A Framework for the Pursuit of Price Stability

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It is often said that there is a worldwide community of central bankers. I certainly feel that way. Central bankers in all countries share a number of concerns. Perhaps the most important of these is the desire for price stability. While central bankers may differ in the ways they seek to achieve price stability—differences grounded in our respective histories, customs, and institutions—the goal we all strive for is no less important.

Recognizing that no one country's central bank has a monopoly on the right answers, I would like to share with you my views on why I believe price stability is so important and what approaches can be taken to achieve this goal. Before turning to these issues, we must first be clear about what we mean by price stability and how to recognize it when we see it.

In my view, a goal of price stability requires that monetary policy be oriented beyond the horizon of its immediate impact on inflation and the economy. This immediate horizon is on the order of two to three years. This orientation properly puts the focus of a forward-looking policy on the time horizon over which monetary policy moves today will have their effect and households and businesses will do most of their planning. This is the horizon that is relevant for the definition of price stability articulated by Chairman Greenspan: that price stability exists when inflation is not a consideration in household and business decisions.

A central bank's commitment to price stability over the longer term, however, does not mean that the monetary authorities can ignore the short-term impact of economic events. It is important to recognize that, even if we set ourselves successfully on the path to price stability and even if, as a result, price expectations are contained, we still will not have eliminated all sources of potential inflationary shocks. The reality is that monetary policy can never put the economy exactly where we want it to be.

For example, supply shocks that drive prices up sharply and suddenly—such as the two oil shocks of the 1970s—are always possible. In such an eventuality, the appropriate monetary policy consistent with a goal of price stability would not be to tighten precipitously, but rather to bring inflation down gradually over time, as the economy adjusts to the shift in relative prices. In the event of a shock to the financial system, the appropriate monetary policy might require a temporary reflation.

These comments are based on remarks delivered by Mr. McDonough before the Annual Financial Services Forum of the New York State Bankers Association on March 21, 1996, and the Economic Club of New York on October 2, 1996.

As you can see, I believe that monetary policy must be exercised cautiously. Why do I say this? Because contracts, especially wage contracts, can outlast a good part of, or even exceed, short-term shocks in duration. In the short term, therefore, monetary policy must accept as given the rigidities in wages and prices that these contracts create. Abrupt shifts in policy, given these rigidities, especially a monetary tightening in the face of wages that are unlikely to be cut, can cause unacceptable rises in unemployment and drops in output.

Why Price Stability Is So Important and So Desirable

In my view, a key principle for monetary policy is that price stability is a means to an end—to promote sustainable economic growth. Price stability is both important and desirable because a rising price level—inflation—even at moderate rates, imposes substantial economic costs on society. All countries incur these costs. They entail, for example:

- increased uncertainty about the outcome of business decisions and profitability;
- negative effects on the cost of capital resulting from the interaction of inflation with the tax system;
- reduced effectiveness of the price and market systems; and
- in particular, distortions that create perverse incentives to engage in nonproductive activities.

Let me be even more explicit about the negative effects of one particular type of nonproductive activity induced by inflation's distortion of incentives—the overinvestment of resources in the financial sector. As a former commercial banker, I am especially aware of the significance of this cost, and I believe that it deserves greater attention than it often receives in economists' lists of the costs of inflation.

The resources in high-inflation economies diverted from productive activities to nonproductive financial transactions are enormous. In the hyperinflations in Europe in the 1920s and again in various emerging market countries in the 1980s, we saw financial sectors grow severalfold. A number of estimates put the rise in the financial sector share of GDP on the order of 1 percent for every 10 percentage points of inflation up to inflation of about 100 percent. The economies that experienced high inflation consumed more financial transactions for an essentially given amount of real goods and services.

If individuals must spend more time, effort, and resources engaging in financial transactions because of the uncertainty inflation engenders, then more of the economy's productive capacity is transferred to the activity of handling transactions. Clearly, given my background, I am not opposed to an expansion of the financial sector that stems from growth of productivity, growth that offers benefits to the public. Equally clearly, I see an expansion of the financial sector that stems from an increasing number of people employed as middlemen, where none would be needed without the distortion of rising inflation and its attendant uncertainty, as growth that diverts resources better employed elsewhere. A bank branch on every corner means a corner store on none.

In short, the costs of overinvestment in the financial sector, like the costs of all inflation-induced nonproductive activities—such as tax code dodges—decrease the resource base available to the economy for growth. A move to price stability would give these economies the necessary incentives to shift resources back to productive uses. In the case of the financial sector in a high-inflation economy, the transfer of resources to productive uses could be as large as a few percentage points of GDP. This can be serious money indeed. And this is just one of the benefits of regaining price stability.

Rapid moves toward price stability from high inflation, however, do have their costs under certain circumstances. The overdevelopment of a sector for no reason other than the inflation rate is precisely one of those circumstances. The removal of the distortionary incentive—inflation—leads to a rapid transfer of resources out of that sector, causing unemployment and business failures to follow: what was boom, goes bust. In those very same countries where we saw the overexpansion of the financial sector, we have seen the sharp contraction of that sector when inflation was finally brought down. This implies an additional argument for price stability. Namely, in a low-inflation environment, these boom-bust cycles created by distortionary incentives are less likely to emerge and can be more easily contained when they arise.

The avoidance of such unnecessary boom-bust cycles also limits the serious social costs that inflation can impose. For one, inflation may strain a country's social fabric, pitting different groups in a society against each other as each group seeks to make certain its wages keep up with the rising level of prices. Moreover, as we all know, inflation also tends to fall particularly hard on the less fortunate in society, often the last to get employment and the first to lose it. These people do not possess the economic clout to keep their income streams steady, or even buy necessities, when a bout of inflation leads to a boom-bust scenario for the economy. When the bust comes, they also suffer disproportionately.

It is important to note, however, that if we are to set a goal for monetary policy, we must be clear as to what we can expect monetary policy to do and what we know it cannot do. What monetary policy can do is to anchor inflation at low price levels over the long term and thereby lock in inflation expectations. In addition, monetary policy can help offset the effects of financial crises as well as prevent extreme downturns in the economy.

Over the past twenty years, there has been an emerging consensus among policymakers and economists that an activist monetary policy to stimulate output and reduce unemployment beyond its sustainable level leads to higher inflation but not to lower unemployment or higher output. Moreover, although some countries have managed to experience rapid growth in the presence of high inflation rates, often with the help of extensive indexation, none has been able to do so without encountering severe difficulties at a later stage. It is thus widely recognized today that there is no long-run trade-off between inflation and unemployment. As a result, we have witnessed a growing commitment among central banks throughout the world to price stability as the primary goal of monetary policy.

One point is worth emphasizing: Allowing even a low level of inflation to persist without a commitment to bring that level downward toward price stability permits—and may even encourage—expectations for still sharper price rises in the future. Such expectations provide an opening for a demand-driven burst of inflation.

But what monetary policy cannot do, in and of itself, is produce economic growth. Economic growth stems from increases in the supply of capital and labor and from the productivity with which labor and capital are used, neither of which is directly influenced by monetary policy. However, without doubt, monetary policy can help foster economic growth by ensuring a stable price environment.

Some would argue that establishing price stability as the primary goal of monetary policy means that a central bank would no longer be concerned about output or job growth. I would like to make clear for the record that I believe this view to be simply wrong. A stable price and financial environment almost certainly will enhance the capacity of monetary policy to fight occasions of cyclical weakness in the economy. What is important to bear in mind is that by ensuring a stable price environment, monetary policy helps foster economic growth. This is a key point—and is often overlooked.

In trying to determine the extent of future inflation, a central bank must look at a broad array of economic indicators that reflect demand pressures and supply developments in the economy. Unfortunately, there is no single summary measure that provides a reliable overall assessment of the many complex and diverse influences on inflation, which makes it more difficult within most countries to reach a national consensus on policy at any point. Nonetheless, while its one explicit goal must be price stability, monetary policy can and must also maintain the broad environment for sustainable economic growth.

Targeting Frameworks for Monetary Policy

How have central banks sought to achieve price stability? Some countries have begun to commit their central banks statutorily to pursuing the objective of price stability and are granting them a high degree of independence to do so. Empirical research in recent years has shown that both the average rate of inflation and its variability tend to decline in the presence of increased independence for central banks. This is why so many governments, particularly among the emerging market countries, have been providing their central banks with increased autonomy.

Once a commitment has been made to price stability as the goal of monetary policy—and that commitment has been entrusted to an independent central bank—there are several possible approaches to implementing that goal. While the choice will depend on a country's history, economic conditions, and traditions, all successful approaches share two important features: first, they focus on a long-term time horizon and, second, they provide a transparent standard for the assessment of policy. For many of these approaches, what guides monetary policy is an announced target. Such a target is one proven means of credibly conveying to the public the commitment to price stability and thereby locking in inflation expectations.

There are a number of possible targets for monetary policy. All have been used with success in some countries while meeting with failure in others, depending upon the economic context in which they have been implemented. It is useful to step back and review briefly the advantages and drawbacks, as I see them, of three different targeting frameworks—exchange rates, monetary aggregates, and inflation.

Fixing the value of the domestic currency relative to that of a low-inflation country is one approach central banks have used to pursue price stability. The advantage of an exchange rate target is its clarity, which makes it easily understood by the public. In practice, it obliges the central bank to limit money creation to levels comparable to those of the country to whose currency it is pegged. When credibly maintained, an exchange rate target can lower inflation expectations to the level prevailing in the anchor country.

Experiences with fixed exchange rates, however, point to a number of drawbacks. A country that fixes its exchange rate surrenders control of its domestic monetary policy. It can neither respond to domestic shocks that are not felt by the anchor country nor avoid shocks transmitted by the anchor country. Moreover, in the environment of open, global capital markets, fixed exchange rate regimes are subject to sudden speculative attacks when markets perceive that domestic needs and exchange commitments diverge. These speculative attacks can be very disruptive to any country's economy.

On balance, it seems that a fixed exchange rate approach to price stability makes most sense when the country adopting it has an economy closely tied to the country or countries it is pegging to and is thus subject to similar international shocks in any case. This approach could also be worthwhile if a country is unable—for whatever reason—to make a credible commitment to price stability on a domestic basis alone. In either situation, the country must have available a larger, low-inflation anchor country to which it can peg its currency.

Targeting monetary aggregates is another approach many central banks used in the 1970s and 1980s. This approach has been successfully maintained by a few prominent countries. Given a dependable relationship between the targeted monetary aggregate and the goal of price stability—where movement in the monetary aggregate predicts movement in prices—this framework offers a number of advantages. Like exchange rate targeting, an announced monetary target is easily understood by the public. In fact, it conveys more information than an exchange rate target because it shows where monetary policy is and where inflation is likely to be going. The targeting of monetary aggregates has the additional advantage of focusing policy on a quantity that a central bank can control quickly, easily, and directly.

It is important to emphasize that the advantages of a monetary aggregate target are totally dependent upon the predictability of the relationship between the money target and the inflation goal. If fluctuations in the velocity of money—perhaps due to financial innovation—weaken this relationship, this framework will not bring price stability. In the United States, these relationships are not sufficiently stable for the monetary targeting approach to work.

A third approach to price stability is to target inflation. This approach has been adopted by a number of central banks over the past several years, as the following study shows, and the initial results appear positive. The advantage inflation targeting shares with exchange rate and monetary targeting is its transparency to the public. The commitment to price stability is made clear in policy terms, and deviations from the pursuit of the inflation target over the longer term are obvious. Like a monetary aggregate target, an inflation target also provides monetary policy with the necessary flexibility to respond to economic needs in the short term. Finally, targeting inflation avoids the problem of velocity shocks because monetary policy is no longer dependent upon the money-inflation relationship.

The main drawback of inflation targeting is that inflation itself is not directly or even easily controllable by the monetary authorities. Furthermore, policy moves in pursuit of the inflation target only take effect with a lag, so that success in hitting the target is not quickly apparent. This is a problem that is not present in either exchange rate or monetary aggregate targeting. These difficulties may mean that the target cannot strictly be met at times, which, at a minimum, could lead to a rise in inflation expectations. Nevertheless, for countries that are unable or unwilling to fix their exchange rate to that of another country and cannot rely on stable relationships between monetary aggregates and goals, the inflation target approach offers a transparent means of commitment over the longer term. I believe that the inflation-targeting approach to price stability merits further study and consideration.

What a Strategy for Monetary Policy Requires

In my view, therefore, the challenge to monetary policy in today's environment is to consider how we may most effectively build on our current low inflation by making its permanence a credible policy goal. This goal raises a host of important questions.

For one, even if we agree—as I believe we already do—that price stability must be the primary long-term goal of monetary policy, what exactly does price stability mean in practical terms over both the intermediate and long term? Second, what kind of institutional structure is needed to enable the central bank to convey to the markets and the public an explicit commitment to price stability? A related question is how should such a policy be articulated to the public to make the central bank accountable and to foster a political consensus in support of this commitment? Finally, how can an explicit policy commitment to price stability be implemented in practice without pushing the economy too hard in one direction or another? These are a few of the questions we at the Federal Reserve Bank of New York are asking ourselves as we consider the merits of our country's taking a step further in its conduct of monetary policy.

Let me offer two possible basic definitions whose relevance depends on the time frame with which policymakers are concerned. One definition would apply over the long term. In this time frame, as I stated at the outset, I would define price stability as being reached when inflation is not a consideration in household and business decisions.

What does this mean in practice? We know that, as currently measured, a zero inflation rate is not the same thing as price stability. This is because of well-known errors in measuring inflation that stem from many factors, including how quality improvements and new products are valued in the consumer price index. Although there is much research on this topic, economists and policymakers cannot agree upon a single number for the magnitude of this measurement error. In most studies, the error has been estimated to range from 0.5 percent to 2.0 percent. Therefore, as a practical matter, price stability may best be thought of as an inflation rate falling somewhere within this range.

Were we to move to a monetary policy strategy that has a numerical inflation goal, given the problems with measurement error, how might this goal be set? If the inflation goal is set too high, we run the risk of allowing the start of an upward spiral in inflation expectations and inflation. Indeed, this is why I do not believe that price stability is consistent with the 3 percent inflation rate we currently have in the United States.

If, on the other hand, the inflation goal is set too low, we run the risk of tipping the economy into a deflation in which the true price level is actually falling. History has shown that deflation can be extremely harmful to the economy in general, and to financial markets in particular. The worst financial crises in our history have been associated with deflationary periods.

Therefore, were we to set a numerical inflation goal for monetary policy, I believe that an appropriate number for this goal should be within the reasonable range of measurement error—but in the upper end of the range because of the dangers of deflation. Such a numerical goal could be understood as the premium needed to prevent the economy from being tipped toward deflation or needlessly forgoing output.

Thus, in the long term, a numerical definition for price stability would provide a framework for the discussion and evaluation of monetary policy. In practical terms, this would mean that the Federal Reserve would be held accountable to—and when successful, judged credible by—an explicit inflation performance standard that would ensure stable inflation expectations.

In the intermediate term, by contrast, over a period of, say, three years—the time horizon over which monetary policy affects inflation—the goal of monetary policy is to put the economy on the path that moves it toward long-term price stability, taking into account the economic and financial pressures on the economy. At low levels of inflation, there are substantial risks to the economy from driving out the remaining inflation too quickly. In the current environment, therefore, the path for monetary policy in the intermediate term would have to be gradual.

Such an effort might require the numerical inflation goal to sometimes be above the long-term goal for a period of time, but then to trend downward toward the long-term goal. In practice, this means that even though the intermediate policy goal would change, the underlying strategy and the long-term goal of price stability would remain the same.

This gradual and forward-looking strategy is essentially the course that the Federal Reserve has been following over the past several years. Integral to this course have been increased efforts toward greater transparency in the conduct of monetary policy. The announcement of changes in policy at the conclusion of Federal Open Market Committee (FOMC) meetings is evidence of these efforts.

What, then, might be some of the advantages of further increasing transparency by committing the Federal Reserve to an explicit inflation goal? For one, were the Federal Reserve to formalize its strategy by announcing specific intermediate and long-term goals for price stability, it might reduce uncertainty about policy. Moreover, the Federal Reserve could clarify why specific policy moves were made at specific times, with reference to its numerical intermediate-term goal.

In addition, an explicit commitment to price stability and specific numerical goals for inflation could help lock in low inflation expectations, making future inflations and disinflations less likely. Lastly, I believe that, were the Federal Reserve to move to the articulation of such a strategy, public discussion and evaluation of monetary policy would be directed to a tighter, less contentious framework than that which currently exists. This is because the performance of the Federal Reserve in fulfilling its monetary responsibilities would be the issue, while the goals would be unambiguous and well established.

The institutional framework to implement such a strategy is, of course, a question. I believe that the mandate for price stability is of sufficient importance to society that it should be set by the legislative process. Were such an approach to be formalized, the Federal Reserve could articulate its strategy as it currently does under the Humphrey-Hawkins law, or Congress might choose to replace the Humphrey-Hawkins law. The fundamental point is that once numerical inflation goals were set, it would be logical and useful to create some kind of an institutional framework for the Federal Reserve to report its progress in meeting its monetary policy goals.

The Need for Debate on Monetary Policy Strategy

I am pleased to share these thoughts with you, encouraged as I am by favorable developments in monetary policy and the credibility I believe the Federal Reserve has earned these past several years in controlling prices while encouraging both growth of the real economy and financial system stability. The discussion of the appropriate strategy for monetary policy and what it might mean in practice is currently an intellectual one, although, I hasten to add, one not confined to ivory towers. This is why we are studying these issues at the Federal Reserve Bank of New York.

Public debate about these issues has begun, and certainly there are many points of view to listen to and evaluate. My remarks and the study that follows are intended to contribute to and help stimulate such discussions. The perspective adopted in the following study, after a review of a variety of experiences in other countries, is generally favorable toward explicit inflation targets. But I recognize that this is a difficult and complex subject, that the value of such targets may not be the same in every country and at all times, and that others may see benefits in alternative approaches to monetary policy. If my remarks and the study provoke further debate on these important issues at the heart of monetary policy and our nation's economic welfare, I will consider our efforts to be a success.