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AMERICA'S ONLY PEACETIME INFLATION: THE 1970S

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ABSTRACT

The 1970s were America's only peacetime inflation, as uncertainty about prices made every business decision a speculation on monetary policy. In magnitude, the total rise in the price level from the spurt in inflation to the five-to-ten percent per year range in the 1970s was as large as the jumps in prices from the major wars of this century.

The truest cause of the 1970s inflation was the shadow of the Great Depression. The memory left by the Depression predisposed the left and center to think that any unemployment was too much, and eliminated any mandate the Federal Reserve might have had for controlling inflation by risking unemployment.

The Federal Reserve gained, or regained, its mandate to control inflation at the risk of unemployment during the 1970s as discontent built over that decade's inflation. It is hard to see how the Federal Reserve could have acquired such a mandate without an unpleasant lesson like the inflation of the 1970s.

Thus the memory of the Great Depression meant that the U.S. was highly likely to suffer an inflation like 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*.

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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 (1936)

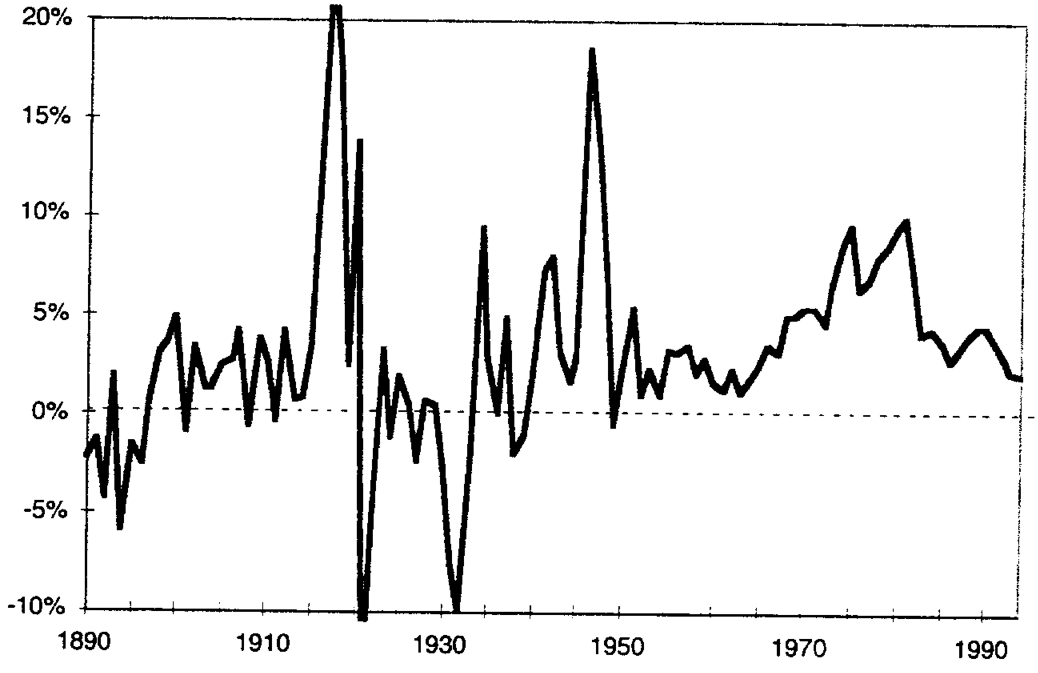
I know there's the myth of the autonomous Fed... [short laugh] and when you go up for confirmation some Senator may ask you about your friendship with the President. Appearances are going to be important, so you can call Ehrlichman to get messages to me, and he'll call you.

—Richard Nixon to Arthur Burns
(see Ehrlichman (1982))

I. Introduction

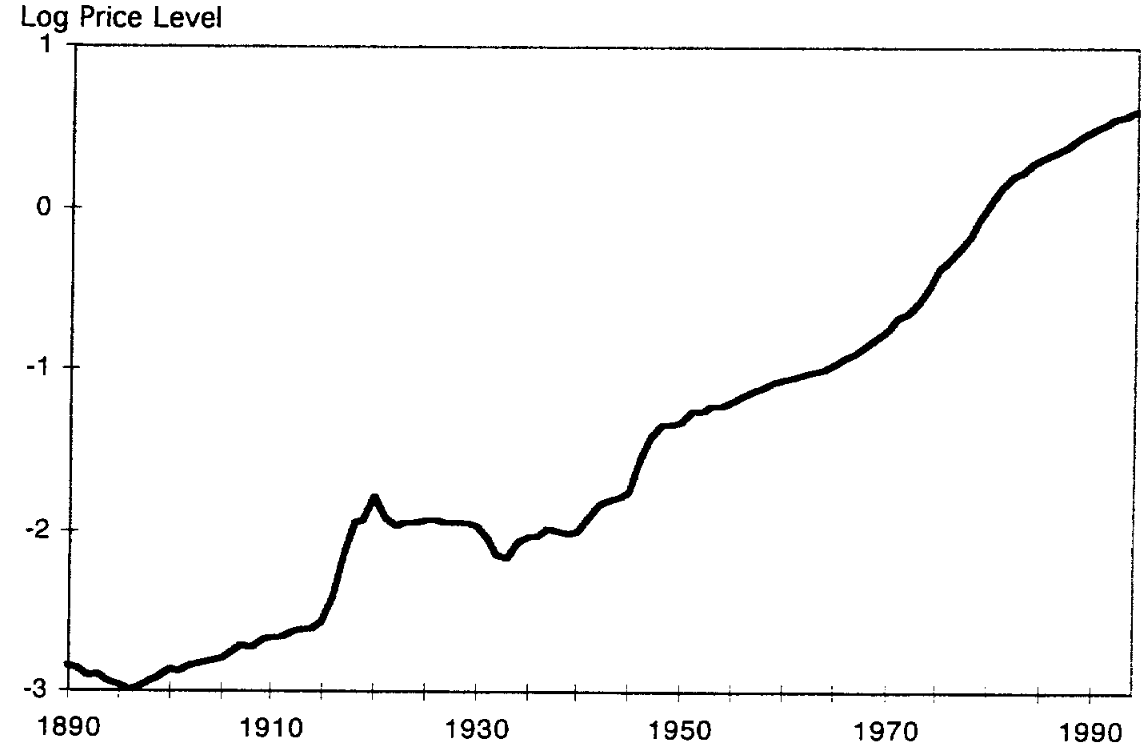
Examine the price level in the United States over the past century. Wars see prices rise, by more than fifteen percent per year at the peaks of wartime and decontrol inflation. The National Industrial Recovery Act and the abandonment of the gold standard at the nadir of the Great Depression generate nearly ten percent inflation. But aside from wars and Great Depressions, at other times inflation is almost always less than five and usually two to three percent per year—save for the 1970s.

Figure 1: Inflation (GDP Deflator), 1890-1994



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. 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 factors in nearly all business decisions.

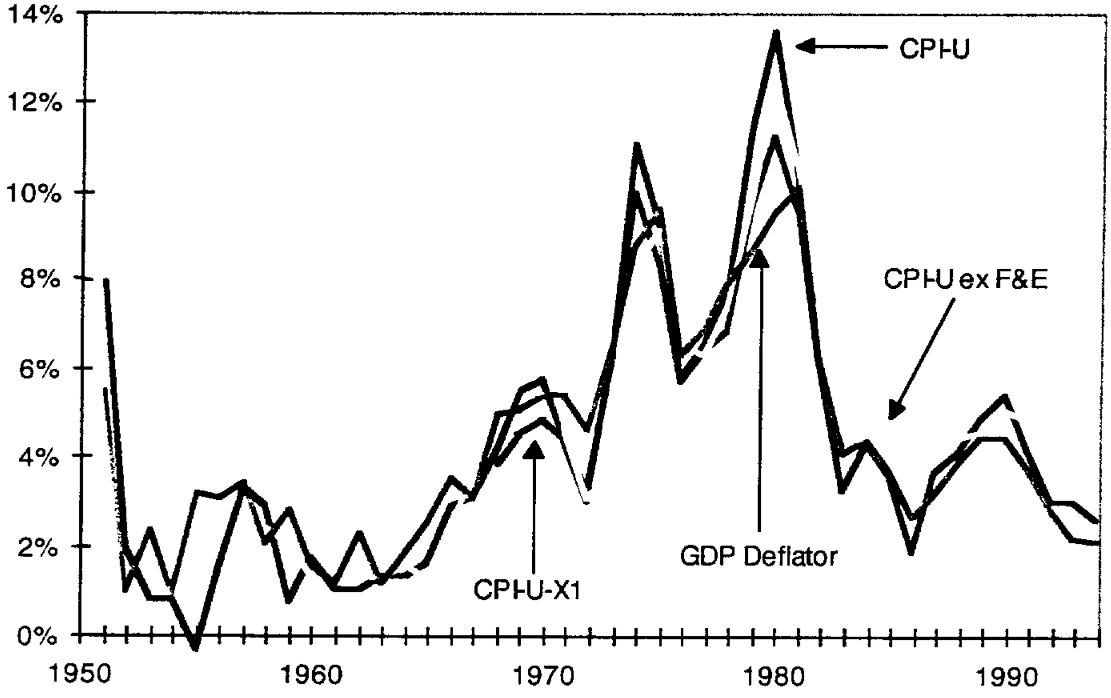
Figure 2: Log GDP Deflator, 1890-1994



The cumulative impact of the decade of five-to-ten percent inflation was large, as figure 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.

The qualitative picture of the 1970s remains the same no matter what measure of inflation is used. All measures show three inflation cycles in the late 1960s and 1970s, each larger than the one before: t first cycle peaks in 1969; the second peaks, at a higher rate of inflation, in 1973-74; the third and last peaks in 1980-81 at the highest level of inflation, and is followed by rapid decline—the Volcker disinflation, so-called because Paul Volcker was Chairman of the Federal Reserve while monetary policy drove real interest rates to previously-unseen highs and inflation subsided.

Figure 3: Inflation in the United States: 1951-1994

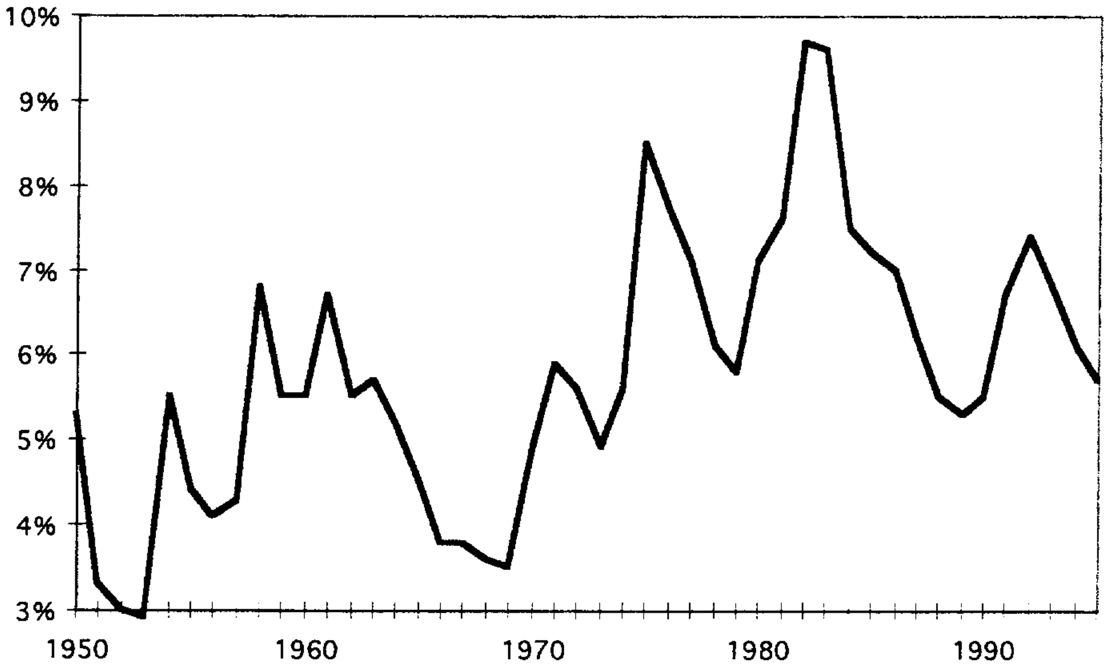


The largest cycles are exhibited by the old-fashioned consumer price index [CPI] (in this case the CPI-U, the version of the CPI that attempts to measure the cost of living for all urban consumers; up until the end of the 1970s this measue placed a relatively heavy weight on *nominal* interest rates in computing inflation because of its inclusion of a new mortgage payment-based measure of the cost of housing). The CPI-U-X1 (which replaces the mortgage payment-based measure of housing costs with a rental price-based measure for years in the 1950s, 1960s, and 1970s) shaves off the inflation peaks, as does the CPI ex F&E (the CPI excluding volatile food and energy prices).

The broadest of the price indices, the GDP deflator, shows the smallest cycles in inflation in the 1970s: the lowest peaks, but less reduction in inflation from the previous peak in 1971-2 and 1975-6 as well. Someone looking at the CPI measures could be considerably more optimistic that progress was being made to contain inflation in years like 1972 and 1976 than someone watching the GDP deflator measure.

The inflation of the 1970s was *broadbased.* It was a shift in the absolute price level, not a shift in relative prices. Save for a (temporary, over by 1986) rise in the relative price of energy and a (perhaps permanent and demography- rather than inflation-driven) rise in the relative price of housing, permanent relative price movements associated with the 1970s near-tripling of the price level were small.

Figure 3: Civilian Unemployment Rate, 1950-1995



Each surge in inflation was quickly followed by—or in the case of the mid-1970s oil shock inflation cycle roughly coincident with—an increase in unemployment. Once again, each cycle in the late 1960s and 1970s was larger than the one before: unemployment peaked at around 6 percent in 1971, at about 8.5 percent in 1975, and at nearly 10 percent in 1982-83.

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]

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, policy makers throughout the 1970s were willing to run some risk of non-declining or increasing inflation in order to achieve other goals. After the fact, most such policy makers 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

[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 U.S. in the 1970s are relatively low (and thus 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 (1996).

control inflation earlier.

At a somewhat deeper level, the United States had a burst of inflation in the 1970s because economic policy makers 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*.

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 four percent, 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 one percent 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 its 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 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 over-expansionary 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 policy makers, that "frictional" and "structural" unemployment were far more than one to two percent 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 policy makers 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, earlier, 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 U.S. was highly likely to suffer an inflation like 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*

II. 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 (see Tobin and Weidenbaum (1988); emphasis added)

The Legacy of Keynes?

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

> ...we come out with guesses like the following:
>
> ...In order to achieve the *nonperfectionist's* [emphasis added] 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 [figure].... 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 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]

Figure 4: From Samuelson and Solow (1960)

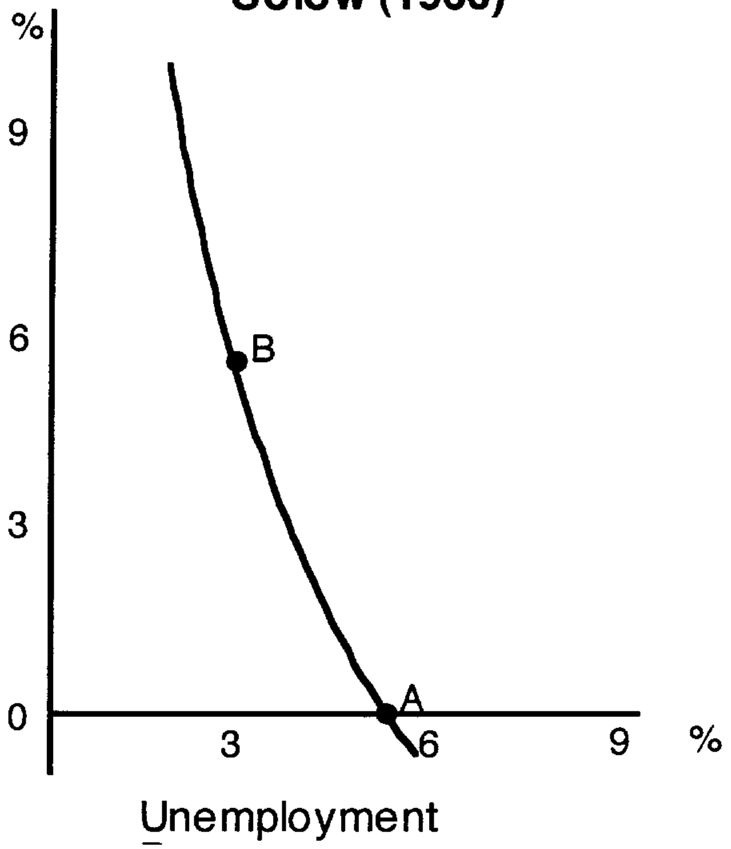


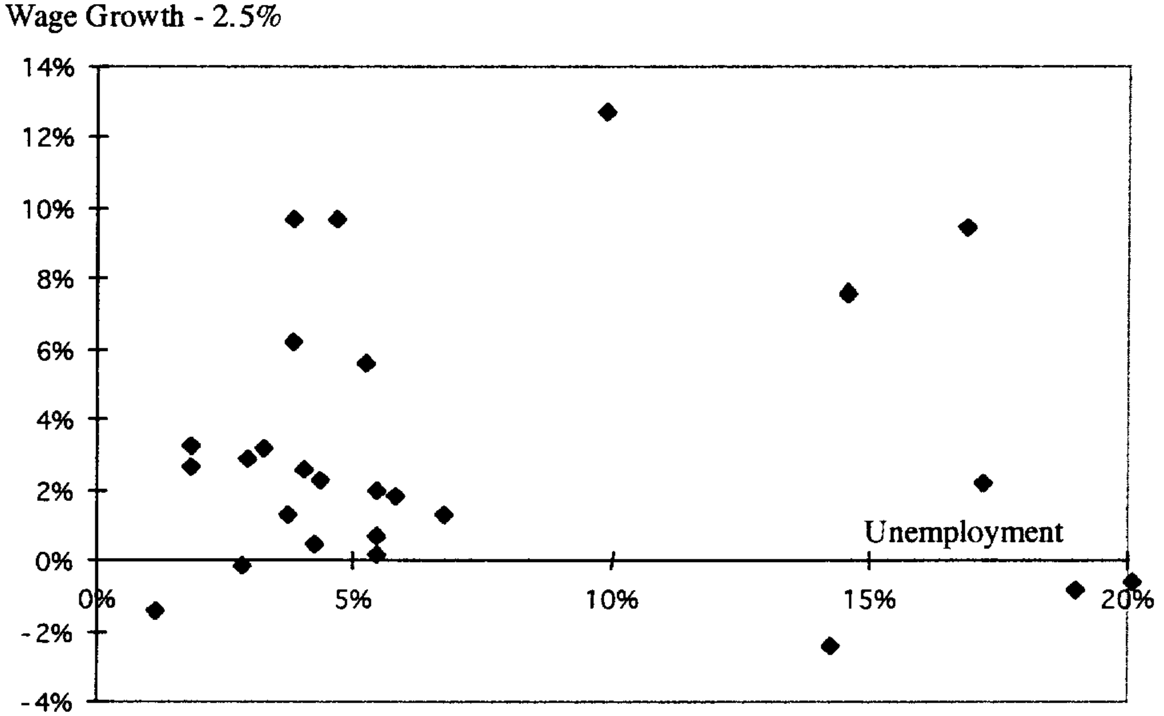
Figure 2
Modified Phillips Curve for U.S.

This shows the menu of choice between different degrees of unemployment and price stability, as roughly estimated from the last twenty-five years of American data.

[2] It *is* possible—by throwing out the Depression years (during which wages and prices rise, 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.

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 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 make matters worse.

Figure 5: Unemployment and Wage Growth - 2.5%, 1935-1960

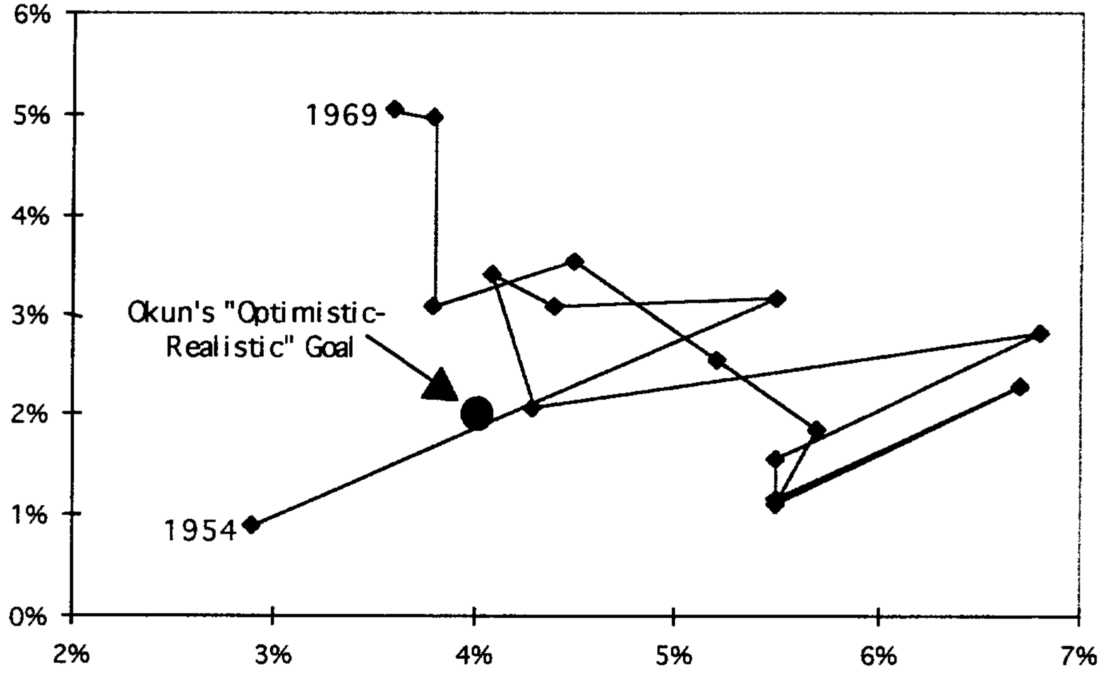


The thing that makes us wince the most is the description of three percent unemployment—a goal outside the historical operating range of the peacetime economy—as a "*nonperfectionist's* goal."[3]

[3] The American economy had not seen unemployment less than or equal to three percent save in wartime: 1943-1945, and 1952-53. Lebergott (1964) had estimated unemployment in 1926 at less than three percent. 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

Samuelson and Solow were not exceptional. As late as April 1969, ex-CEA Chair Arthur Okun (1969) was calling for a long-term "4 percent rate of unemployment and a 2 percent rate of annual price increase" as possibly "compatible" 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 U.S. had been southwest of Okun's target in only one single year.

Figure 6: Inflation and Unemployment, 1954-1969



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

from manufacturing to other sectors of the economy.

John Maynard Keynes (1936). Jacob Viner's (1936) review had forecast that:[4]

> 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...

The policies undertaken—on the recommendation of Keynesians—in the 1960s, and the inflation that followed, lend plausibility to this interpretation.

The Shadow of the Great Depression

But it may be more accurate to see the views of Okun (1969) 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 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

[4] And had called Keynes's book one "likely to have more influence than it deserves."

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.

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 percent unemployment as a "nonperfectionist" goal, and were arguing at the end of the 1960s that 4 percent unemployment and 2 percent 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 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 advisors 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

[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.

Stein, perhaps President Kennedy's economic advisors 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 degree Presidents and Senators get the economic advice that they ask for. It may be that a less optimistic group of advisors drawn from the academic economics community would have had no more effect on macroeconomic policy in the 1960s than advisors 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."

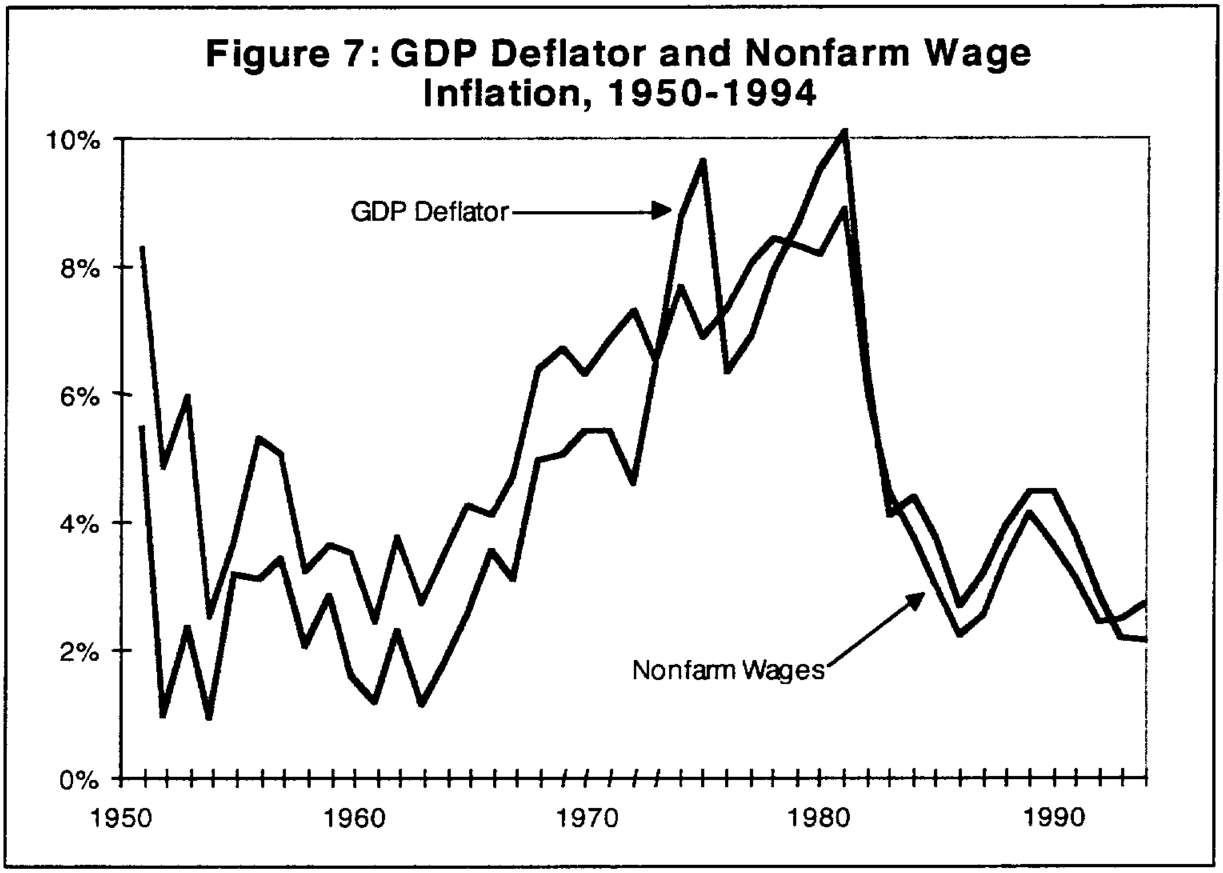
Perhaps the U.S. was likely to see a spurt of inflation in the 1960s even had Republican political dominance continued throughout that decade. It may be the case that even a Republican President and a Republican Congress would have exhibited the same unwillingness to use fiscal and monetary tools to slow economic growth during the build-up 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 percent unemployment had turned out to be the natural rate, the cry would have arisen for a reduction in unemployment to 2 percent. It is well within the bounds of possibility that the U.S. 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 U.S. 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.

The Situation at the End of the 1960s

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



A 1.5 percentage point per year gap 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 five percent per year or more down to two to three percent 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 occured after 1968: from 5% in 1968 to the peak of just over 10% in 1981. In wages, the major jump has already occurred by 1968: rates of nominal hourly wage increase 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. By the end of the 1970s average nominal wage growth was some eight percent per year rather than six percent 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 five 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 two 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.

III. Nixon's Mistake

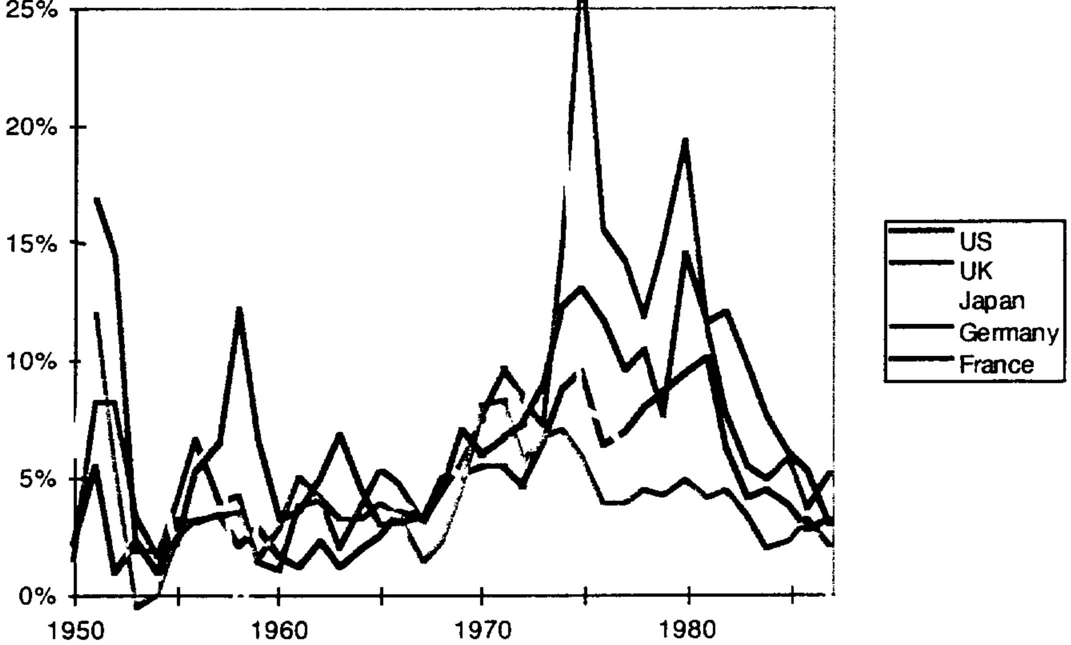
> I know there's the myth of the autonomous Fed... [short laugh] and when you

> 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
> (see Ehrlichman (1982))

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. Before the breakdown of the Bretton Woods fixed exchange-rate system, the price levels in these five countries are loosely linked together. But the Bretton Woods system breaks down at the beginning of the 1970s, and thereafter domestic political economy predominates as inflation rates and price levels fan 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 accomodated 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.

Figure 8: Inflation in the G-5, 1950-1994



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—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 U.S. experienced in the late 1960s a quickly-reversed anomaly.

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 advisors to stimulate production and employment at 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 on 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 pre-election recession in 1960 has led many to search diligently for evidence that they sacrificed economic health for political advantage in 1971-1972 (see, for exmaple, Tufte (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 extemely 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.

Wishing for Favorable Parameter Values

Thus Herbert Stein (1984) describes how he and his colleagues at the Nixon-era Council of Economic Advisers, 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." In retrospect, Stein would think he should have placed more weight on 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...

How were economic advisors 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, and yet in which their political superiors did not authorize such a policy?

McCracken, Stein, and Nixon's other economic advisors 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...

They were hoping that parameter 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 quantitaive knowledge about the relationship between inflation and unemployment at the time, or even today.

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 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 percent: one chance in six that the "true" NAIRU is less than 5 percent unemployment, and one chance in six that the "true" NAIRU is greater than 7.5 percent—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 régime 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 the message of Friedman (1953), "Effects of Full-Employment Policy on Economic Stability," and argued that uncertainty about parameters makes “fine-tuning”—and its cousin, “gradualism”—next to impossible.

“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. His presidential address was called, “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 of the past extremely unlikely.

Toward the end of his speech, Burns 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’s 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))

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 would suggest. Paul McCracken would add: "If he says yes, say that the Fed's monetary path can't and won't bring us to that outcome." Such pressures cannot have avoided making 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 the Ehrlichmans 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

[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.

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.

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."

Paul McCracken, especially, was irritated because he thought that Burns had "proposed [an incomes policy] without anything in mind but the phrase" (Wells (1994)), 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 Burns 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)). 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-inflaiton 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.

The Nixon Price Control Program

Herb 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 Council of Economic Advisers averse to *all* forms of incomes policy, from guideposts on up, as "wicked in themselves and steps on the slippery slope... to controls"; of a President who "did not like 'incomes policies' and knew they did not fit with his basic ideological position"; 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." And Burns's intervention on the pro-controls 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" led Stein to liken:

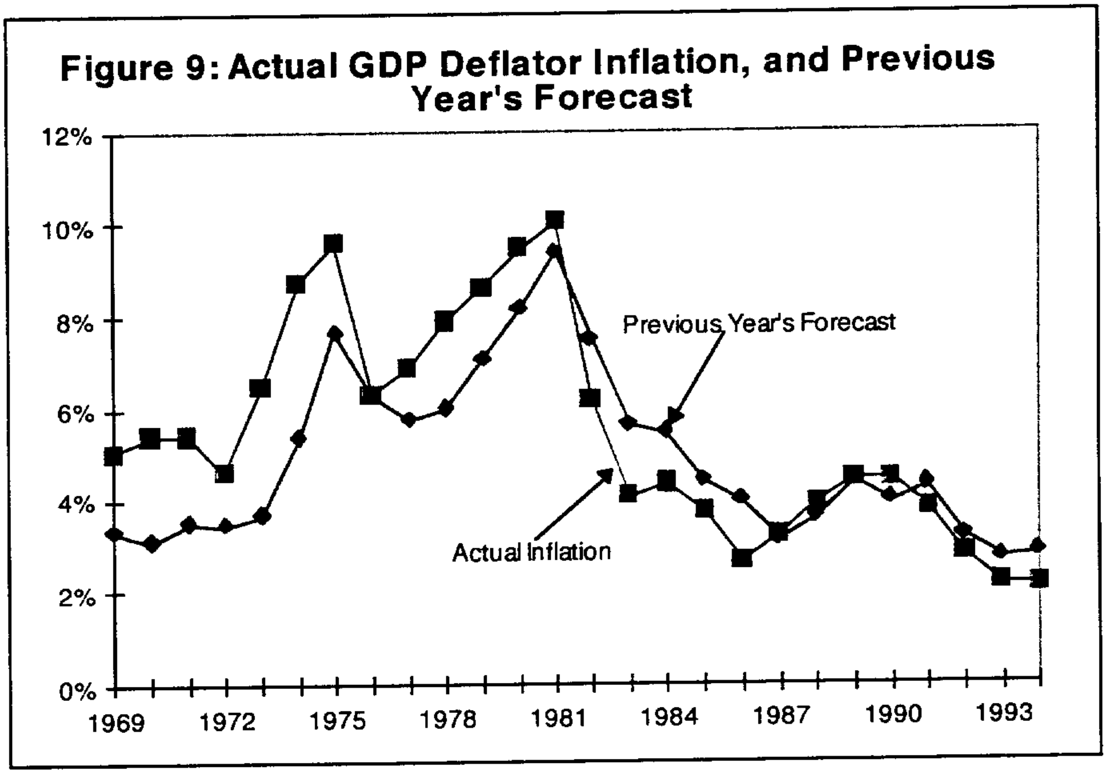
> the administration...[to] a Russian family fleeing over the snow in a horse-drawn troika pursued by wolves. Every once in a while they threw a baby out to slow down the wolves, hoping thereby to gain enough time for most of the family to reach safety. Every once in a while the administration would 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...

Rockoff (1984) finds nothing good in the 1971-1974 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: 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)). Burns took the chairmanship of the Committee on Interest and Dividends [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)).

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 the apparent initial success of the Nixon controls program did lead to overoptimism about how much more monetary and fiscal restraint was necessary to contain inflation, the Nixon administration suffered less from such overoptimism than did its critics. Stein (1984) cites Walter Heller, testifying before Joint Economic Committee on July 27, 1972 on how 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. The figure below 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.

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 policy makers were also shared by private-sector forecasters, and by those who paid to receive their forecasts.

IV. Supply Shocks and Asymmetric Price Adjustment

Blinder (1982) 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 litle as three."

[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.

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 asked:

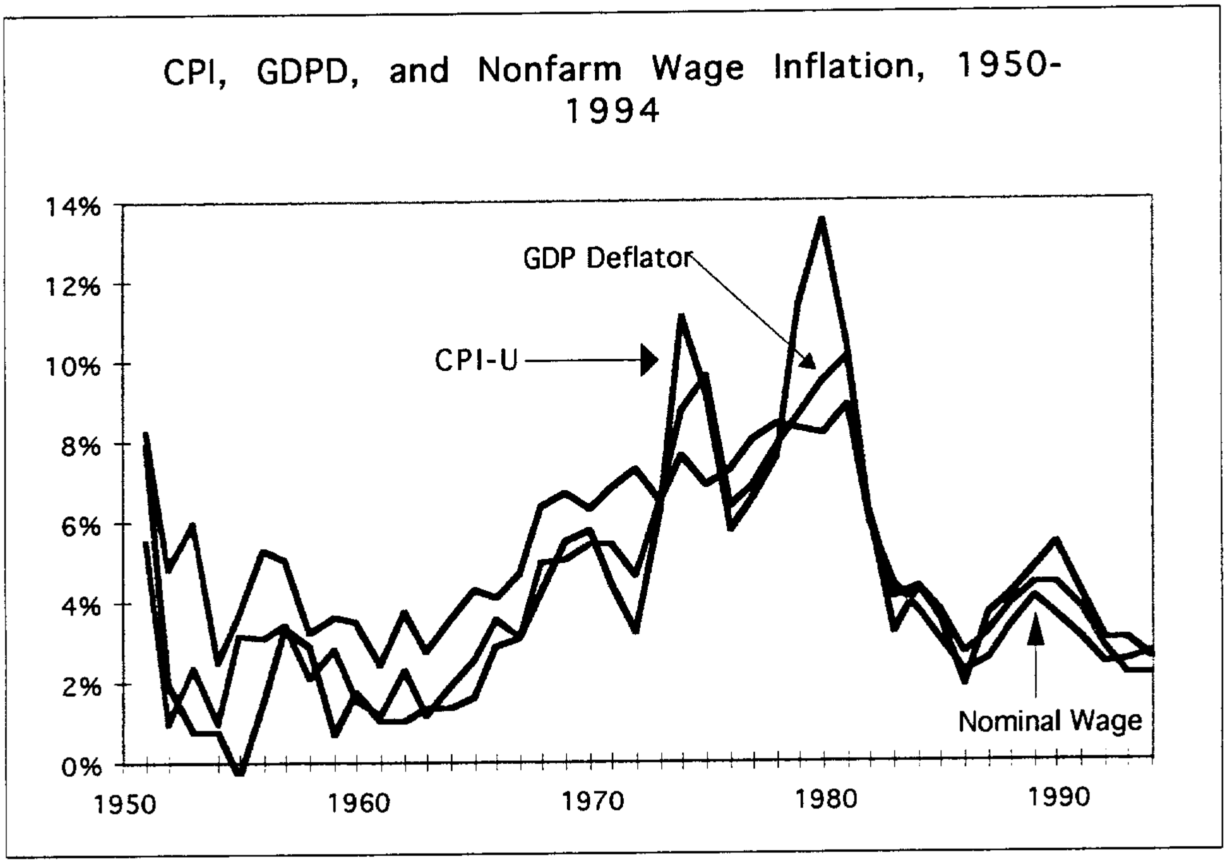
> The special conditions that drove up the price of oil and food required purchasers to spend more on them, leaving them less to spend on other items. Did that not force other prices to go down, or to rise less rapidly than otherwise? Why should the *average* [emphasis in original] level of prices be affected significantly by changes in the price of some things relative to others? (Friedman (1975), cited in Ball and Mankiw (1995))

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 (a) significantly larger than the average variance of shocks but (b) 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 OPEC price increase announcements and of the acceleration of food price inflation in 1972-1973. The bursts of inflation in 1972-1974 and 1978-1980 are invisible in the track of average nonfarm wage growth: yet it is surprising for a phenomenon that accelerates the rate of growth of average prices in the economy by five percentage points within a year to have next to no effect on the price of labor—unless something like Ball and Mankiw's (1995)

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

menu cost-based explanation is at work.



Persistent Effects of Supply Shocks

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 accomodated, but were instead accompanied by serious recessions. Perhaps an alternative world in which the Federal Reserve sought to fully accomodate the increases in nominal spending and avoid a supply-shock recession entirely would have generated significant acceleration in wage increases. 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, and 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 often-heard 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) 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 understand 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..."

But it does not. The baseline inflation rate was some five percent per year in the early 1970s *before* there were any supply shocks; the baseline inflation rate was pushed up by perhaps two percentage points as a result of the collapse in productivity growth; the baseline inflation rate appeared to be eight or nine percent per year by 1980. There is, arithmetically, very little to be accounted for by any feedback of supply shock-induced price increases into 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.

Thus I would tentatively conclude that the supply shocks of the 1970s were in large part sound and fury. They came. They caused headlines, jumps in the price level, and recessions. And when they had passed the inflation situation was much the same as before their impact.

Linkage

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

One of the many conspiracy theories floating around the Nixon administration is that then-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 no believe that the U.S. 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: as Kissinger explained it, "we adopted a policy which provides, in effect, that we will accede to any of the Shah's requests for arms purchases from us." 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; 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—a judgment that it is easy to share after working for the government, or for any large organization—is that the conspiracy theory assumes too much rationality and foresight to be credible.

V. Toward Volcker's Disinflation

Humphrey-Hawkins

The recession of 1974-1975 made it politically dangerous to be an advocate of restrictive monetary policy to reduce inflation. Near the trough of the recession, Hubert Humphrey and Augustus Hawkins sought to require that the government reduce unemployment to 3 percent *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 its 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 what he saw as a no-win 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))

And Humphrey-Hawkins eventually generated 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'—even Democratic economists'—judgment that Humphrey-Hawkins was likely to be very 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 percent 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.
- Required the Federal Reserve Chairman to testify twice a year.

In other words, the bill that was signed did nothing at all—save commit the Federal Reserve Chairman to a twice-a-year round of Congressional testimony.

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 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 surprise severe political problem in 1979. And this generated the only episode in history in which a Council of Economic Advisers 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)).

I have found no one 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))

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 pressures that had driven Nixon into wage and price controls have driven a second Ford administration into an overestimation of the available room for economic expansion? Herbert Stein (1984), 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.

VI. Conclusion

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 upwards from three to six or more percent 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 percent 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.

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 occured 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 by 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."

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 Council of Economic Advisers 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 informal mandate to fight inflation by inducing significant recession was a slow and informal one. Part of its terms of existence require that it never be made explicit. It is difficult to imagine it 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 ten toward twenty percent per year over the 1980s, and higher unemployment as well as inflation deranged the functioning of the price mechanism. In the U.S. 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 their 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 ()) 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

George Akerlof and Janet Yellen, "A Near-Rational Model of the Business Cycle, with Wage and Price Inertia," *Quarterly Journal of Economics*100 (1985), pp. 823-38.

Laurence Ball and N. Gregory Mankiw, "Relative Price Changes as Aggregate Supply Shocks," *Quarterly Journal of Economics* (February 1995), pp. 161-193.

Laurence Ball, N. Gregory Mankiw, and David Romer, "The New Keynesian Economics and the Output-Inflation Trade-off," *Brookings Papers on Economic Activity* (1988:1), pp. 1-65.

Robert Barro, "United States Inflation and the Choice of Monetary Standard," in Robert E. Hall, ed., *Inflation* (Chicago: University of Chicago Press, 1982).

Robert B. Barsky and J. Bradford De Long, "Forecasting Pre-World War I Inflation: The Fisher Effect and the Gold Standard," *Quarterly Journal of Economics* 106: 3 (August 1991) , pp. 815-36.

Alan Blinder, *Hard Heads, Soft Hearts: Tough-Minded Economics for a Just Society* (Reading, MA: Addison-Wesley, 1987).

Alan Blinder, *Economic Policy and the Great Stagflation* (New York: Academic Press, 1979).

Alan Blinder, "The Anatomy of Double-Digit Inflation," in Robert Hall, ed., *Inflation: Causes and Effects* (Chicago: University of Chicago Press, 1982).

Michael Bruno, Guido Di Tella, Rudiger Dornbusch, and Stanley Fischer, eds., *Inflation Stabilization: The Experience of Israel, Argentina, Brazil, Bolivia, and Mexico* (Cambridge, MA: M.I.T. Press, 1988).

Arthur F. Burns, "Progress Towards Economic Stability," *American Economic Review* 50:1 (March 1960), pp. 1-19.

A. Jerome Clifford, *The Independence of the Federal Reserve System* (Philadelphia, PA: University of Pennsylvania Press, 1965).

John Ehrlichman, *Witness to Power: The Nixon Years* (New York: Simon and Schuster, 1982).

Martin Feldstein, "American Economic Policy in the 1980s: A Personal View," in Martin Feldstein. ed., *American Economic Policy in the 1980s* (Chicago: University of Chicago Press, 1994).

Martin Feldstein, "Inflation, Capital Taxation, and Monetary Policy," in Robert Hall, ed., *Inflation: Causes and Effects* (Chicago: University of Chicago, 1982).

Stanley Fischer, ed., *Rational Expectations and Economic Policy* (Chicago, IL: University of Chicago Press, 1980).

Milton Friedman, "The Effects of Full-Employment Policy on Economic Stability: A Formal Analysis," in *Essays on Positive Economics* (Chicago: University of Chicago Press, 1953).

Milton Friedman, "The Role of Monetary Policy," *American Economic Review* 58:1 (March 1968), pp. 1-17.

Milton Friedman, "Perspectives on Inflation," *Newsweek*, June 24, 1975, p. 73.

Robert Gordon, "Why Stopping Inflation May Be Costly: Evidence from Fourteen Historical Episodes," in Robert E. Hall, ed., *Inflation* (Chicago: University of Chicago Press, 1982).

Robert Gordon, "Postwar Macroeconomics: The Evolution of Events and Ideas," in Martin Feldstein, ed., *The American Economy in Transition* (Chicago: University of Chicago Press, 1980), pp. 101-162.

Robert Gordon, "What Is New-Keynesian Economics?" *Journal of Economic Literature* 28 (1990), pp. 1115-1171.

Robert Gordon, "Wage-Price Controls and the Shifting Phillips Curve," *Brookings Papers on Economic Activity* 3:2 (1972), pp. 385-421.

William Grieder, *Secrets of the Temple: How the Federal Reserve Runs the Country* (New York: Simon and Schuster, 1987).

Robert E. Hall, ed., *Inflation: Causes and Effects* (Chicago, IL: University of Chicago for NBER, 1982).

Walter Isaacson, *Kissinger* (New York: Simon and Schuster, 1992).

Donald Kettl, *Leadership at the Fed* (New Haven, CN: Yale University Press, 1986).

Finn Kydland and Edward Prescott, "Rules Rather than Discretion: The Inconsistency of Optimal Plans," *Journal of Political Economy* 85 (1977) 473-91.

Stanley Lebergott, *Manpower and Economic Growth: The American Record since 1800* (New York: McGraw Hill, 1964).

N. Gregory Mankiw, "Small Menu Costs and Large Business Cycles," *Quarterly Journal of Economics* 100 (1985), pp. 529-537.

Richard Nixon, *Six Crises* (Garden City, NY: Doubleday, 1962).

Arthur Okun, *The Political Economy of Prosperity* (Washington: Brookings, 1970).

Arthur Okun, "Postwar Macroeconomic Performance," in Martin Feldstein, ed., *The American Economy in Transition* (Chicago: University of Chicago Press, 1980), pp. 162-169.

Arthur Okun, "Potential GNP: Its Nature and Significance," in *The Political Economy of Prosperity* (Washington: Brookings Institution, 1970).

Edmund Phelps, "Phillips Curves, Expectations of Inflation, and Optimal Unemployment Policy Over Time," *Economica* 34 (1967), pp. 254-81.

Edmund Phelps, "Money Wage Dynamics and Labor Market Equilibrium," in Edmund Phelps, ed., *Microeconomic Foundations of Employment and Inflation Theory* (New York: W.W. Norton, 1970).

A.W. Phillips, "The Relation Between Unemployment and the Rate of Change of Money Wages in the

United Kingdom, 1861-1957," *Economica* 25 (1958), pp. 283-99.

Hugh Rockoff, *Drastic Measures: A History of Wage and Price Controls in the United States* (New York: Cambridge University Press, 1984).

Christina Romer, "The Prewar Business Cycle Reconsidered" (Cambridge: NBER xerox, 1986).

Glenn Rudebusch and David Wilcox, "Productivity and Inflation: Evidence and Interpretations" (San Francisco, CA: Federal Reserve Bank of San Francisco xerox, 1994).

Thomas Sargent, "The Ends of Four Big Inflations," in Robert E. Hall, ed., *Inflation* (Chicago: University of Chicago Press, 1982).

Henry Simons, "Rules versus Authorities in Monetary Policy," in Henry Simons, *A Positive Program for Laissez-Faire and Other Essays* (Chicago: University of Chicago, 1947).

Robert Shiller, "Why Do People Dislike Inflation?"

Herbert Stein, *The Fiscal Revolution in America* (Chicago: University of Chicago Press, 1969).

Herbert Stein, "Changes in Macroeconomic Conditions," in Martin Feldstein, ed., *The American Economy in Transition* (Chicago: University of Chicago Press, 1980), pp. 170-177.

Herbert Stein, *Presidential Economics* (New York: Simon and Schuster, 1984).

Herbert Stein, *Washington Bedtime Stories: The Politics of Money and Jobs* (New York: The Free Press, 1986).

John Taylor, "The Great Inflation, The Great Disinflation, and Policies for Future Price Stability," in Adrian Blundell-Wignal, ed., *Inflation, Disinflation, and Monetary Policy* (Sidney, Australia: Ambassador Press, 1992).

James Tobin and Murray Weidenbaum, eds., *Two Revolutions in Economic Policy: The First Economic Reports of Presidents Kennedy and Reagan* (Cambridge: M.I.T., 1988).

Edward Tufte, *Political Control of the Economy* (Princeton: Princeton University Press, 1978).

Jacob Viner, "Mr Keynes on the Causes of Unemployment: A Review of John Maynard Keynes, *The General Theory of Employment Interest and Money* (London: Macmillan and Co., 1936)," *Quarterly Journal of Economics* 51:1 (November 1936), pp. 147-167.

Paul Volcker and Toyoo Gyohten (with Lawrence Malkin, ed.), *Changing Fortunes: The World's Money and the Threat to American Leadership* (New York: Random House, 1992).

Margaret Weir, *Politics and Jobs* (Princeton, NJ: Princeton University Press, 1992).

Wyatt C. Wells, *Economist in an Uncertain World: Arthur F. Burns and the Federal Reserve, 1970-1978* (New York: Columbia University Press, 1994).