PRICE STABILITY: THE POLICY AND RESEARCH PERSPECTIVES

W. Lee Hoskins
Federal Reserve Bank of Cleveland

and

Mark S. Sniderman
Federal Reserve Bank of Cleveland

PRICE STABILITY: THE POLICY AND RESEARCH PERSPECTIVES

Efficient utilization of any nation’s resources requires a sound and predictable monetary policy by its central bank. Price stability should be placed above other economic goals that the Federal Reserve is responsible for achieving, because it is the most important contribution the Federal Reserve can make to achieve full employment and maximum sustainable growth.

To us, at the Federal Reserve Bank of Cleveland, the pursuit of price stability makes good sense, practically as well as theoretically. As such, this paper is divided into two major parts. The first part will discuss price-level stability — more popularly known as zero inflation — from the standpoint of monetary policymaking. We think that the Federal Open Market Committee (FOMC) cannot and should not continue to entertain the notion that monetary policy can be used to fine tune the economy. To attain optimal long run growth, monetary policy ought to be consistent, and pursue the one objective under its control — price stability. The second part of the paper will discuss economists’ criticisms of a price stability policy, and our reactions to these criticisms.

THE BENEFITS OF PRICE STABILITY

An important benefit of price stability is that it would stabilize the economy. High and variable inflation has always been one of the prime causes of financial crises and economic recessions. Certainly U.S. experience since World War II reaffirms the notion that inflation is a leading cause of recessions. Almost every recession in our recent history has been preceded by an outburst of cost and price pressures and the associated imbalances and distortions. A monetary policy that strives for price stability, or zero inflation, would help markets avoid distortions and imbalances, stabilize the business cycle, and promote the highest sustainable growth in our economy.

A market economy achieves maximum production and growth by allowing market prices to allocate resources. Money helps make markets work more efficiently by reducing information and transactions costs, allowing for better decisions and improved productivity. Stabilizing the price level would make the monetary system operate more efficiently and would result in a higher standard of living for all Americans. Much of our society’s wealth consists of claims denominated in, and payable in, dollars. Thus, dollar denominated assets represents a claim on a share of society’s output. Stabilizing the price level protects the value of that claim, while inflation reduces it.
Borrowers promise to pay back the amount borrowed with interest. When unpredictable inflation is permitted, wealth is arbitrarily taken away from the lender and given to the borrower. If this condition persists, then an environment is created in which interest rates rise once to accommodate expected inflation and rise again to accommodate the increased risk associated with an uncertain inflation. When inflation rises and becomes uncertain, people are forced to develop elaborate, complicated, and expensive mechanisms to protect their wealth and income, such as new accounting systems, markets for trading financial futures and options, and cash managers who spend all their time trying to keep cash balances near zero. It is insufficient to allow inflation to change the yardsticks we use to measure economic value.

While the evidence that price stability maximizes production and employment is not conclusive, it is persuasive. One source of evidence can be found in the comparison of inflation and real growth across countries. A number of studies find that higher inflation decreases output and has lower real growth. Inflation or higher uncertainty about inflation is associated with lower real growth. Inflation increases the cost of capital, which in turn increases the cost of investment. Even more comes from the extreme cases of hyperinflation. In states of rapid inflation, economic performance clearly deteriorates. Both specialization and trade decline as small firms go bankrupt and people return to home production for a larger share of goods and services.

Even a relatively predictable and moderate rate of inflation can be quite harmful. During the seven years of economic expansion in the 1960s, the purchasing power of the dollar was reduced by about 25 percent. Interest rates continued to include a premium for expected inflation and a premium for uncertainty about inflation.

Inflation is costly when it interacts with the tax system. Bracket creep, the process by which inflation pushes individuals into higher tax brackets, has plagued the system ever since the first progressive income tax was introduced. A personal income tax code partially adjusts for bracket creep, there remains a lag. A recent study estimates that the welfare cost of these interactions is equivalent to a wealth loss of about $3,000 per capita (1989 dollars) than would be the case with perfect indexation (zero inflation) [Altig and Carlstrom, forthcoming]. However, the most significant cost of the current system is due to the taxation of nominal interest income. This same study finds that the distortion from a perfectly anticipated 4 percent rate of inflation reduces welfare by the equivalent of nearly $14,250 per person.

Even beyond these costs, inflation diminishes productivity growth. Because the worldwide slowdown in productivity growth occurred simultaneously with the acceleration in inflation and oil price shocks, the evidence is very difficult to sort out satisfactorily. However, the present value of lost output from even a very small reduction in the trend of productivity growth would far exceed the adjustment costs associated with the transition to price stability.

ARGUMENTS AGAINST A MONETARY POLICY OF ZERO INFLATION

A commitment by Congress and the Federal Reserve to achieve price stability would most likely entail some adjustment costs. Adjustment costs would arise from two sources: contractual obligations and the credibility problem, or uncertainty about whether price stability would be achieved and maintained. The contractual costs can be alleviated with an appropriate adjustment period.

Much of day-to-day economic activity is conducted under contracts and commitments that extend over longer periods of time and that embody the expectations of a continuing moderate inflation rate. Most of these contracts will expire in the next few years. The disruption to business and the arbitrary wealth redistribution of an abrupt adjustment to price stability would be greatly reduced by an appropriate phase-in period. House Joint Resolution 24 (H.J. Res. 24), introduced to Congress by Representative Stephen Neal (D-NC), mandates the Federal Reserve to eliminate inflation over a five-year period. Five years is a period long enough to substantially reduce the adjustment costs.

The second set of adjustment costs emanates from the expectations of economic agents. Economists have not made enough progress in estimating the transition costs of eliminating inflation. Frequently, econometric models that embody a large number of complex relationships and variables are used to estimate the adjustment costs. For manageability, econometric models are built with many simplifying assumptions, one of which is the presumption that economic agents are backward-looking in the way they form expectations and change expectations. In these models, expectations, which in effect determine adjustment costs, are formed from past experiences and change only slowly as the future unfolds.

The presumption that expectations change slowly inevitably generates estimates of high transition costs. The real question about a change in monetary policy to reduce inflation is how forward-looking economic agents would behave under a fully credible and fully understood policy change. Backward-looking models are relatively useless in answering this question. In almost every case, such models are constructed to display the effects that are consistent with the model builder's theories and biases. Almost all of the large models are based on the dual notion that the only way to eliminate inflation is to raise the unemployment rate. Naturally, these models will find that eliminating inflation is very costly. These exercises have been conducted many times in the past, and they have consistently overestimated the costs of eliminating inflation and ignored the benefits of doing so. It can also be observed that those who really believe the analytical structures contained in these models should advocate an acceleration of inflation because the models would predict great benefits from doing so.

As the Congressional Budget Office points out in a recent Economic and Budget Outlook, if everyone believed that inflation would be reduced to zero, and planned accordingly, those costs would be very low. As the CBO study states, "...inflation could be reduced relatively painlessly by lowering inflationary expectations" (U.S.C.B.O., 1990, 25). A commitment by the Congress and the Federal Reserve would enhance credibility and convince economic agents to begin to base decisions on the assumption of gradual elimination of inflation over a five-year period.

The Federal Reserve has stated that it intends to reduce inflation to zero or to very low levels, but it has not committed to a specific timetable for eliminating inflation, or to a plan for doing so. The result is that the public in general and the markets in particular wonder just how serious the Fed is in those intentions, or whether we will switch our priorities to some other goal, as we have in the past. A firm commitment to price stability would be provided by legislation such as H.J. Res. 24.

One member of the Council of Economic Advisers, an expert on such matters, has developed large econometric models with sluggish resource adjustment induced by labor contracts (Taylor, 1980; 1983). Even in these models, there is almost no short-run cost to
eliminating inflation with a credible policy change. The reason is simply that, in these models people are assumed to change their behavior in response to the policy change. A consistent commitment to a long-run policy goal of price stability is important. One of the worst things that policymakers could do is eliminate inflation for a while and then return to high inflation later. A monetary policy of price stability would focus the policy process on consistent long-run goals and away from reactions to each new report of economic activity. Each policy action would become part of a policy process that is consistent with long-run price stability.

ECONOMISTS’ ZERO INFLATION DEBATE

Our advocacy of price stability stems from three deeply held beliefs. The first is that a central bank can, over time, control the price level of goods and services denominated in its own currency, but it cannot control the growth of output (potential or actual). The second is that a credible commitment to an inflation objective enables a central bank to promote economic efficiency and growth (potential and actual). The third belief is that price-level stability, or zero inflation, is superior to inflation-rate stability.

Among economists, support for the first assertion is nearly universal. There is also widespread agreement on the second point. It is the last proposition that is most contentious, particularly when people attempt to compare the costs of achieving zero inflation to the costs of stabilizing the inflation rate at the status quo. A good representation of criticisms against zero inflation is found in an article entitled “Defeating the Case for Zero Inflation.” The essay by Rao Aiyagari (1990) is well written and summarizes some common opinions about the costs and benefits of stabilizing the price level. The author has performed a valuable service by reviewing a portion of the relevant literature on this subject and, through referencing his work, responding to the criticisms of many others.

Aiyagari concludes that the benefits of zero inflation are small compared to the costs of getting there, and that most of the costs associated with nonzero average rates of inflation can be adequately addressed by adopting institutional changes that do not require specific inflation targets. These conclusions are warranted. Moreover, Aiyagari’s article raises concerns that, if it is not read carefully, could give the false impression that economists have already decided that the costs of achieving price stability exceed the benefits that would result.

There are two dimensions to critics’ argument that the cost of pursuing a zero-inflation target would outweigh the benefit of reaching that target. The first is that the transition-cost argument, essentially says that even if zero is the place to be, getting there is not worth the ride.

In an effort to better understand the issue, the Federal Reserve Bank of Cleveland recently held a conference that brought together several economists to examine the state of the art in this area (Gavin, 1991). Participants presented analyses of the optimal rate of inflation under a variety of assumptions about the tax environment. Some addressed the optimal inflation issue explicitly, some only implicitly.

Based on the papers presented, it is fair to say that the economics profession has yet to deliver a compelling theoretical treatment of the optimal rate of inflation that deserves to be embraced as the new conventional wisdom. This is not particularly surprising.
wasteful, but the resource misallocation itself resulted in a much greater waste of land, labor, and capital that society is still paying for today.

It is difficult to comprehend how efficient planning within the public and private sectors could not be inhibited by this type of long-run uncertainty. Furthermore, the intuition that long-run inflation uncertainty is costly has empirical support: In cross-country comparisons, the variability of inflation tends to be negatively related to economic growth [Grier and Tullock, 1980; Friedman, 1969]. We find that the case for reducing price level uncertainty is far more compelling than a cursory analysis might indicate.

**TRANSITION COSTS**

Typically, the economic models used to do optimal inflation analysis have few, if any, real-world frictions. Markets are assumed to clear continuously and costlessly, information is free, and expectations—if they play any role at all—are rational. Money has few effects on the real economy in such a world, and so it is not surprising that the benefits of zero inflation in this scenario are small. People merely plan on the nominal values of transactions changing predictably over time. If money doesn't matter much for the performance of the nonfinancial economy, then what the monetary authorities do to money is of little importance.

In evaluating the costs of getting to zero inflation, economists almost always use models in which markets do not clear, or do not clear without cost. Gone is the market-clearing, flexible price, rational expectations model. In its place is a model with price contracts that make the transition to zero extremely costly. The source of the friction is usually not entirely explicit, but the implication is that we must assume some frictions. It is these frictions, coupled with the inability of markets to clear, that make ending inflation so costly.

But isn't it sensible to assume that the implicit sources of frictions that make lowering the inflation rate costly would also contribute to making inflation costly in and of itself? For instance, a variety of explicit and implicit nominal contracts already exist among people, and a transition to zero inflation could alter the real values of payments from those originally intended. But surely the entire institutional apparatus that generates these contracts must involve resource costs that are positively related to the average rate of inflation.

One should not compare the costs of getting to zero inflation in non-market-clearing models, where such costs are high, to the benefits of being at zero inflation in frictionless, continuously clearing models, where the benefits are low. If we are going to use a model with frictions to measure the cost of getting to zero inflation, then we should also use such a model to examine the benefits of being there. This is one reason to be skeptical of so many “cost-benefit” estimates of reducing inflation, including Aiyagari's.

Another reason to be skeptical about transition cost estimates is that they do not account for the possibility that a price stability objective will be regarded as credible by the public. Economic theory and reasonable model simulations indicate that with credible precommitment, a central bank can greatly minimize private-sector planning errors during the transition period. Much of the disagreement among economists on the size of transition costs revolves around the ability of a central bank to credibly commit itself to achieving its objective.
CONCLUSION

History suggests that economic performance is not very good in countries that try to deal with inflation through government indexation of the tax code, transfer payments, bank accounts, and other nominal transactions. At the same time, private contracting arrangements in these and other countries seem never to go far enough in protecting people, presumably because of the costs associated with implementing and maintaining the process. People do not like inflation, and when it becomes high enough for long enough, they demand that it end. From a political point of view, perhaps a five percent inflation rate could be tolerated forever in the United States. Not long ago, however, this notion resorted to wage and price controls to combat an inflation rate of four percent. Economists must think about inflation scientifically. They should want to know how inflation, even at five percent, affects resource allocation and social welfare. This is the spirit in which Rao Ayagari frames his analysis. Economists are just beginning to undertake the truly hard work of modeling the effects of inflation on economic welfare, and what little is known about these efforts only indicates just how much more work lies ahead. One direction that seems particularly worth pursuing is modeling the resource costs of coping with the intertemporal uncertainty about the value of money.

As research on inflation matures, monetary policy will be guided by the results. Before that time, monetary policymakers must rely on evidence provided by the current body of research; specifically, that inflation is the one economic variable that the monetary authority can control in the long run and that low inflation countries experience the most rapid long run economic growth.

NOTES


2. Lebow, Roberts, and Stockton (1990) make the same point.

REFERENCES


