2 Maintaining Low Inflation: Rationale and Reality

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Inflation targeting has emerged in recent years as the leading framework within which monetary policy is conducted around the world. In the United States, the Federal Reserve does not have an explicit inflation target, but it is fair to say that the Fed today, as never before in its history, is committed to maintaining low inflation. Likewise, the Bank of Japan is committed to maintaining stable prices, and the new Eurosystem has adopted an explicit target band for inflation in response to the price stability mandate in the Maastricht Treaty. Central banks in countries such as Australia, Canada, Israel, New Zealand, Sweden, and the United Kingdom today employ inflation targets.

The Costs of Inflation

The idea that central banks should give priority to price stability over economic growth and unemployment objectives has taken root gradually over a number of years, as a result of accumulated practical experience with inflation and theoretical advances in monetary economics. As a first approximation, it turns out that the lessons from theory and practice have been mutually supportive of the advantages of giving pride of place to a low-inflation objective for monetary policy.

The recommended priority for price stability derives not from any belief in its intrinsic value relative to growth and employment. Rather, price stability should take priority for two reasons: first, a central bank actually has the power to guarantee price stability over the long run, and second, monetary

[1]The views expressed are the author's alone and not necessarily those of the Federal Reserve Bank of Richmond or the Federal Reserve System.

policy encourages employment and economic growth in the long run mostly by controlling inflation. Also, and this is very important, an inflation target need not prevent a central bank from taking policy actions to stabilize financial markets and employment in the short run. It does, however, discipline a central bank to justify such actions against its commitment to protect the purchasing power of money.

The costs of inflation are significant and varied. A steady rate of inflation imposes a cost, but so does an unsteady, unpredictable rate of inflation. Understanding the cost of steady inflation begins with the fact that a steadily falling purchasing power of money causes people to hold less cash than they would if prices were stable. Attempts to economize on money holdings manifest themselves in several ways. Banks invest in more automated teller machines and faster processes for clearing checks, and people visit banks more frequently. People take more time and expense to protect the value of their savings and investments against loss due to inflation. The effort and resources devoted to dealing with inflation are wasted from society's point of view in the sense that they could be better employed producing goods and services.

Another major cost of steady inflation stems from the incomplete indexation of the tax system. The biggest problem in this regard, at least in the United States, results from the fact that taxes are assessed on nominal interest earnings and nominal capital gains, that is, on investment returns in dollars. Inflation causes nominal returns to rise because investors demand compensation for the declining purchasing power of money. For instance, long-term bond rates contain a premium for expected inflation over the life of the bond. But because nominal returns are taxed as income, inflation reduces the after-tax return to saving and investment and thereby tends to inhibit capital accumulation and economic growth.

The disruptive and destabilizing costs of unstable inflation are more difficult to quantify but are substantial nonetheless. These costs stem from the alternating expansionary and contractionary policy actions that tend to be associated with inflationary monetary policy. Some central banks, including the Federal Reserve in the past, have shown a tendency to engage in go-stop monetary policy, which accentuates rather than dampens the cyclical volatility of inflation and unemployment.

The Political Economy of Inflation: The Case of the Federal Reserve

For the most part, the U.S. public tolerated inflation as long as it was low, steady, and predictable. When labor markets were slack, they were even will-

ing to risk higher inflation in order to stimulate additional economic activity. Only when economic activity was strong and inflation moved well above the prevailing trend did inflation top the list of public concerns.

It is easy to understand why inflation need not greatly concern the public when it is steady and predictable. Individuals and firms are inconvenienced only slightly by steady inflation. As long as wages, prices, and asset values move up in tandem, the financial consequences are modest, especially when inflation is low. Likewise, a temporary and modest increase in inflation around a low, well-established trend need not immediately arouse concerns.

However, a persistent departure of inflation above its trend causes anxieties, because people then wonder whether a new trend might be established. Investors worry about how much of an inflation premium to demand in interest rates; businesses worry about how aggressively to price their output in order to cover rising costs; workers worry about maintaining the purchasing power of their wages.

In marked contrast to inflation, which affects all, unemployment actually affects a relative few at any given time. In the United States in recent decades, the unemployment rate has risen at most to only about 10 percent of the labor force. People are concerned about unemployment not so much out of sympathy for those currently unemployed but because they are afraid of becoming unemployed themselves. It follows that the public is generally more concerned about unemployment when the unemployment rate is rising, even if it is still low, than when it is falling, even if it is already high.

This reasoning helps explain why the Fed produced go-stop monetary policy in the 1960s and 1970s. In retrospect, one observes the following pattern of events:

- Because inflation became a major concern only after it had clearly moved above its previous trend, the Fed did not tighten policy early enough to preempt inflationary outbursts before they became a problem.
- By the time the public had become sufficiently concerned about inflation to prompt the Fed to act, pricing decisions had already begun to embody higher inflation expectations. Thus delayed, a given degree of restraint on inflation required a more aggressive increase in short-term interest rates, with greater risk of recession.
- During each of these cyclical episodes there was a relatively narrow window of broad public support for the Fed to tighten monetary policy. The window would open after inflation was widely recognized to be a problem, and close when tighter monetary policy caused the unemployment rate to begin to rise. Often, the Fed did not take full advantage

of these windows of opportunity to raise short-term rates because it wanted more confirmation that higher short-term rates were required.

- It was probably easier for the Fed to maintain public support for fighting inflation with prolonged tightening after inflation had emerged rather than with preemptive tightening. A more gradual lowering of short-term interest rates in the later stage of a recession was a less visible means of fighting inflation than raising rates more sharply earlier. Once unemployment had peaked and begun to fall, the public's anxiety about it diminished. Prolonged tightening was attractive as an inflation-fighting measure in spite of the fact that it probably lengthened the "stop" phase of the policy cycle.

Romer and Romer (1989) document that, since World War II, the Fed has tightened monetary policy decisively to fight inflation on six occasions, beginning in October 1947, September 1955, December 1968, April 1974, August 1978, and October 1979. The unemployment rate rose sharply during each "stop" phase of the policy cycle. Only two significant increases in unemployment during this period were not preceded by Fed action to fight inflation. The first occurred in 1954 after the Korean War and the second in 1961, after the Fed tightened monetary policy to improve the U.S. balance of payments.

Over time, workers and firms came to anticipate the Fed's deliberately expansionary monetary policy in the "go" phase of the policy cycle. Workers learned to take advantage of tight labor markets to make higher wage demands, and firms took advantage of tight product markets to pass along the higher costs in higher prices. Increasingly aggressive wage- and price-setting behavior tended to neutralize the favorable employment effects of expansionary policy. The Fed became ever more expansionary, on average, in its pursuit of low unemployment (even as the average unemployment rate tended to rise over time), causing correspondingly higher inflation and higher inflation expectations. Lenders demanded unprecedentedly high inflation premiums in long-term bond rates. The absence of a long-run anchor for inflation caused inflation expectations and long-term bond rates to fluctuate widely. For instance, the 30-year bond rate rose from around 8 percent in 1978 to peak above 14 percent in the fall of 1981.

The breakdown of mutual understanding between the markets and the Fed greatly inhibited the effectiveness of monetary policy. The Fed continued to closely manage short-term nominal interest rates. But the result of an interest rate policy action is largely determined by its effect on the real interest rate, which is the nominal rate minus the public's expected rate of inflation. The Fed found it increasingly difficult to estimate the public's inflation expecta-

tions and to predict how its policy actions might influence those expectations. Compounding the problem, enormous increases in short-term interest rates were required by the early 1980s to stabilize inflation. To sum up, stabilization policy became more difficult because the public could not predict what a given policy action implied for the future, and consequently, the Fed could not predict how the economy would respond to its policy actions.

Conducting monetary policy without a firmly established nominal anchor for the inflation rate opens a central bank to still another kind of risk. When there is no quantity or price constraint on monetary policy, and a central bank has shown its willingness to tolerate rising inflation over time, the public naturally becomes nervous about the possibility of future outbursts of inflation. Inflation "scares," which reflect a sudden, sharp rise in inflation expectations, can manifest themselves in a significant rise in long-term bond rates. A central bank that has not acted to defend a low inflation objective is particularly susceptible to a sudden loss of credibility for its claims to seek low inflation.

Inflation scares pose a difficult dilemma for a central bank. They are costly because resisting them requires the central bank to raise real short-term interest rates, with potentially depressing effects on business conditions. Hesitating is also costly, however, because it encourages workers and firms to ask for wage and price increases, to protect themselves from higher expected costs. The central bank is then inclined to accommodate the higher actual inflation with faster money growth. If the central bank lacks a track record for defending low inflation, inflation scares may be induced by any number of different factors, greatly complicating macroeconomic prediction and control.

The Importance of Being Credible: Lessons from the Fed's Success

The Fed has succeeded in maintaining low inflation for almost 15 years now. The challenge today is to understand the secret of that monetary policy success. In that regard, the recent period of low inflation has as much to teach as the traumatic period that preceded it.

One of the most important lessons learned is that credibility for low inflation is the foundation of effective monetary policy. The Fed has acquired credibility since the early 1980s by consistently taking policy actions to hold inflation in check. In effect, the Fed reestablished a mutual understanding between itself and the markets. From this perspective, wage and price setters keep their part of an implicit bargain by not raising prices unduly as long as the Fed demonstrates its commitment to low inflation. In effect, the Fed and the public together sustain a reputational low inflationary equilibrium.

Experience shows that the guiding principle for monetary policy is to preempt rising inflation. The experience with go-stop policy teaches that to wait until the public acknowledges rising inflation to be a problem is to wait too long. By then, higher inflation has become entrenched and must be counteracted by corrective policy actions, which are more likely to depress economic activity.

Even the United States' relatively brief experience with low inflation contains useful insights. In some years, such as 1994, inflationary pressures might be judged to call for a particularly aggressive preemptive tightening. The Fed raised real short-term interest rates by 3 percentage points from February 1994 to February 1995. This action was taken because real economic indicators suggested a reasonable likelihood that inflation would begin to rise in the absence of policy tightening. The real short-term interest rate was near zero prior to the tightening—a level clearly incompatible with price stability. In the event, the Fed's policy actions succeeded in preempting a rise in inflation without sending the economy into recession. From early 1995 to mid-1999, the 30-year bond rate came down from 8 percent to around 5.5 percent; real GDP grew by 2, 2.8, 3.8, and 4.2 percent in the years since 1994; the unemployment rate fell from around 6 percent to just over 4 percent; and inflation as measured by the consumer price index fell by about a percentage point to around 2 percent a year. Clearly, monetary policy does not deserve all the credit for this remarkable outcome; favorable real factors are responsible for much if not most of the extraordinary results. The experience shows, however, that a well-timed preemptive monetary policy tightening is nothing to be feared. In fact, the Fed's tightening in 1994 was almost certainly necessary to keep inflation from destabilizing the economy and ending the business expansion, as it had done many times before in U.S. history.

The Fed appears to have acquired some additional credibility for low inflation because of the 1994 policy tightening. It was able to lower short-term rates by three-quarters of a percentage point in the fall of 1998, to stabilize the world financial system in the wake of the Russian default, yet there has so far been no hint of an inflation scare as a result of this easing. A key to effective management of monetary policy over the business cycle is to move short-term interest rates up decisively and preemptively when warranted, to build credibility for low inflation. With credibility "in the bank," so to speak, the Fed can then hold rates steady or move them down out of concern for financial instability or unemployment at other times. The lesson is that credibility enhances flexibility.

Conclusion

The recommended priority for price stability derives from the evidence just summarized, which shows that credibility for low inflation is the cornerstone

of effective monetary policy. A formal inflation target, with or without a legislative mandate, helps lock in that credibility. It is important to stress, however, that an inflation target does not preclude a central bank from taking actions to stabilize employment and financial markets in the short run. As mentioned above, an inflation target enhances flexibility by increasing credibility. Ultimately a central bank can only secure full credibility for low inflation with the backing and understanding of the government and the public. A legislatively mandated inflation target helps deepen the public's understanding and support by creating a document that can be studied and explained in the nation's schools and discussed more fully in the press. Stabilization of the price level then passes from the domain of politics to become one of the institutional foundations of the economy.

Reference

Romer, Christina, and David Romer, 1989, "Does Monetary Policy Matter? A Test in the Spirit of Friedman and Schwartz," *NBER Macroeconomics Annual*, Vol. 4, pp. 121–70.