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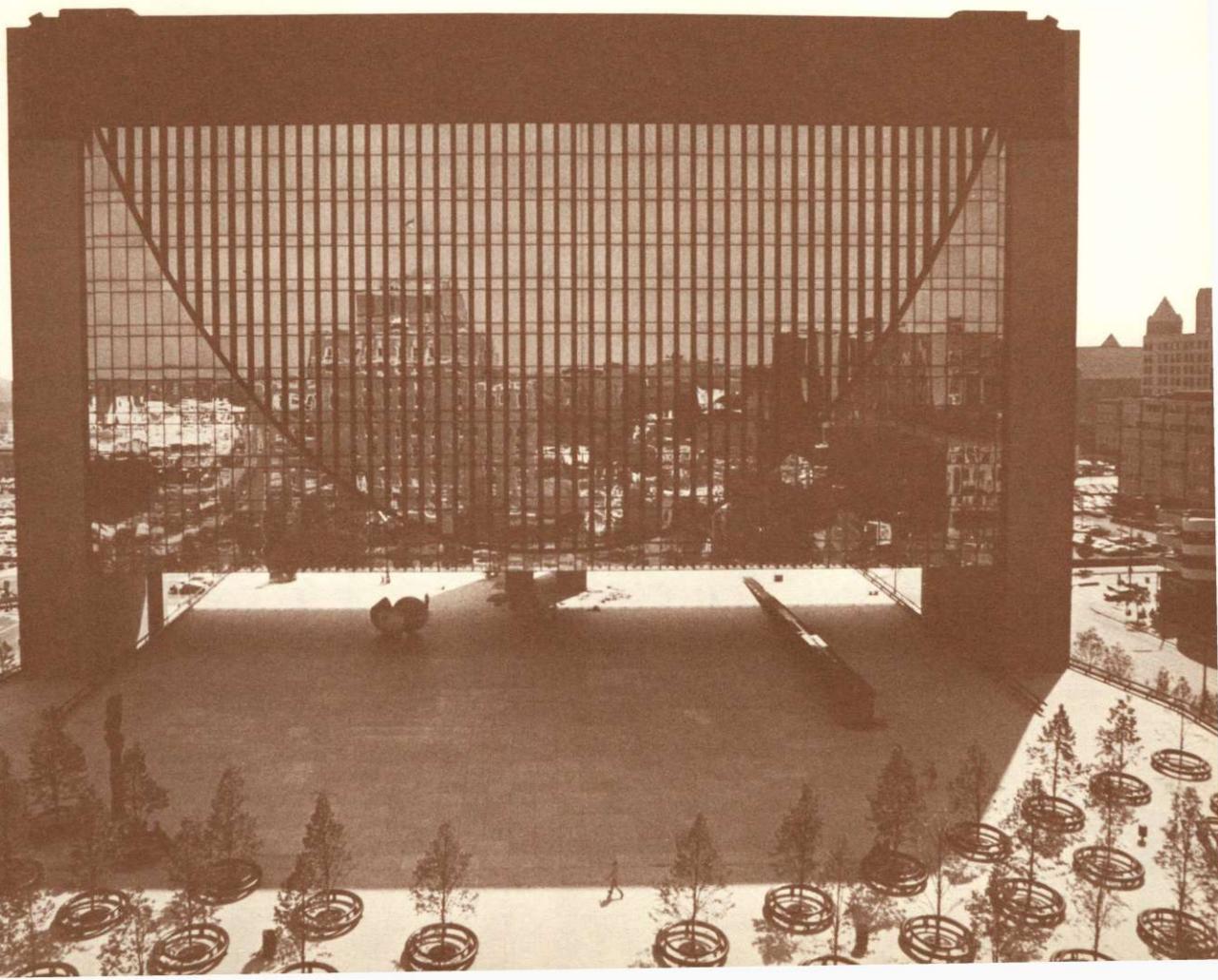
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**The U.S. Economy in 1977 and 1978** (p. 1)

**Inflation: An Extreme View** (p. 7)

**The Regional Economy in 1977 and 1978** (p. 15)



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# Inflation: An Extreme View\*

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The fundamental issue of public policy can be simply put. There are two questions: Is inflation good or bad? And if bad, is some nevertheless justified by what is gotten in exchange?

But so that no one listens on to eventual disappointment, I must say here that I cannot give anything like a definitive answer to the first of the two questions, whether inflation is good or bad. For one thing, there is nothing like time enough. The literature on inflation is voluminous. Even if we had two weeks, though, instead of fifty minutes, I should be in trouble. For some of the arguments about the consequences of inflation, lacking so in detail, pretty much defy appraisal.

You have heard it said, I am sure, that inflation inevitably ends in collapse—that excessive unemployment, maybe even social ruin, is the unavoidable consequence. And that may very well be. Some very eminent economists have made the claim. But why is collapse inevitable? So far as I am aware, the explanation has never been set out in much if any detail, and until it has we must remain, if not skeptical, then agnostic.

In dealing with that first question, all I am going to do, then, is consider whether a changing price level redistributes wealth and, more particularly, whether inflation makes creditors poorer and debtors richer. That is, or anyway was, widely believed. But I am doubtful. Inflation, if deliberate, does not help debtors. Nor does it, if deliberate, hurt them. But keep in mind that qualifying phrase “if deliberate.” What I might have said is that inflation, to the extent it is the result of government

policy, is largely if not entirely without distributional effect. And similarly for deflation.

Quite a few economists, maybe even a majority, still believe that inflation, even if bad, is nevertheless justified by what is gotten in exchange: namely, fewer unemployed individuals than there otherwise would be. But that too, it seems to me, is doubtful. I think it quite unlikely that less unemployment can, so to speak, be bought by more government-created inflation, or that there is a trade-off between unemployment and inflation that can be exploited by government.

## “Inflation” Defined

There may be no need, but let me pause briefly here to explain the meaning of the word “inflation,” which already I have used many times. There is some average of the prices of all relevant goods and services, what is often referred to as the “price level.” If that average is increasing through time, then there is “inflation,” and more or less depending on how much the average is increasing per unit of time. If the average is decreasing, then there is “deflation.” And if it is not changing, or is constant over time, then there is “price stability.”

So the words “inflation” and “deflation” and the phrase “price stability” are all descriptive of the behavior of an average of prices, not of any particular prices. Thus, price stability can obtain when all prices are changing, as they will or should be when demands and/or supplies are changing. Inflation can obtain when some prices are decreasing and deflation when some prices are increasing.

I said that there is some average of relevant prices. But what kind of average? And which are the relevant prices? Surprisingly perhaps, those are not

\*A speech given in summer 1977 at the Graduate School of Banking, University of Wisconsin, Madison, Wisconsin.

easy questions. There is a bulky literature on how to measure what we customarily refer to as the "cost of living." Our time is too brief, though, for me to attempt an explanation of what the difficulties are, or of why even the Consumer Price Index, our official cost-of-living index, although faithfully calculated each month by our government, is not an entirely satisfactory measure. Fortunately, we can get on nicely enough without bothering about what the ideal measure of the price level is.

#### **Deliberate inflation does not redistribute wealth**

If political oratory is any guide, it has long been believed by many that inflation redistributes wealth from creditors to debtors—or what has often been presumed to be the same thing, from the rich to the poor, maybe even from the idle rich to the working poor. And it has long been believed that deflation redistributes wealth from debtors to creditors—or as some would insist, from the poor to the rich. How else explain the existence of Populism, supposedly the political movement of the debtor class, one of the basic tenets of which is that deflation is the invention of the "monied East," a curse, something to be avoided like the plague? How else explain the Populist belief that monetary policy has never or hardly ever been expansionary enough?

It really is too simple, though, identifying creditors as the rich and debtors as the poor, and more to the point, saying that price level changes redistribute wealth. In a sense, they do. But only in an irrelevant sense. A change in the price level that was not expected, that has come as a surprise, does indeed redistribute wealth. But a change that was expected, that was correctly anticipated, does not redistribute wealth. For any expected change, of whatever magnitude, will be reflected in the agreements reached by borrowers and lenders. Nominal interest rates, the rates quoted in their loan contracts, will presumably be set so that in real terms borrowers' payments are what they would be with a constant price level.

Suppose that with an expected constant price level a nominal interest rate of, say, 5 percent is judged reasonable by a particular borrower and a particular lender. Then with an expected inflation rate of 5 percent, a nominal interest rate of 10 percent must also seem reasonable. For with a 10 percent rate and an inflation rate of 5 percent, the

borrower's payments are in real terms exactly what they are with a nominal rate of 5 percent and a constant price level. And what matter to borrower and lender are the real values of those payments—not the dollar amounts, but the goods and services those payments will buy.

What if our hypothetical borrower and lender have different expectations about inflation? I can almost hear you asking. Then they may not reach an agreement. Or if they do, it will favor one or the other. The point surely is, though, that there is no reason whatever to believe that borrowers and lenders, as groups, continually differ in their expectations, and always in the same way, or therefore to believe that with inflation (or deflation) there is a systematic redistribution of wealth.

And I can almost hear you saying that nothing ever happens as expected, that it is silly to distinguish, as I have, between expected and unexpected inflation. Or between expected and unexpected deflation. Nor can I with any conviction at all dispute the charge that economic forecasts, even those of the supposed experts, are distressingly inaccurate.

In the present context, however, it is of no significance that the economic future is uncertain, that the price level has a large random or unpredictable component. Ultimately, what interests us is whether policy-induced inflation or deflation, inflation or deflation deliberately sought by the government, is good or bad. What interests us is what the government should do, what its price level objective should be. And my point is that the desired change of the price level, whatever it may be, does not matter, at least for the distribution of wealth over debtors and creditors. The government may seek an inflation rate of, say, 10 percent, or a deflation rate of 5 percent. It may seek price stability. But whatever its objective, borrowers and lenders will quickly catch on, and just as quickly private credit contracts will come to reflect the common expectation.

It was Lincoln, I believe, who said that the government cannot fool all of the people all of the time. (And too bad it is that certain recent presidents were not more careful students.) I would make a stronger claim, and with some justification supplied by history: government cannot even fool a few, except perhaps fleetingly. That is why, as I believe, deliberately induced inflation does not favor debtors, nor

deflation creditors, and why inflation, if deliberately induced, does not decrease the ranks of the unemployed.

#### **Keynesians are wrong about the Phillips curve**

Many history books tell us, perhaps even rightly, that once upon a time it was the political leaders of those engaged in agricultural pursuits, William Jennings Bryan and others, who were the advocates of inflation. The concern of present-day advocates is, though, mostly for workers in industry and commerce—or, more accurately, for the marginal among those workers, the individuals who have already become or are most likely to become unemployed. And present-day advocacy is based on a particular belief about what has come to be called the Phillips curve, an inverse relationship between the inflation rate and the unemployment rate, the existence of which, so far as I know, no one doubts.

That belief—as I shall refer to it, the Keynesian belief—is that the Phillips curve changes only slightly if at all over time and, moreover, can be exploited by a willing government. Allegedly, there is a choice to be made. By accepting the appropriate inflation rate, or by adopting the correct policies, those that produce the appropriate inflation rate, the government can achieve the desired unemployment rate, whatever that may be. More particularly, it can achieve full employment, defined as some amount of unemployment, 4 percent of the labor force or maybe 5 or 5½ percent. It has only to accept or insist upon whatever inflation rate is implied by the Phillips curve.

I am not entirely sure in my own mind what the original theoretical justification for the Keynesian belief (or interpretation of the Phillips curve) was. Chances are, though, that it was something as follows. The unemployment rate measures how the demand for labor compares with the supply of labor. The lower that rate is, the greater is demand relative to supply. But the greater is demand as it compares with supply, the fiercer is the competition for workers, that is, the greater is the upward pressure on wages. And clearly, barring some freakish development, such as the emergence of an effective OPEC, prices must change at about the same rate as wages. Competition among producers keeps prices from increasing at a higher rate. Nor can they increase at a lower rate for very long; the threat of bankruptcy

guarantees that.

So we have an explanation for the Keynesian belief about or interpretation of the inverse relationship between the unemployment rate and the inflation rate. But it is not at all satisfactory. For as Professor Milton Friedman has pointed out, the demand for labor depends not on the number of dollars per hour that workers must be paid, but on how that number compares with another, the number of dollars that a unit of the output produced by workers can be sold for. It depends on how profitable hiring workers is, and that profitability is measured not by one number, but by a ratio. In the language of economists, the demand for labor depends not on the money wage, but on the real wage, the ratio of the money wage to the product price.

The supply of labor also depends on the real wage. The concern of workers is not for the number of dollars received for an hour of work. Rather, it is for the amount of goods and services that can be bought with an hour of work, which is given by the ratio of the money wage to the (average of the) prices of goods and services.

#### **Inflation expectations affect wage agreements**

If it is right, though, that labor demand and labor supply depend upon or are determined by the real wage, and surely that must be so, then it is also right that the basic inverse relationship is between the unemployment rate and the rate of change of real wages. The unemployment rate measures how the demand for labor compares with the supply, or how fierce the competition for labor is; and what responds is the real wage. It is the real wage, not the money wage, that increases a little or a lot, depending on how fierce the competition is.

With that conclusion, we have come almost to Professor Friedman's belief about the Phillips curve. All that remains is to acknowledge two facts, one mathematical and the other (perhaps more appearance than reality) institutional. The mathematical fact is that the rate of change of the real wage, in percent, is the difference between the rate of change of the money wage and the rate of change of the price level. And the institutional fact is that money wages are set only periodically, not every day or even every month.

The significance of that institutional fact (if fact it be) is that the expected inflation rate is therefore

relevant. Workers and employers care about real wages. In deciding how much money wages are to increase, it is therefore relevant how much the price level is going to increase. Or since wages are set only periodically, what is relevant is how much the level will increase between now and when wages are set again. But that is not known. So workers and employers must rely on their expectations which in general are the same. There is, then, an expected inflation rate that helps determine the rate of increase of money wages and thereby the rate of increase of the price level—or in other words, the actual inflation rate.

According to the Keynesian interpretation of the Phillips curve, the unemployment rate is determined by the inflation rate—or to be more precise, by the actual (as opposed to the expected) inflation rate. Given the actual inflation rate, as determined by government policy, the unemployment rate is known.

But as Professor Friedman has convincingly argued, the Keynesian interpretation derives from a misspecification of labor demand and supply. And as we have now seen, a correct specification yields a more complicated interpretation of the Phillips curve, the classical or Friedmanian interpretation, according to which the unemployment rate is determined not only by the actual inflation rate but by the expected inflation rate as well. Given the actual inflation rate, the unemployment rate will be high or low depending on what the expected inflation rate is. If inflation is expected to proceed at a low rate, then the unemployment rate will be low. But if inflation is expected to be considerable, then the unemployment rate will be high.

#### **How expectations are formed affects what government can do**

What interests us, of course, are the implications for stabilization policy of the classical belief about the Phillips curve. What difference does it make that the expected inflation rate also appears in that relationship, along with the unemployment rate and the actual inflation rate? That would seem to depend on how the expected inflation rate is determined and, more particularly, on how the expected and actual inflation rates are related.

Professor Friedman evidently believes, as do many other economists, that the expected inflation

rate is an average of past inflation rates, with the most recent of those being weighted more heavily than those of the more distant past. And on that assumption, sometimes referred to as the adaptive expectations hypothesis, what the classical interpretation of the Phillips curve tells us, among other things, is that to stand still the government must run faster and faster. To maintain a given unemployment rate, that corresponding, say, to full employment, the government must year after year increase the actual inflation rate. The actual inflation rate must accelerate. Which is why Professor Friedman's view has come to be known as the "accelerationist doctrine."

Let me illustrate with more hypothetical numbers. Suppose that the government wants an unemployment rate of 5 percent and that initially the public is expecting an inflation rate of 2 percent. (It may be that the actual inflation rate has been 2 percent for quite some time.) And suppose further that according to the real-world Phillips curve, classical in nature, the government is therefore required in the current period to impose an actual inflation rate of 4 percent. But then in the next period the expected inflation rate is not 2 percent. It must be higher, maybe 3 percent. For if the expected rate is an average of past actual rates, replacing a 2 percent rate with a 4 percent rate increases the average. With the public having increased its expected inflation rate, though, the government, still wanting a 5 percent unemployment rate, must impose an actual inflation rate higher than 4 percent, let us say 5 percent. So the expected inflation rate increases again; and in consequence the actual inflation rate does too. And on and on the process goes.

And the implication of accelerating inflation does not appear to be contradicted by postwar experience. The average actual inflation rate for the period 1970-1976 is higher than that for the 1960s. And the average unemployment rate of 1970-1976 is also higher than that of the 1960s.

Professor Friedman seems to have carried the day. Dr. Arthur Okun, former chair of the Council of Economic Advisers and continuing protagonist of Professor Friedman, wrote not too long ago (I have forgotten exactly where) that we are all accelerationists now. Most economists have come to see that the expected inflation rate matters and evidently to

agree that it is determined as Professor Friedman has suggested.

The near-unanimity that we appear to have achieved is not, however, all that significant. How quickly the expected inflation rate gets revised is still at issue. And if slowly enough, then it is as if the Keynesian belief about the Phillips curve were the relevant one. That is, if the expected inflation rate gets revised only very slowly, then in effect it does not appear in the Phillips curve relationship. So it is not that the majority of those trained when Keynesianism was still dominant have given up the belief that more government-induced inflation buys less unemployment. It maybe does so only in the short run. But as those who still believe would insist, that short run is a very long stretch of calendar time—for sure, years and years, and maybe a decade or two.

#### **The Rational Expectations Hypothesis**

There is another way of phrasing Professor Friedman's view. Maintaining almost any constant unemployment rate, or maintaining full employment as conventionally defined, necessarily involves continuously fooling the public, or continuously producing an inflation rate different from that which was expected. And some, economists and others, have expressed doubt about the morality of the government ever purposely confounding its citizenry. Another question, though, is whether it can.

To put the question another way: how reasonable is the Friedman expectations assumption, the adaptive expectations hypothesis, which to repeat says that the expected inflation rate is an average of past actual rates? I find it very difficult to accept, partly because it portrays individuals as being so dumb, so unmindful of their own interests. According to the hypothesis, they learn from the past, or rather, a tiny portion thereof, but in such a way that they can go on forever being fooled. The government has only to make the current-period inflation rate greater than that of the period just past. And individuals will never catch on.

But I do not believe that. Whatever the government does, individuals will catch on, and if not immediately, then quickly. What should be assumed is not that individuals simply average past inflation rates, but that they look to what government policy is, to what the objectives of policy are. What should be assumed is that in making forecasts, they

use the best available approximation of policy, thereby doing as well for themselves as they can.

That is what the rational expectations hypothesis says: individuals, anxious to do as well as they can, make the best possible forecasts. And it is an implication that the government cannot influence the unemployment rate, except maybe over a very short short run. If constrained by a classical Phillips curve, the government can reduce the unemployment rate by increasing the actual inflation rate, but only if the expected inflation rate does not change by the same amount. If it does, then despite the increase in the actual inflation rate, the unemployment rate remains what it was. And if individuals form their expectations by looking at what government policy is, then they know, approximately anyway, what the actual inflation rate will be. The actual and expected inflation rates are always roughly the same. (They differ only to the extent that the actual rate is influenced by unpredictable events.)

Under the rational expectations hypothesis, individuals are, if ever, only briefly wrong about the intent of government. And as I said a few moments ago, the classical interpretation of the Phillips curve implies that government can manipulate the unemployment rate only to the extent that it can fool individuals.

It may be a bit hard for you to swallow, my contention that the public is always pretty much aware of what the government's stabilization policy is—what its objectives are and what it will be doing to achieve those objectives. Each of us has at least one rather dim relative, an uncle perhaps, maybe even an aunt, who does not have the faintest notion what the phrase "stabilization policy" means, let alone know what the actual policy of the moment is. It is, however, not required that everyone know, only some, those who are strategically located. For example, where trade unions represent workers, it is enough that the leadership know. And it would seem right that the typical present-day union leadership is pretty well informed.

Or perhaps I am being too literal. If I may paraphrase Professor Robert Lucas (in the *Journal of Economic Literature*, September 1975, pp. 889-90): Everyone knows that there are many, many individuals who do not possess the knowledge to

make "good" forecasts. (How many are there who have never even heard of the Federal Reserve System?) But consider what follows from the adaptive expectations hypothesis or any other arbitrary forecasting rule-of-thumb. Unusual profit opportunities can persist forever. For one individual's bad (biased) forecast is another's opportunity for unusual profit. Most economists do not, however, believe that such opportunities go begging for long. So in a sense the rational expectations hypothesis must be accepted.

I should also point out that the rational expectations hypothesis, an essential underpinning of the conclusion that the government is pretty much unable to influence the unemployment rate, is not contradicted by the undeniable fact that even the experts are very often wrong about what is going to happen to the price level. As I said earlier, there are certain influences, such as weather, that are very difficult to predict. That is why so many poor forecasts are made. For the government to be without influence, however, it is not necessary that forecasts be perfect, but only that the public not be systematically wrong about what inflation rate the government is intent on achieving.

Even if the rational expectations hypothesis is wrong, the government's ability to influence the unemployment rate may be slight and getting slighter. You are aware, I am sure, that today many wage agreements, formal and informal, provide for automatic adjustment of wages to changes in the price level. Escalator clauses have become common, and in all likelihood, unless by some miracle price stability is restored, will become more so in future. But think what the existence of an escalator clause implies: in effect, that expectations are perfectly accurate, that the portion of the public covered by the clause cannot ever be fooled.

We perhaps are still a long way from having determined empirically how price-level expectations are formed. There is some evidence that the rational expectations hypothesis is better than its rival, the adaptive expectations hypothesis. But that evidence is fragmentary, and I must again confess that I favor it partly because the alternative portrays people as being so dumb.

Let me add, though, that it is of great significance if in fact we are quite in the dark about how

expectations are formed. If a government does not know, then neither does it know the effect on the unemployment rate of any particular policy. It does not know how or to what extent individuals will be fooled. To insist, rightly perhaps, that we are far from knowing about expectations is to maintain that the expected inflation rate is pretty much random—or, since there is no possibility of systematically fooling individuals, that the unemployment rate is beyond the reach of government.

#### **Government can influence the inflation rate**

I have all along been assuming that government can impose whatever inflation rate it wants on the economy, and before stopping I want to say a little about that assumption.

For one thing, it is wrong. As I pointed out above, there are forces that influence the price level that are either in whole or in part unpredictable. Private forecasters cannot predict them perfectly. Neither can government. And in consequence it cannot make the price level or the inflation rate whatever it wants it to be. To offset the influence of weather, it must know in advance what the weather is going to be. But it never does, not exactly, anyway.

Government can, however, influence the price level or inflation rate, particularly over a longish period of time. And that, being all that is required for my analysis, is what I should have assumed. But I did not want in the beginning to complicate the analysis unduly.

Doubtless, you know a good deal about how governments (writ large, to include central banks) influence inflation rates, maybe more than you ever cared to. I am going to carry on for a bit longer, though, talking about the influence of the Federal Reserve.

There was a time—not all that long ago actually, perhaps even as recently as 10 or 15 years ago—when there were many who were extremely skeptical about the potency of monetary policy. It was largely if not entirely ignored. Fiscal policy got the attention. Now, though, economists are pretty much agreed that monetary policy is an important (possibly the most important) determinant of the price level and the rate of change thereof.

But some economists, and some public officials as well, insist on a curious asymmetry. They say, as

you perhaps have heard, that the Federal Reserve can deal with “demand-pull” inflation but not with “cost-push” inflation. Allegedly, it makes a difference whether the price level is increasing because aggregate demand is excessive, greater than supply, or because costs of production are increasing.

Taken literally the claim is silly. What if costs are increasing because aggregate demand is (or was) excessive? Money wages may be increasing faster than labor productivity because, with aggregate demand excessive, the price level is increasing. Inflation is a process which feeds on itself. And to say that the Federal Reserve cannot deal with cost-push inflation (of which there typically is some when, with excess demand, the price level is increasing) is to say that it cannot deal with inflation.

What those who insist on the curious asymmetry may have in mind, though, are “autonomous” cost increases, an example of which is presumably that caused by OPEC in late 1973. And such an increase may induce what looks like inflation. For a while the price level may go on increasing. The initial increase, caused by an autonomous increase in costs, may result in an increase in money wages that exceeds the increase in productivity and thereby in a further price increase.

But the Federal Reserve can offset even an autonomous cost increase. It has only to be resolute, to refuse to accommodate the cost and resulting price increases by increasing the money supply. Of course, if it refuses, unemployment may increase; it may increase considerably. And the potential unemployment increase is no doubt what looms large in the minds of those who espouse the asymmetry proposition. Supposedly, dealing with demand-pull inflation does not increase unemployment, whereas dealing with cost-push inflation does.

Yet that cannot be right. Even the Keynesian interpretation of the Phillips curve implies that the unemployment rate increases with a decrease in the actual inflation rate. So is it that dealing with demand-pull inflation always involves less of an increase in unemployment than does dealing with cost-push inflation? Possibly, but that is not to say that the Federal Reserve, when confronted with an autonomous cost increase, is helpless. Moreover, it could well be, as I have argued, that the unemployment rate will be pretty much the same whatever the

Federal Reserve does, whether it does or does not accommodate the cost increase.

### Summary

I have now, though, run on long enough. It is time to sum up. Fortunately, that is quickly done. As I have suggested, the nineteenth-century rationale for inflation, that it would ease the burden of (poor) debtors, would appear to be sophistry. So would the rationale of the past couple of decades, that more inflation buys less unemployment, and that therefore, although inflation may be bad, some must be accepted.

Obviously, to say that the case for inflation has not yet been made is not to say that there is none, or that price stability is therefore the proper objective of the government. It may be, but at this moment we do not know. One day we may. We have in the past fifty years been through two revolutions in economics, the Keynesian revolution and more recently the monetarist or classical counter-revolution. But another is just beginning, a revolution against traditional macroeconomics, both Keynesian and classical, or against the macroeconomic approach to economics. We are going back to the microeconomic approach, and that approach may at some not-too-distant point in time give us an answer to the question of what is the optimal behavior of the price level.

And now for one final comment. I doubt I have any cause for concern. Even so, I am going to end by saying that I hope I have not convinced you of anything. My purpose was never that, but only to give you a little something to think about.

