomaly.

6.3.1 Six Crises

There were, however, political obstacles. The first of them was that the newly elected president, Richard Nixon, was extremely wary of economic policies that promised to fight inflation by increasing unemployment. He attributed his defeat in the 1960 presidential election to the unwillingness of Eisenhower and his economic advisers to stimulate production and employment at

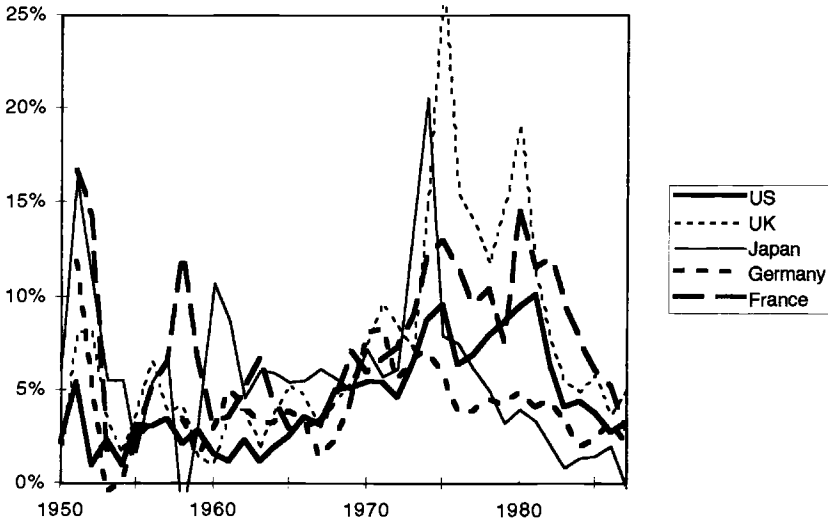


Fig. 6.8 Inflation in the G-5 economies, 1950-94

the risk of triggering increasing inflation. We know that Nixon blamed his defeat on a failure of Eisenhower to act as naive political-business-cycle theory suggests because Nixon (1962) says so:

Two other developments occurred before the convention, however, which were to have far more effect on the election outcome. . . .

Early in March [1960], Dr. Arthur E. Burns . . . called me. . . [He] expressed great concern about the way the economy was then acting. . . . Burns' conclusion was that unless some decisive government action were taken, and taken soon, we were heading for another economic dip which would hit its low point in October, just before the elections. He urged strongly that everything possible be done to avert this development . . . by loosening up on credit and . . . increasing spending for national security. The next time I saw the President, I discussed Burns' proposals with him, and he in turn put the subject on the agenda for the next cabinet meeting.

The matter was thoroughly discussed by the Cabinet. . . . [S]everal of the Administration's economic experts who attended the meeting did not share his bearish prognosis. . . . [T]here was strong sentiment against using the spending and credit powers of the Federal Government to affect the economy, unless and until conditions clearly indicated a major recession in prospect.

In supporting Burns' point of view, I must admit that I was more sensitive politically than some of the others around the cabinet table. I knew from bitter experience how, in both 1954 and 1958, slumps which hit bottom early in October contributed to substantial Republican losses in the House and Senate. . . .

Unfortunately, Arthur Burns turned out to be a good prophet. The bottom of the 1960 dip did come in October. . . . In October . . . the jobless roles

increased by 452,000. All the speeches, television broadcasts, and precinct work in the world could not counteract that one hard fact.

Richard Nixon's statement that he and Arthur Burns were forceful advocates of trying to fine-tune economic policy to avoid a preelection recession in 1960 has led many to search diligently for evidence that they sacrificed economic health for political advantage in 1971–72 (see, for example, Tufté 1978). In fact, things were considerably more complicated: Democratic as well as Republican politicians were pressing Arthur Burns for faster money growth in late 1971.

Nevertheless, Nixon's past had made him extremely sensitive to—and eager to avoid—policies that his Democratic political adversaries could and would characterize as the sacrifice of the economic welfare of working Americans for the benefit of Republican Wall Street bondholders.

6.3.2 Wishing for Favorable Parameter Values

Thus Herbert Stein (1984) describes how he and his colleagues at the Nixon-era CEA, Paul McCracken and Hendrik Houthakker, were “surprised and unhappy” when they learned that President Nixon had authorized labor secretary George Shultz to tell the AFL-CIO that the Nixon administration would “control inflation without a rise of unemployment.” Afterwards, Stein concluded that he should have paid more attention to the subtext of his first meeting with Nixon, in December 1968: “He asked me what I thought would be our main economic problems, and I started, tritely, with inflation. He agreed but immediately warned me that we must not raise unemployment. I didn't at the time realize how deep this feeling was or how serious its implications would be” (135). How were economic advisers to deal with a situation in which they found the Phelps-Friedman argument—that reducing unemployment would require a period during which inflation would have to be above its natural rate—convincing, yet in which their political superiors did not authorize such a policy?

McCracken, Stein, and Nixon's other economic advisers did so by minimizing the cognitive dissonance: they reassured themselves that the rise of unemployment would not have to be large: “The inflation rate was about 5 percent at the beginning of 1969. It did not have to be reduced very far. Unemployment was only 3.3 percent. There seemed considerable room for an increase of unemployment without reaching a level that anyone could consider unusually high” (Stein 1984, 150). They were hoping that parameters values would turn out to be favorable, and thus that the Nixon administration could avoid painful dilemmas. The relative optimism of the Nixon CEA as to the likely success of “gradualism”—tighten monetary and fiscal policy until the unemployment rate rose just high enough to put downward pressure on inflation, and keep unemployment there until inflation was no longer perceived as a problem—fits oddly with the lack of quantitative knowledge about the relationship between inflation and unemployment at the time.

Even today, after three decades during which price and unemployment gyrations have given us all the identifying variance we could possibly wish, and during which the “accelerationist” Phillips curves of the style that Robert Gordon and others started estimating very early in the 1970s have stayed remarkably stable, we do not know enough about the structure of the economy to reliably plan a “gradualist” policy of inflation reduction. Straightforward simple estimates of the non-accelerating-inflation rate of unemployment (NAIRU) today that take no account of possible drift in parameters over the past forty years or of uncertainty about the “correct” specification tend to produce a one-sigma confidence interval for the NAIRU that runs from 5 to 7.5%: one chance in six that the “true” NAIRU is less than 5% unemployment, and one chance in six that the “true” NAIRU is greater than 7.5% in which case we are likely to see a very unpleasant inflation surprise in the next few years.

I think that the power, formal correctness, and elegance of the Lucas critique has put into shadow the limits of macroeconomic knowledge *even assuming that the policy and institutional regime is unchanged*. There is a sense in which Milton Friedman (1968) gave the wrong presidential address to the American Economic Association: he should have repeated his message of 1953, “The Effects of Full-Employment Policy on Economic Stability,” and argued that uncertainty about parameters makes “fine-tuning”—and its cousin, “gradualism”—next to impossible.

6.3.3 “Progress toward Economic Stability”

A third obstacle to a policy of disinflation in the early 1970s was that the newly installed chairman of the Federal Reserve Board, Arthur Burns, did not believe that he could use monetary policy to control inflation.

In 1959, Arthur Burns had given his presidential address to the American Economic Association, “Progress toward Economic Stability.” Burns spent the bulk of his time detailing how automatic stabilizers and monetary policy based on a better sense of the workings of the banking system had made episodes like the Great Depression extremely unlikely in the future.

Toward the end of his speech, Burns (1960, 18) spoke of an unresolved problem created by the progress toward economic stability that he saw: “a future of secular inflation.”

During the postwar recessions the average level of prices in wholesale and consumer markets has declined little or not at all. The advances in prices that customarily occur during periods of business expansion have therefore become cumulative. It is true that in the last few years the federal government has made some progress in dealing with inflation. Nevertheless, wages and prices rose appreciably even during the recent recession, the general public has been speculating on a larger scale in common stocks, long-term interest rates have risen very sharply since mid-1958, and the yield on stocks relative to bonds has become abnormally low. All these appear to be symptoms of a continuation of inflationary expectations or pressures.

Before World War II such inflationary expectations and pressures would have been erased by a severe recession, and by the pressure put on workers' wages and manufacturers' prices by falling aggregate demand. But Burns could see no way in which such pressures could be generated in an environment in which workers and firms rationally expected demand to remain high and recessions to be short.

Burns' skepticism about the value of monetary policy as a means of controlling inflation in the post-World War II era cannot but have been reinforced by the pressure for avoiding any significant rise in unemployment coming from his long-time ally, patron, and friend, President Nixon: "'I know there's the myth of the autonomous Fed . . .'" Nixon barked a short laugh. ". . . and when you go up for confirmation some Senator may ask you about your friendship with the President. Appearances are going to be important, so you can call Ehrlichman to get messages to me, and he'll call you'" (Ehrlichman 1982, 248-49). The date was October 23, 1969. The speaker was Richard Nixon. The listener was Arthur Burns. Nixon had just announced his intention to nominate Burns to replace William McChesney Martin as chairman of the Federal Reserve. Nixon was thinking, You see to it, Arthur: no recession. We can speculate what Arthur Burns was thinking: just how independent was this central bank?⁶

Making Arthur Burns and the Federal Reserve sensitive to White House concerns was a subject of conversation in Nixon's White House in 1970 and 1971. "What shall I say to Arthur?" Nixon would ask. "Ask him if he shares the President's objective of full employment by mid-1972," George Shultz suggested. Paul McCracken added, "If he says yes, say that the Fed's monetary path can't and won't bring us to that outcome" (Ehrlichman 1982, 251). Such pressures must have made Burns sensitive to White House concerns, and may be the source of an axiom in the Federal Reserve's institutional memory that the Federal Reserve is better off having fewer rather than more direct contacts with the White House staff.

But Arthur Burns, once ensconced at the Federal Reserve, could take care of himself. He was at least a match for Ehrlichman at bureaucratic intrigue. There is admiration in Ehrlichman's recounting of one of Burns's responses to a "stern admonition" from Nixon. Ehrlichman wrote that he found "Arthur [Burns]'s response . . . so artfully ambiguous that I wrote it down: 'You know the idea . . . the idea that I would ever let a conflict arise between what I think is right and my loyalty to Dick Nixon is outrageous.'" Thus Ehrlichman could tell a senior Federal Reserve official that "every morning when you look in the mirror, I want you to think 'what am I going to do today to increase the money supply.'" But Burns and his Open Market Committee would set monetary policy.

6. John Ehrlichman, the source of the conversation, was in the room. But this picture is only as reliable as Ehrlichman's memory and perceptions.

We know that Arthur Burns placed little weight on being what Nixon called “a team player” because he began contradicting administration policy almost from the day he moved into the chairman’s office. As a critic of Kennedy-Johnson policy and as a counselor to the president in the first year of the Nixon administration, Burns had been opposed to wage-price guideposts. But things looked different from the Federal Reserve: on May 18, 1970, Burns called for Nixon to adopt an “incomes policy” to “shorten the period between suppression of excess demand and restoration of price stability” (Stein 1984, 155).

Paul McCracken, especially, was irritated because he thought that Burns had “proposed [an incomes policy] without anything in mind but the phrase” (Wells 1994, 61), but such a proposal is consistent with Burns’s vision. *If* the president who appointed you does not want a deep recession, and *if* you do not believe that even a deep recession would generate significant downward pressure on prices—for in post-World War II circumstances who would believe *ex ante* that a recession would be deep or *ex post* that it would be long?—then you need some kind of incomes policy. That President Nixon is opposed to an incomes policy and is upset with your advocacy of it would be irrelevant, because the alternatives to an incomes policy are things that the president would dislike even more.

Thus there is a very real sense in which monetary policy did not contain inflation in the early 1970s because it was not tried. And it was not tried because the chairman of the Federal Reserve did not believe that it would work at an acceptable cost. Even the threatening breakdown of the fixed exchange rate system, which Burns “feared . . . with a passion,” would not induce him to tighten sufficiently to risk a more-than-moderate recession. Paul Volcker reports an “interesting discussion with Arthur Burns” over lunch at the American embassy in Paris, at which “the Chairman of the Federal Reserve Board made one last appeal” to retain a system of fixed exchange rates (see Volcker and Gyohten 1992, 113). Volcker reports that “to me, it simply seemed too late, and with some exasperation I said to him ‘Arthur, if you want a par value system, you better go home right away and tighten money.’ With a great sigh, he replied, ‘I would even do that.’”

In economists’ models, an important feature leading to higher-than-optimal inflation is the “time inconsistency” of economic policy (see Kydland and Prescott 1977). It may be optimal for this year’s central bank to build anti-inflation credibility, but it is also optimal for next year’s central bank to exploit that credibility through higher-than-anticipated inflation and thus higher-than-anticipated output and employment growth. Private-sector investors and firms sophisticated enough to look ahead to future stages of the economic-policy game tree thus make it impossible for a central bank to build anti-inflation credibility through restrictive policies in the first place. In economists’ models, at least, a powerful factor keeping this year’s central bank from embarking on the first steps of a long-run, consistent anti-inflation policy is its realization

that no one outside the bank will find its actions and commitments credible (Chari, Christiano, and Eichenbaum 1995).

While the theoretical logic is impeccable and powerful, I have found no sign in Federal Reserve deliberations in the 1970s that time-inconsistency issues—either that future central bankers would not carry out the policies to which earlier central bankers had tried to commit them, or that the private sector would fail to believe long-run commitments to a low-inflation policy—played any role in policy formation. Moreover, there have been *none* of the institutional changes thought likely to diminish the severity of time-inconsistency problems since the 1970s, yet inflation has abated. And there were no significant institutional changes between the low-inflation 1950s and the high-inflation 1970s. Time-inconsistency issues may well exert a constant background pressure toward higher inflation, but it is difficult to argue that shifts in the economy's vulnerability to such problems has played much of a role in the variation of post-World War II inflation rates.

6.3.4 The Nixon Price-Control Program

Herbert Stein (1984), especially, attributes to Arthur Burns a key role in the Nixon administration's eventual adoption of a wage-price freeze in late 1971. The context was one of a CEA averse to *all* forms of incomes policy, from guideposts on up, as “wicked in themselves and steps on the slippery slope . . . to controls” (143); of a president who “did not like ‘incomes policies’ and knew they did not fit with his basic ideological position”(143); and of an opposition party that had a “great interest in pointing out that there was another, less painful, route to price stability [than gradualism and recession], which Mr. Nixon was too ideological to follow” (155). And Burns's intervention on the procontrols side so that “every editorial writer who wanted to recommend some kind of incomes policy could say that ‘even’ Arthur Burns was in favor of it” (156) led Stein to liken

the administration . . . [to] a Russian family fleeing over the snow in a horse-drawn troika pursued by wolves. Every once in a while they threw a baby out to slow down the wolves, hoping thereby to gain enough time for most of the family to reach safety. Every once in a while the administration would make another step in the direction of incomes policies, hoping to appease the critics while the [gradualist] demand management policy would work. In the end, of course, the strategy failed and the administration made the final concession on August 15, 1971, when price and wage controls were adopted. (157)

Rockoff (1984) finds nothing good in the 1971–74 experience with controls. The controls did not calm inflationary expectations. Instead, they appear to have created them—with a general expectation that prices would rebound once the controls were lifted. The controls imposed the standard microeconomic,

compliance, and administrative costs on the American economy. Perhaps most serious, the fact that wage and price controls were still in effect in the fall of 1973, when the price of oil jumped, created a substantial divergence between the cost of energy to U.S. users and the world price of energy, which slowed down the process of adjustment. Energy price controls remained, until eliminated as one of the good deeds of the Reagan administration in the early 1980s.

The Nixon controls program had an odd impact on monetary policy. The "Phase II" program consisted of a Cost of Living Council supervising a presidentially appointed Price Commission and a "tripartite" labor-management-public Pay Board. But in addition there was a Committee on Interest and Dividends (CID): the day after Nixon announced his controls program, the chairman of the House Banking Committee, Wright Patman, argued that "if controls are needed on the wages of workers and the prices of businessmen, then surely the prices—interest rates—charged by banks also need to be controlled" (Wells 1994, 113). Burns took the chairmanship of the CID, presumably in fear that the alternative chairman might be someone dangerous and in hope that the mere establishment of the CID would quiet populist critics of interest rate hikes.

Burns's hopes proved misguided. At one point—caught between the likes of Wright Patman demanding that the CID keep interest rates from rising and his own desire to curb money growth—Burns presided over a "dual prime rate," by which banks were forced to charge borrowers of less than a third of a million *below* the prevailing prime interest rate. "What an ugly tree has grown from your seeds," said Richard Nixon to Arthur Burns, contemplating the workings of the CID (Wells 1994, 113).

And perhaps the controls led to overoptimism, and hence to looser monetary and fiscal policy than would have otherwise been put in place, because of their apparent initial success. If so, the Nixon administration suffered less from such overoptimism than did its critics. Stein (1984, 411) cites Walter Heller, testifying before the Joint Economic Committee on July 27, 1972, that Nixon administration policy was too contractionary: "As I say, now that we are again on the [economic] move the voice of overcautious conservatism is raised again at the other [White House] end of Pennsylvania Avenue. Reach for the [monetary] brakes, slash the [fiscal] budget, seek an end to wage-price restraints."

And private-sector forecasters agreed.⁷ One of the striking features of the inflation of the 1970s was that increases in inflation were almost always unanticipated. Figure 6.9 plots the average forecast for the forthcoming calendar year, made as late in the year as possible, from the survey of professional forecasters alongside actual December-to-December GDP deflator inflation. In every single year in the 1970s, the consensus forecast made late in the previous year *understated* the actual value of inflation.

7. Romer and Romer (1995) report the similar overoptimism—although smaller in magnitude—in the Federal Reserve staff *Green Book* forecasts of the inflation outlook in the 1970s.

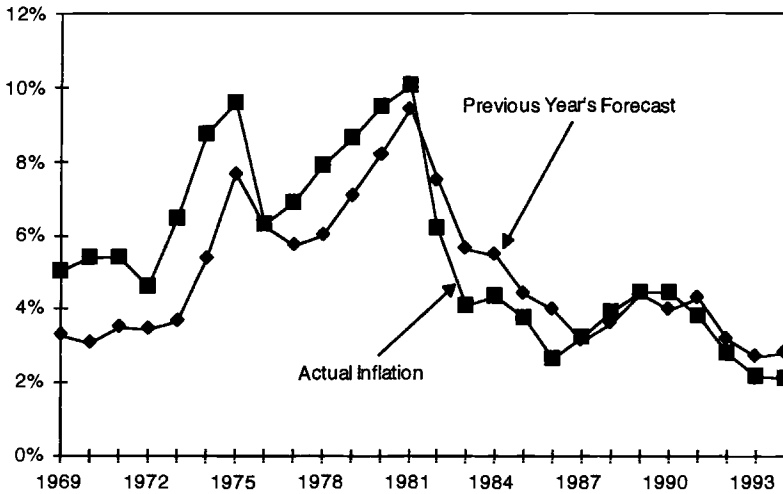


Fig. 6.9 Actual GDP deflator inflation, and previous year's forecast

Moreover, in every year inflation was expected to fall. Anyone seeking to be reassured about the future course of inflation had to do nothing more than glance at the consensus of private-sector economic forecasters to be told that the economy was on the right track, and that inflation next year would be lower than it had been this year. Mistakes in judgment made by economists and government policymakers were also shared by private-sector forecasters, and by those who paid to receive their forecasts. Perhaps the policies adopted truly were prudent and optimal given the consensus understanding of the structure of the economy held by both public- and private-sector decision makers. But this consensus understanding was flawed.

6.4 Supply Shocks and Asymmetric Price Adjustment

Blinder (1982) is among many who have argued that double-digit inflation in the 1970s had a single cause: supply shocks that sharply increased the nominal prices of a few categories of goods, principally energy and secondarily food, mortgage rates, and the “bounce-back” of prices upon elimination of the Nixon controls program. Such shocks were arithmetically responsible for, in Blinder's words, “the dramatic acceleration of inflation between 1972 and 1974? . . . The equally dramatic deceleration of inflation between 1974 and 1976. . . [And] while the rate of inflation . . . rose about eight percentage points between 1977 and early 1980, the ‘baseline’ . . . rate may have risen by as little as three” (264).

Arithmetic decompositions of the rise in inflation into upward jumps in the prices of special commodities were never convincing to those working in the monetarist tradition. As Milton Friedman (1975, cited in Ball and Mankiw

1995, 161–62) asked: “The special conditions that drove up the price of oil and food required purchasers to spend more on them, leaving them less to spend on other items. Did that not force other prices to go down, or to rise less rapidly than otherwise? Why should the *average* level of prices be affected significantly by changes in the price of some things relative to others?”

Ball and Mankiw (1995) have recently argued that the missing link in Blinder’s argument can be provided by menu-cost models.⁸ Supply shocks entail large increases in the prices of goods in a few concentrated sectors. They reduce nominal demand for products in each unaffected sector by a little bit—and so reduce the optimal nominal price in each unaffected sector by a small amount. Small administrative or information processing costs might plausibly prevent full adjustment in many of the unaffected sectors, leaving an upward bias in the overall price level. Concentrated shocks that are (1) significantly larger than the average variance of shocks but (2) not so large as to require relative price movements that overwhelm administrative and information processing costs in *all* sectors appear to have the best chance of generating large upward boosts in inflation.

Ball and Mankiw (1995) argue that their indices of the asymmetry of relative price changes are better indices of supply shocks than are the standard direct measures of the supply shocks themselves. Certainly the swings in prices relative to measures of “core” inflation like the average rate of nominal wage growth are substantial, and match the dates of the Organization of Petroleum Exporting Countries (OPEC) price increase announcements and of the acceleration of food price inflation in 1972–73.

6.4.1 Did Supply Shocks Have Persistent Effects?

The story as told by Blinder (1982) is that in the wake of the supply shocks of the 1970s makers of economic policy faced a very difficult choice. Should they refuse to accommodate the upward one-time jump in prices of the supply shock, thus restraining inflation at the cost of a depression? Or should they accommodate, watch increases in inflation get built into the pattern of wage expectations and settlements, and end the episode having avoided a deep recession at the price of a permanent jump in the rate of inflation?

At least one strand of the conventional wisdom holds that such overaccommodation in response to supply shocks was responsible for a good deal of the rise in inflation during the 1970s: policies that expanded the money supply to avoid a still deeper oil shock–driven recession succeeded in transforming what was a temporary burst of inflation into a permanent jump in the level of inflation by building it into the expected rate of change of the wage base. Yet the year-over-year plots of annual nominal wage growth lend little support to this view (fig. 6.10).

Economywide nominal wage growth rises slowly, smoothly, and steadily

8. See Mankiw 1985; Akerlof and Yellen 1985; Ball, Mankiw, and Romer 1988; and Gordon 1990; along with many others.

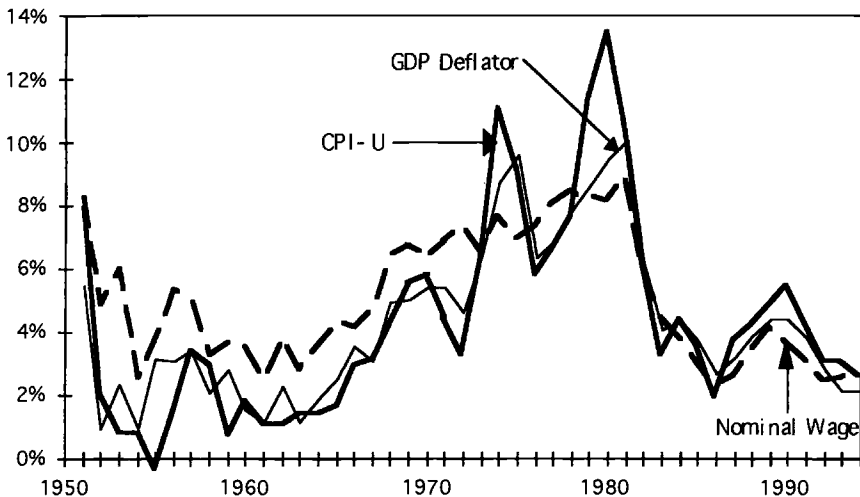


Fig. 6.10 Consumer price, GDP deflator, and nonfarm wage inflation, 1950–94

from its late-1960s plateau to its early 1980s peak without noticeable jumps surrounding supply shocks. The bursts of inflation in 1972–74 and 1978–80 are very visible in price inflation, yet are invisible in the track of average nonfarm wage growth.

Perhaps the supply shocks of the 1970s had so little apparent effect on the rate of growth of nominal wages because they were not fully accommodated, but were instead accompanied by serious recessions. Perhaps an alternative world in which the Federal Reserve sought to fully accommodate the increases in nominal spending and avoid a supply-shock recession entirely would have generated significant acceleration in wage increases. This seems likely: certainly in the absence of such supply shocks a recession as deep as that of 1974–75 could reasonably have been expected to cause a considerable slowdown in nominal wage growth.

But the combination of supply-shock inflation and supply-shock recession, taken together, appears to have had little permanent impact on the nominal wage dynamics of the U.S. economy in *either* the mid- or the late 1970s. Before the supply shocks hit, wage inflation was slowly trending upward. After the supply shocks had passed, price inflation quickly returned to levels consistent with wage and productivity growth, and wage inflation was slowly trending upward.

Thus it is hard to sustain the argument that the root of the U.S. inflation problem in the 1970s was the interaction of one-shot upward supply shocks with a backward-looking wage-price mechanism that incorporated past changes in prices into future changes in wages. As Blinder (1982, 264) put it, attempts to diminish the size of the recession that followed such a shock would lead “inflation from the special factor [to] get built into the baseline. . . . This . . . interaction between special factors and the baseline rate . . . helps us under-

stand why baseline inflation [rose from] . . . perhaps 1–2% in the early 1960s . . . to perhaps 4–5% by the early 1970s and to perhaps 9–10% by 1980.”

The alternative narrative that I would prefer goes roughly as follows: the baseline inflation rate was some 5% per year in the early 1970s *before* there were any supply shocks; the baseline inflation rate was pushed up by perhaps 2 percentage points as a result of the collapse in productivity growth; the baseline inflation rate appeared to be 8 or 9% per year by 1980. Supply shocks may well have tended to push baseline inflation up, but the supply-shock recessions—which no one anticipated—put approximately equal and opposite amounts of downward pressure on baseline inflation.

There is, arithmetically, little to be accounted for by the feedback of supply-shock-induced price increases onto the wage-setting process—unless you hold a strong belief that nominal wage growth would have significantly *decelerated* in the 1970s in the absence of supply shocks.

6.4.2 Linkage

Were the supply shocks of the 1970s the result of bad luck or bad policy?

One of the many theories floating around the Nixon administration is that Secretary of State Henry Kissinger sought the tripling of world oil prices as a way of subsidizing the shah of Iran. In the aftermath of the Vietnam War, Kissinger did not believe that the United States would ever project its own military power into regions like the Persian Gulf, yet also believed that the gulf area needed to be protected against Soviet or Soviet-client military threat. The policy adopted was to arm the shah: in Kissinger’s words, “we adopted a policy which provides, in effect, that we will accede to any of the Shah’s requests for arms purchases from us” (Isaacson 1992, 503). But in order to buy U.S. weapons, the shah needed U.S. dollars. The tripling of world oil prices in late 1973 provided the shah with ample U.S. dollars; former Treasury Secretary William Simon believes that the linkage was not accidental; Nixon’s ambassador to Saudi Arabia claimed that Kissinger refused Saudi requests to pressure Iran not to push for major price increases at 1973 OPEC meetings.

The judgment of Kissinger biographer Walter Isaacson (1992)—a judgment that it is easy to share after working for the government, or for any large organization—is that conspiracy assumes more rationality and foresight than a government possesses.⁹

6.5 Toward Volcker’s Disinflation

6.5.1 Humphrey-Hawkins

The recession of 1974–75 made it politically dangerous to be an advocate of restrictive monetary policy to reduce inflation. Near the trough of the reces-

9. Nevertheless the Nixon administration showed little interest in making a rollback of the 1973 oil price increase a principal aim of its foreign policy. When Treasury Secretary William Simon

sion, Hubert Humphrey and Augustus Hawkins sought to require that the government reduce unemployment to 3% *within four years after passage*, that it offer employment to all who wished at the same “prevailing wage” that Davis-Bacon mandated be paid on government construction projects, and (in its House version) that individuals have the right to sue in federal court for their Humphrey-Hawkins jobs if the federal government had not provided them.

In early 1976, the *National Journal* assessed the Humphrey-Hawkins bill's chances of passage as quite good—though principally as veto bait to create an issue for Democrats to campaign against Gerald Ford, rather than as a desirable policy.

Arthur Burns tried to avoid getting sucked into this lose-lose situation: “Humphrey-Hawkins . . . continues the old game of setting a target for the unemployment rate. You set one figure. I set another figure. If your figure is low, you are a friend of mankind; if mine is high, I am a servant of Wall Street. . . . I think that is not a profitable game” (Wells 1994, 199). And Humphrey-Hawkins eventually did generate significant opposition from within the Democratic coalition. Labor would not support the bill unless Humphrey-Hawkins jobs paid the prevailing wage (fearing the consequences for unionized public employment if the “prevailing wage” clause was dropped); legislators who feared criticism from economists' judgment that Humphrey-Hawkins was likely to be inflationary would not support the bill unless the “prevailing wage” clause was removed (see Weir 1992).

The bill that finally passed and was signed in 1977 set a target of reducing unemployment to 4% by 1983, elevated price stability to a goal equal in importance to full employment, set a goal of zero inflation by 1988, called for the reduction of federal spending to the lowest level consistent with national needs, and required the Federal Reserve chairman to testify twice a year. It did nothing at all—save commit the Federal Reserve chairman to a twice-a-year round of congressional testimony.

6.5.2 Jimmy Carter

Nevertheless, the existence of Humphrey-Hawkins, and the consequent commitment of first the Carter administration and then Carter's selection as Arthur Burns's successor, G. William Miller, to returning the economy to full employment had unpleasant consequences. To a small degree it was a matter of bad luck: senior Carter economic officials have talked of the year “when our forecasts of real GNP growth were dead on—only the productivity slowdown meant that the end-of-year unemployment rate was a full percentage point below where we had forecast.” To a larger degree it was the result of the lack of interest and focus in the Carter White House on inflation, in spite of efforts by

sought to use the shah's fear of the Soviet Union and dependence on American military advisers for training as levers for a rollback on the price of oil, Kissinger proved “reluctant to use leverage and linkage—usually the paired arrows of his diplomatic quiver—to put pressure on the shah” (Isaacson 1992, 50).

economists like Charles Schultze to warn that inflation was likely to suddenly become a severe surprise problem in 1979 and 1980—unless a strategy for dealing with it was evolved earlier.

Inflation did become a severe surprise political problem in 1979, generating the only episode in history in which a CEA chairman (Charles Schultze) and a treasury secretary (Michael Blumenthal) waged a campaign of leak and innuendo to try to get the Federal Reserve chairman (G. William Miller) to *tighten* monetary policy (Kettl 1986). Almost invariably the pressure from the White House to the Federal Reserve is exerted in the opposite direction.

Few if any people are willing to say a good word about G. William Miller's tenure as chairman of the Federal Reserve. He lasted sixteen months, and then replaced Michael Blumenthal as secretary of the treasury. Stuart Eizenstat—President Carter's assistant for domestic policy—always claimed that Miller's departure from the Federal Reserve was an accident.

The President “accepts” the resignation of [Treasury Secretary] Blumenthal. Blumenthal is known as a voice against inflation, and this adds to the confusion. So we were without a Treasury Secretary. So the President makes calls. Reg Jones of General Electric, Irv Shapiro of Du Pont, David Rockefeller of Chase Manhattan—all are asked and turn it down. This becomes a grave situation. The idea surfaces—I'm not sure where—that Bill Miller take the job. Bill takes it. That then creates a hole at the Fed. and that makes the financial markets even more nervous. (Grieder 1987, 20–21)

Could the Volcker disinflation have been undertaken earlier? Had Gerald Ford won reelection in 1976 and reappointed Arthur Burns, would we now speak of the Burns disinflation? Or would the same political pressure that had driven Nixon into wage and price controls have driven a second Ford administration into overestimation of the available room for economic expansion? Herbert Stein (1984, 215), at least, is skeptical: “We do not know whether a Ford administration . . . kept in office . . . would have persisted” in a course that would have kept inflation declining, “but we do know that the basis for the persistence of such a course had not been laid.” And he attributes the failures of the Carter administration and the Carter-era Federal Reserve at inflation control “not . . . chiefly a reflection of the personalities involved . . . [but] a response to the prevailing attitude in the country about the goals of monetary policy.” In Stein's opinion, the Federal Reserve did not as of the mid-1970s have a mandate to do whatever turned out to be necessary to curb inflation.

G. William Miller's successor as chairman of the Federal Reserve Board was Paul Volcker.

6.6 Conclusion

6.6.1 The Truest Cause

If the particular chain of events that caused the inflation of the 1970s had been avoided, another crisis in a later year would have begun a similar inflation:

the most important factor was not the particular misstep of policy but the background situation that made it highly probable that sooner or later *a* misstep would generate an inflation like that of the 1970s. Perfect macroeconomic management—successful walking of the fine line between too-low employment and accelerating inflation—in the 1960s would not have eliminated the burst of inflation seen in the 1970s. The burst would have come differently, probably later. Perhaps it would have been larger, perhaps it would have been smaller.

But sooner or later politicians and economists working in a 1960s-style Keynesian framework would have tried to squeeze a little too much production and employment out of the economy, wound up with the average annual rate of nominal wage growth ratcheted upward from 3–6% or more per year, and faced the same dilemmas and painful choices faced at the start of the 1970s.

Thus the “truest cause” was not President Johnson’s reluctance to raise taxes to offset the costs of the Vietnam War, but a situation in which attempting to drive unemployment down to and keep it at 3% was regarded as a “nonperfectionist goal” by economists and politicians alike. Indeed, given the limited influence of economists over economic policy, it was probably sufficient for the inflation of the 1970s that politicians remembered the Great Depression, and took the reduction of unemployment to its minimum as a major goal of economic policy.

6.6.2 Could the 1970s Inflation Have Been Curbed Earlier?

There were no technical factors that would have prevented an earlier, rapid curb of the inflation of the 1970s. But there were political factors that would have prevented a quick reversal of the runup in core inflation that occurred in the late 1960s. At the start of the 1970s, the Federal Reserve lacked a mandate to fight inflation by inducing a significant recession. No one then had a mandate to fight inflation by allowing the unemployment rate to rise. Indeed, there was close to a mandate to do the reverse—to throw overboard any institutional arrangements, like the Bretton Woods international monetary system, as soon as they showed any sign of requiring that internal economic management be subordinated to external balance.

This lack of a mandate showed itself in many places, in many aspects. In the absence of such a mandate, the Federal Reserve’s “independence” not just from the executive branch, but from the rest of the government in total, was purely theoretical. It is difficult to imagine *any* chairman of the Board of Governors pursuing anti-inflation policy to the limits necessary to achieve significant containment, and thus risking the survival of the institution, in the circumstances of the early 1970s.

A mandate to fight inflation by inducing a significant recession was probably not in place by the end of 1976. The original drafts of Humphrey-Hawkins contained language that “if the President determines that the [Federal Reserve] Board’s policies are inconsistent with . . . this Act, the President shall make recommendations . . . to insure closer conformity” (Weir 1992, 194).

A mandate was barely in place by the end of 1978, when we saw—and this is perhaps the only time we will ever see it—a CEA chair and a secretary of the treasury wage a bureaucratic war-by-leak in an attempt to induce the Federal Reserve to *tighten* monetary policy.

A mandate to fight inflation by inducing a significant recession was in place by 1979, as a result of a combination of perceptions and fears about the cost of inflation, worry about what the “transformation of every business venture into a speculation on monetary policy” was doing to the underlying prosperity of the American economy, and fear that the structure of expectations was about to become unanchored and that permanent double-digit inflation was about to become a possibility.

But the process by which the Federal Reserve obtained its information mandate to fight inflation by inducing significant recession was slow and informal. Part of its terms of existence require that it never be made explicit. It is difficult to imagine its coming into being—and thus the Federal Reserve’s “independence” being transformed from a quirk of bureaucratic organization into a real and powerful feature of America’s political economy—without some lesson like that taught by the history of the 1970s.

Today many observers would say that the costs of the Volcker disinflation of the early 1980s were certainly worth paying, comparing the U.S. economy today with relatively stable prices and relatively moderate unemployment with what they estimate to have been the likely consequence of business as usual: inflation slowly creeping upward from near 10 toward 20% per year over the 1980s, and higher unemployment as well as inflation deranged the functioning of the price mechanism. In the United States today, inflation is low, and the reduction of inflation to low single-digit levels has been accomplished without the seemingly permanent transformation of “cyclical” into “structural” unemployment seen in so many countries of Europe.

Nevertheless, other observers believe that there ought to have been a better way: perhaps inflation could have been brought under control more cheaply by a successful incomes policy made up of a government-business-labor compact to restrain nominal wage growth (which certainly would have been in the AFL-CIO’s interest, as it is harder to think of anything worse for that organization’s long-term strength than the 1980s as they actually happened). Perhaps inflation could have been brought under control more cheaply by a Federal Reserve that did a better job of communicating its expectations and targets; but note that the dispute over whether “gradualism” (in the sense of the British Tory Party’s medium-term financial strategy; see Taylor 1980, 1992) or “cold-turkey” (see Sargent 1982) was the most cost-effective way of reducing inflation has not been resolved; it is hard to fault those who made economic policy decisions when even those economists with ample hindsight do not speak with one voice.

References

- Akerlof, George, and Janet Yellen. 1985. A Near-Rational Model of the Business Cycle, with Wage and Price Inertia. *Quarterly Journal of Economics* 100:823–38.
- Ball, Laurence, and N. Gregory Mankiw. 1995. Relative Price Changes as Aggregate Supply Shocks. *Quarterly Journal of Economics* 110: 161–93.
- Ball, Laurence, N. Gregory Mankiw, and David Romer. 1988. The New Keynesian Economics and the Output-Inflation Trade-off. *Brookings Papers on Economic Activity* no. 1: 1–65.
- . 1982. The Anatomy of Double-Digit Inflation. In *Inflation: Causes and Effects*, ed. Robert E. Hall. Chicago: University of Chicago Press.
- . 1987. *Hard Heads, Soft Hearts: Tough-Minded Economics for a Just Society*. Reading, MA: Addison-Wesley.
- Burns, Arthur F. 1960. Progress toward Economic Stability. *American Economic Review* 50, no. 1: 1–19.
- Chari, V. V., Lawrence Christiano, and Martin Eichenbaum. 1995. Expectational Traps and Discretion. Conference paper, Federal Reserve Bank of San Francisco.
- Ehrlichman, John. 1982. *Witness to Power: The Nixon Years*. New York: Simon and Schuster.
- Feldstein, Martin. 1982. Inflation, Capital Taxation, and Monetary Policy. In *Inflation: Causes and Effects*, ed. Robert E. Hall. Chicago: University of Chicago Press.
- . 1994. American Economic Policy in the 1980s: A Personal View. In *American Economic Policy in the 1980s*, ed. Martin Feldstein. Chicago: University of Chicago Press.
- Friedman, Milton. 1953. The Effects of Full-Employment Policy on Economic Stability: A Formal Analysis. In *Essays on Positive Economics*. Chicago: University of Chicago Press.
- . 1968. The Role of Monetary Policy. *American Economic Review* 58, no. 1: 1–17.
- . 1975. Perspectives on Inflation. *Newsweek*, June 24, 1975, 73.
- Gordon, Robert. 1990. What is New-Keynesian Economics? *Journal of Economic Literature* 28: 1115–71.
- Grieder, William. 1987. *Secrets of the Temple: How the Federal Reserve Runs the Country*. New York: Simon and Schuster.
- Isaacson, Walter. 1992. *Kissinger*. New York: Simon and Schuster.
- Kettl, Donald. 1986. *Leadership at the Fed*. New Haven, CT: Yale University Press.
- Keynes, John Maynard. 1936. *The General Theory of Employment, Interest, and Money*. London: Macmillan.
- Kydland, Finn, and Edward Prescott. 1977. Rules Rather Than Discretion: The Inconsistency of Optimal Plans. *Journal of Political Economy* 85: 473–91.
- Lebergott, Stanley. 1964. *Manpower and Economic Growth: The American Record since 1800*. New York: McGraw-Hill.
- Mankiw, N. Gregory. 1985. Small Menu Costs and Large Business Cycles: A Macroeconomic Model of Monopoly. *Quarterly Journal of Economics* 100: 529–37.
- Nixon, Richard. 1962. *Six Crises*. Garden City, NY: Doubleday.
- Okun, Arthur. 1970. *The Political Economy of Prosperity*. Washington, DC: Brookings Institution.
- Rockoff, Hugh. 1984. *Drastic Measures: A History of Wage and Price Controls in the United States*. New York: Cambridge University Press.
- Romer, Christina. 1986. Spurious Volatility in Historical Unemployment Data. *Journal of Political Economy* 94 February: 1–37.
- Romer, Christina, and David Romer. 1995. Federal Reserve Private Information and

- the Behavior of Interest Rates. University of California, September. Manuscript.
- Rudebusch, Glenn, and David Wilcox. 1994. Productivity and Inflation: Evidence and Interpretations. San Francisco: Federal Reserve Bank of San Francisco. Photocopy.
- Samuelson, Paul A., and Robert M. Solow. 1960. Analytical Aspects of Anti-Inflation Policy. *American Economic Review* 50 (May): 185–97.
- Sargent, Thomas. 1982. The Ends of Four Big Inflations. In *Inflation: Causes and Effects*, ed. Robert E. Hall. Chicago: University of Chicago Press.
- Simons, Henry. 1947. Rules versus Authorities in Monetary Policy. In *A Positive Program for Laissez-Faire and Other Essays*. Chicago: University of Chicago Press.
- Stein, Herbert. 1984. *Presidential Economics*. New York: Simon and Schuster.
- Taylor, John. 1980. Aggregate Dynamics and Staggered Contracts. *Journal of Political Economy* 88: 1–23.
- . 1992. The Great Inflation, the Great Disinflation, and Policies for Future Price Stability. In *Inflation, Disinflation, and Monetary Policy*, ed. Adrian Blundell-Wignal. Sidney, Australia: Ambassador Press.
- Tufte, Edward. 1978. *Political Control of the Economy*. Princeton: Princeton University Press.
- Viner, Jacob. 1936. Mr. Keynes on the Causes of Unemployment: A Review of John Maynard Keynes, *The General Theory of Employment Interest and Money*. *Quarterly Journal of Economics* 51, no. 1: 147–67.
- Volcker, Paul, and Toyoo Gyohten. 1992. *Changing Fortunes: The World's Money and the Threat to American Leadership*. Ed. Lawrence Malkin. New York: Random House.
- Weir, Margaret. 1992. *Politics and Jobs*. Princeton: Princeton University Press.
- Wells, Wyatt C. 1994. *Economist in an Uncertain World: Arthur F. Burns and the Federal Reserve, 1970–1978*. New York: Columbia University Press.

Comment John B. Taylor

Bradford De Long's paper is a wonderful read. It starts with a convincing demonstration of the historical significance of the 1970s inflation (the great inflation), documenting its long duration, its multinational dimension, and its probable lasting effect on the future course of economic policy and history. As the 1970s fade into the past—already today's college freshmen have no direct memory of this period—it is valuable merely to record these events and the lessons to be drawn from them. Monetary theory—more so than any other branch of economics—needs this type of history to supplement our understanding of how policy affects the economy. The paper brings this history alive with juicy quotes from both the economists and the politicians who made economic policy during this period.

De Long not only documents the history of the great inflation, he examines its causes. He concludes, and I agree, that the “price shocks” of the 1970s were not the cause of the inflation; in fact, the inflation was already under way before 1972 when the oil price shocks began. To this I would add that the oil price

shocks of the late 1970s had very small inflationary effects in Japan after a much less accommodative monetary policy was put in place.

De Long also apparently rejects modern time-inconsistency arguments as an explanation of the great inflation. The rejection is implicit because he completely omits any discussion of the subject. Surprisingly, he does not even mention the well-known time-inconsistency work of Barro and Gordon (1983) or Kydland and Prescott (1977), which may be the most frequently cited reason why monetary policy led to excessively high inflation. Is De Long correct in dismissing this argument out of hand?

In fact, the time-inconsistency model does have the potential to explain the great inflation, as argued by Parkin (1993). In the basic Kydland-Prescott model of the inflation/unemployment trade-off, the "suboptimal" consistent policy (or what Barro and Gordon call the discretion policy) is assumed to be the long-run equilibrium inflation rate and unemployment rate. There is an important theorem about this suboptimal equilibrium: the higher the natural rate of unemployment is, the higher the equilibrium inflation rate is.

Parkin uses this theorem to explain the 1970s inflation in the United States by noting that the natural rate of unemployment rose in the 1970s, as the young postwar baby-boom generation entered the workforce, and declined in the 1980s as the baby-boom generation aged. Hence, the time-inconsistency model implies that the equilibrium inflation rate should have risen in the 1970s and fallen in the 1980s, just as the actual inflation rate rose and fell. I have questioned the Parkin explanation (Taylor 1993b) on the grounds that the time-inconsistency model is not persuasive as a positive economic theory in the case of the inflation-unemployment trade-off, because people would see the suboptimality of the equilibrium and attempt to fix it with laws or other social arrangements. But even if one finds the time-inconsistency model persuasive in this case, the Parkin explanation fails another important test; in particular, it does not explain why inflation also rose and then fell in Europe where the natural rate of unemployment kept rising throughout the 1980s. Hence, as my brief summary indicates, De Long is probably right to reject time inconsistency as an explanation of the great inflation.

De Long argues that the main reason for the great inflation—the "truest" cause—was the memory of the Great Depression itself and the deep fear people had of a return to high unemployment. In other words, he argues, policymakers and the public were willing to let inflation rise because, having recently experienced the high unemployment of the 1930s, they worried that maintaining price stability would lead to greater unemployment.

I have doubts about De Long's explanation. If the experience of the Great Depression caused Americans and their political leaders to sacrifice the goal of price stability in the late 1960s and 1970s, then why did monetary policy leave the price level so nearly stable during the 1950s and early 1960s—a period much closer to the Great Depression and nearly as long? We should have seen the inflation rate rise much earlier. The timing is off in De Long's

story. True, as De Long argues, the great inflation may just have been an accident waiting to happen, but I think there are more explicit factors that must have played a role.

In my view the development by economists and the adoption by policymakers of new macroeconomic ideas in the 1960s (the New Economics) deserves much of the credit, or blame, for the great inflation. The ideas were intellectually exciting, carefully explained, and widely disseminated; and the timing was just about perfect to explain the events.

First was the idea that there was a long-run Phillips curve, which appeared in the *Economic Report of the President* (for example, 1969, 95) and many textbooks, and which was widely discussed by the media. This idea indicated that the cost of an overheated economy would simply be higher inflation, rather than accelerating inflation.

Second was the view that the “full-employment unemployment rate” (what we would now call the natural rate) was 4%, and perhaps even lower. Although there was little evidence for this low figure at the time, it was put forth by many economists, including the Council of Economic Advisers (CEA), and it became widely accepted and difficult to change. As late as 1976 when a different CEA revised the estimate to 4.9%, they were widely criticized by politicians and the public for doing so (*Economic Report of the President* 1977). I recall that when Alan Greenspan and Burt Malkiel testified before the Joint Economic Committee about their CEA’s upward revision, they were lambasted by Senator Hubert Humphrey. That their estimate did not quite hit 5% may be indicative of their concern about confronting too directly the persistent and strongly held views about the 4% estimate held outside of economists’ circles.

This low estimate of the natural rate and the notion of a long-run Phillips curve trade-off led politicians to a certain fearlessness about using monetary policy to overstimulate the economy. For example, President Johnson was driven by his desire to put “easy money” people on the Federal Reserve Board. According to Joseph Califano in the “Guns and Butter” chapter of his *Triumph and Tragedy of Lyndon Johnson* (1991, 109), Federal Reserve Board chairman Martin “was threatening to resign if Johnson put another liberal on the Board.” Califano then goes on to explain how, nevertheless, Johnson managed to find yet another Federal Reserve Board candidate, who the president was convinced had good “easy money” credentials, and then make this appointment to the board despite Martin’s strong misgivings.

A counter to this argument about the influence of the long-run Phillips curve is that as early as 1968 Milton Friedman and Edmund Phelps were explaining that there was no such thing as a Phillips curve; excessive monetary expansion which temporarily brought unemployment below the natural rate would lead to *accelerating* inflation. However, at least in its early years, the Friedman-Phelps accelerationist model appears to have had little practical influence in leading to greater price stability. What the accelerationist model did, in my view, was transform analysis based on the old-fashioned Phillips-curve model,

which had already led to higher inflation, into an analysis showing that the costs of disinflation were so great that we should either not reduce inflation or we should do so incredibly gradually. For example, as late as 1978, in a *Brookings Papers on Economic Activity* issue entitled "Innovative Policies to Slow Inflation," George Perry (1978) showed that it would require 10% of GDP to reduce inflation by 1%. Pessimistic estimates such as these undoubtedly affected policymakers' thinking.

In the 1974 White House *Economists Conference on Inflation* with President Ford, virtually all the distinguished economists bemoaned the extraordinarily high costs of inflation reduction. Because of these costs Paul Samuelson and Walter Heller emphasized that perhaps inflation was not much of a problem. As Walter Heller stated at the conference, "in bringing inflation to its knees, we will put the economy flat on its back" (128). And Samuelson argued eloquently that we do not need a Winston Churchill-like "blood, sweat, and tears" program to reduce inflation (71). Among the economists at the conference only Milton Friedman argued unequivocally for inflation reduction: the "strength [of the U.S. economy] is currently being eroded by the disease of inflation. If that disease is not checked it will take a heavy toll including, in my opinion, the very likely destruction of our personal, political and economic freedoms. . . . I heartily applaud, also, the expressed determination of the Federal Reserve to slow monetary growth . . . despite the cries of anguish about this table and elsewhere about tight money, the slowing has so far lasted two or three months so we cannot yet be sure the Fed has really departed from the ever more inflationary path it has been following for the past decade" (122–23).

But Milton Friedman was the exception. The more common view among economists throughout the 1970s was that it was hardly worth the high costs to reduce inflation, and this view was based on the expectations-augmented Phillips curve, not simply the original Phillips curve.

In my view, the introduction of rational expectations as a model of the expectations term in the Phillips curve was ultimately influential in changing views both about the costs of reducing inflation and the costs of inflation itself. Thomas Sargent and Neil Wallace's striking estimate (1975) that the costs of disinflation were essentially zero for a credible policy certainly got people to think about alternative views. My own estimate made in the late 1970s (which incorporated both sticky prices and rational expectations) found that the disinflation costs were 60% smaller than George Perry had reported (see Taylor 1993a).

But whatever its source, the realization that the costs of disinflation might be smaller than the most dire warnings coupled with the clear dislike by the general public of inflation ultimately led to the end of the great inflation orchestrated by Paul Volcker at the Fed. Jimmy Carter and his advisers get credit for appointing Volcker to the Fed, and Ronald Reagan and his advisers get credit for helping to maintain the Fed's disinflation resolve through the early 1980s.

Ronald Reagan's explicit support for the Fed's price-stability goals in 1982 even when unemployment was high and the midterm elections approached (see Martin Feldstein's retrospective [1994]), contrasts sharply with Lyndon Johnson's attitude toward inflation in the late 1960s as reported by Joseph Califano. Hence, the fifteen-year cycle of macroeconomic opinion corresponds closely with changes of opinion of the top national economic policymakers as well as with the timing of the rise and fall of the inflation rate, that is, with both the great inflation and the great disinflation.

In my view, these changing economic theories and opinions about inflation are the ultimate cause of the changes in actual inflation. At the least this view provides a more complete explanation of the timing of the event than the "accident waiting to happen" view put forth in De Long's excellent history of the times.

References

- Barro, Robert, and David B. Gordon. 1983. Rules, Discretion, and Reputation in a Model of Monetary Policy. *Journal of Monetary Economics* 12 (July): 101–21.
- Califano, Joseph A., Jr. 1991. *The Triumph and Tragedy of Lyndon Johnson*. New York: Simon and Schuster.
- Economic Report of the President*. 1969. Washington, DC: Government Printing Office.
- Economic Report of the President*. 1977. Washington, DC: Government Printing Office.
- Economists Conference on Inflation*. 1974. Report Volume 1. Washington, DC. September 5.
- Feldstein, Martin. 1994. American Economic Policy in the 1980s: A Personal View. In *American Economic Policy in the 1980s*, ed. Martin Feldstein, 1–79. Chicago: University of Chicago Press.
- Kydland, Finn, and Edward Prescott. 1977. Rules Rather Than Discretion: The Inconsistency of Optimal Plans. *Journal of Political Economy* 85 (June): 473–92.
- Parkin, Michael. 1993. Inflation in North America. In *Price Stabilization in the 1990s*, ed. Kumiharu Shigehara, 47–83. London: Macmillan.
- Perry, George. 1978. Slowing the Wage-Price Spiral: The Macroeconomic View. *Brookings Papers on Economic Activity* 2 (1978): 259–99.
- Sargent, Thomas, and Neil Wallace. 1975. "Rational" Expectations, the Optimal Monetary Instrument, and the Optimal Money Supply Rule. *Journal of Political Economy* 83: 241–54.
- Taylor, John B. 1993a. *Macroeconomic Policy in a World Economy*. New York: Norton.
- . 1993b. Price Stabilization in the 1980s: An Overview. In *Price Stabilization in the 1990s*, ed. Kumiharu Shigehara, 1–6. London: Macmillan.