Inflation Targeting and the Conduct of Monetary Policy
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I am pleased to be here with you today to talk about inflation targeting and the conduct of monetary policy. I would like to thank Dr. Coughlan, Dean Newman and the University of Richmond for giving me an opportunity at this time to express my views on this important subject. The timing is right for two reasons. It has been just a little more than half a year since I became president of the Federal Reserve Bank of Richmond. As bank president, I participate regularly in the Federal Open Market Committee, the body that makes monetary policy in the United States. And I welcome this as an opportunity to make the first comprehensive presentation of my views on the conduct of monetary policy. As I will explain in detail, I believe that the adoption and announcement of an explicit, numerical, long-run inflation target by the Fed would enhance the effectiveness of monetary policy.

The second reason the time is right to discuss inflation targeting is that the Federal Open Market Committee, at its most recent meeting on Feb. 1 and 2, considered at length the pros and cons of formulating and announcing an explicit, numerical inflation objective. I should note that I am not divulging any great secrets here; the minutes of that meeting were made public on Feb. 23, according to the newly accelerated release schedule that began with the January meeting this year. Preparing for that extensive discussion helped me to clarify my own views on inflation targeting and related issues, and I would like to share my thinking on these matters with you this afternoon.

Before I do, however, several stipulations are in order. The first is the usual disclaimer that, as will become clear later on, the views I express do not necessarily represent the views of my colleagues around the System. The second is that nothing in my prepared text should be construed as implicit commentary on current economic conditions or imminent interest rate decisions. I will be discussing monetary policy principles, not this year's tactics.

The third stipulation has to do with terminology. Some economists draw a sharp distinction between an inflation objective and an inflation target. An objective, in their usage, refers to a simple announcement, while targeting involves an accompanying institutional apparatus, including formal requirements to submit reports to a legislative body. In some contexts, these distinctions are important. But for the issue before us in the United States, the distinction is less important since, as I will argue later on, an announced objective will inevitably draw the Fed into commenting on where inflation stands relative to the objective. And besides, the Fed is already required to report to Congress twice a year about inflation and the economy. For today's discussion, therefore, I will use the terms "target" and "objective" interchangeably. Moreover, I will use the terms to refer to an objective that is explicit, long-run, and numerical.

My thinking on this subject is rooted in the rich history of contributions to the theory and practice of monetary policy at the Federal Reserve Bank of Richmond. My predecessor, Al Broaddus, and his predecessor, Bob Black, were tireless inflation fighters in the 1970s and early 1980s when high and variable inflation was a serious problem. It was in those days that Bob and Al, who was then Bob's research director, earned their wings as inflation hawks by the strong stand they took against inflation both inside and outside of the Federal Reserve. Their practical work was buttressed by the research writings of Marvin Goodfriend, a long-time Richmond Fed monetary economist, and his colleagues in the Richmond research department.

Al exercised his hawk wings as Richmond Fed president and a voting member of the FOMC in 1994, when he led the fight for preemptive action against inflation in that year. That was when Al brought the idea of inflation targeting to the FOMC, suggesting that some form of inflation objective might be helpful in securing the Fed's credibility for low inflation. Chairman Greenspan invited Al, together with Janet Yellen, currently the president of the Federal Reserve Bank of San Francisco and then a member of the Federal Reserve Board, to lead a discussion on inflation targeting at the January 1995 meeting.

What happened in 1994 to precipitate the Committee's initial interest in inflation targeting is a good example of the experience that informs my own view of the subject. Hence, I think it is useful to review that story in a little detail here.

To set the stage, the Fed had brought the inflation rate down from over 10 percent in the early 1980s to around 3 percent by the mid-1990s; yet 1994 was a year of heightened risk of rising inflation. There was an inflation scare in the bond market that took the 30-year bond rate from below 6 percent in October 1993 to a peak of over 8 percent in November 1994. That nearly 2.5 percentage point increase in the bond rate indicated the Fed's credibility for low inflation was far from secure.

The Fed fought the challenge to its credibility by raising the federal funds rate — our monetary policy instrument — in seven steps from 3 percent to 6 percent between February 1994 and February 1995. Incidentally, starting with its February policy action that year, the Fed, for the first time in its history, began to announce every federal funds rate target change immediately after the FOMC meeting; and the country watched and debated each increase in the funds rate. With this series of actions, the Fed held the line on inflation at 3 percent, marking only the second time in its history (the first was in 1983-4) that the Fed successfully preempted a cyclical rise in inflation. In spite of the policy tightening, real GDP grew by around 4 percent in 1994, up from around 2.5 percent in 1993, and the unemployment rate actually fell from around 6.5 percent to 5.5 percent from January to December 1994. The bond rate returned to around 6 percent by January 1996, and one began to hear talk of the "death of inflation."

From this experience I draw three conclusions for monetary policy. First, a well-timed preemptive increase in the federal funds rate is nothing to be feared. In 1994, it was necessary to take the real federal funds rate — the nominal rate adjusted for expected inflation — from around zero up to around 3 percent in order to avert the potential build-up of inflationary pressures. And yet real growth picked up and the unemployment rate trended down.

Second, to *keep* inflation well-anchored, the Fed must be prepared to move the federal funds rate around over the business cycle even though inflation remains stable. There is a simple but underappreciated principle at work here: real, inflation-adjusted interest rates must vary over time with shifts in economic fundamentals, even if inflation is perfectly constant. Since our policy instrument is a nominal interest rate, it has to vary over time as well, even without noticeable deviations in inflation or inflation expectations.

Third, the anchoring of inflation expectations achieved by preemptive policy in 1994 has produced enormous benefits for monetary policy. The bond market arguably has not exhibited a major inflation scare since 1994 — not during the boom in the late 1990s and not during the period of very low federal funds rates in the last few years. The successful stabilization of inflation expectations has been the cornerstone for effective monetary policy ever since. The Fed's credibility for low inflation allowed it to act aggressively against the recession in 2001 and after the Sept. 11 terrorist attacks. The federal funds rate was dropped in 11 steps from 6.5 percent at the beginning of the year to 1.75 percent in December, without a substantial rise in inflation expectations. Subsequently, credibility against inflation enabled the Fed to fight potential deflation by lowering the funds rate down to 1 percent between June 2003 and June 2004. In short, low and stable inflation expectations have enhanced the ability of monetary policy to react *flexibly* to both positive and negative shocks since the mid-1990s.

This was in sharp contrast to the 1970s and early 1980s when the *failure* to stabilize inflation expectations subjected the economy to severe inflation scares that at times forced the Fed to respond with aggressive interest rate policy actions. When inflation accelerated, interest rates had to rise just to keep *real* interest rates from falling — in other words, to keep the stance of monetary policy unaltered. Further rate increases were required in order to raise real interest rates and reduce inflation. The aggressive rate increases needed to contain inflation and inflation expectations put the economy at risk of recession and at times actually precipitated a recession, or prolonged a recession already in progress.

I think it is fair to say that the experiences and lessons I just outlined are now widely appreciated by central bankers and monetary economists alike, and account for the fact that the Federal Reserve has made low inflation and the stabilization of inflation expectations a priority as never before in our history.

My reading of the recent monetary history, especially the 1994 policy actions and subsequent developments, leads me to favor the adoption of an inflation target. Why would that enhance the effectiveness of monetary policy? I will organize my discussion around the passage from the latest FOMC minutes that reports on the Committee's discussion of the issue, because it represents a succinct summary of the viewpoints that have been articulated both within the Committee and among economists at large.

The minutes start by reporting that "meeting participants uniformly agreed that price stability provided the best environment for maximizing sustainable economic growth in the long run…" In other words, the debate about inflation targeting is not about whether actual inflation should be low and stable. The question is whether the Fed should announce an explicit numerical objective.

The minutes cite three benefits of an explicit price-stability objective: (1) its usefulness as an anchor for long-term inflation expectations, (2) its power to enhance the clarity of Committee deliberations, and (3) its usefulness as a communication tool. I agree wholeheartedly with the first point in light of the critical importance of tying down inflation expectations as I discussed earlier. As much as one can debate the usefulness of allowing short-run fluctuations in realized inflation, I see no utility in tolerating unnecessary fluctuations in long-run expectations of inflation.

I also agree completely with the second point about enhancing the clarity of deliberations, because when it comes to internal policy analysis and discussion, coherence demands that FOMC participants implicitly agree on a long-run numerical objective for inflation. Accountability in a democratic society then argues for making available to the public the numerical objective upon which our internal discussions of monetary policy are based.

Finally, I believe that the Fed's experience in May and June 2003 indicates that references to inflationary or deflationary risks in the policy statements we now release after every meeting cannot reliably substitute for an explicit inflation target. The statement issued following the May 2003 FOMC meeting asserted that a fall in inflation — then about 1 percent — would be "unwelcome." This came as a something of a surprise to markets and caused a sharp reaction in long-term rates. If an inflation target range had been in place in 2003 with a lower bound of 1 percent, the public could have inferred the Fed's growing concern about disinflation as the inflation rate drifted down toward that bound. Expected future federal funds rates and longer-term interest rates would have moved lower continuously, with less chance of overshooting or undershooting the Fed's likely policy path.

If the May 2003 statement is interpreted as the revelation of the lower bound of an inflation target range, then half of an inflation target range has been announced. And if revealing a dislike of inflation below 1 percent was useful in May 2003, is it not likely that revealing an upper bound will prove useful in some future circumstance?

In short, I strongly support each of the three reasons given in the minutes in favor of an explicit long-run numerical objective for inflation. The minutes also cite three drawbacks to the adoption of an explicit price-stability objective. I would like to comment on these, because they also are widely mentioned outside the Fed in discussions of inflation targeting. The first is that an inflation target might appear to be inconsistent with the Committee's so-called "dual mandate" of fostering maximum employment as well as price stability. On the contrary, for the reasons I gave earlier, I think both experience and economic theory strongly suggest that the best contribution monetary policy can make to promoting employment and growth is by tying down inflation and inflation expectations. That is, in the long run, employment and growth are maximized by keeping inflation low and stable. Moreover, there is widespread agreement among central bankers and monetary economists that although, over the long run, it is feasible for the central bank to control inflation, long-run growth and employment are predominantly determined by forces independent of monetary policy. So it makes little sense for the central bank to adopt a long-run objective for growth or employment.

I would like to digress here for a moment to say a few words about this idea that the Federal Reserve has a "dual mandate." If you go back and look at the direction Congress gave us — it appears in Section 2A of the Federal Reserve Act and was most recently revised in 1977 — you find that they actually gave us three mandates: "maximum employment, stable prices, and moderate long-term interest rates." Nobody mentions the third mandate, moderate long-term interest rates, and for good reason. It is widely understood that the best contribution monetary policy can make to keeping long-term interest rates low is by keeping expected inflation low, because this minimizes the inflation premium built into nominal long-term rates. This is true despite the fact that keeping inflation low sometimes requires pushing short-term rates up, which sometimes raises long-term rates for a time by raising expected near-term real rates. Thus, there can be said to be a short-run trade-off between keeping inflation low and keeping long-term interest rates down, even though in the long-term there is no such trade-off.

Analytically, this is quite analogous to the relationship between our inflation and employment mandates. In the long run, low inflation is best for employment growth, but keeping inflation down can require actions that might reduce employment growth in the short run. Admittedly, employment is a real quantity while interest rates are prices, so people might have a different sort of interest in employment than they do in long-term interest rates. Presumably, this motivates elevating the rhetorical status of employment over long-term interest rates by speaking of a "dual mandate." But that rhetoric should not obscure the economics of the relationship between the two or the fundamental primacy of our price stability goal.

The second point critics make is that the adoption of an inflation target might inappropriately bias or constrain policy at times. An inflation target would be aimed at anchoring expected inflation in the long-run. That will be successful over time only if Fed actions keep actual inflation around its long-run target. These critics argue that while we want the public to believe inflation will remain well-anchored in the future, when the future finally rolls around, we might want the flexibility to pursue policies that are inconsistent with the earlier promise implied by an inflation target. In other words, we might find the commitment implied by our announced inflation target constraining.

I would argue that this is a flexibility the Fed should be happy to do without. In the process of establishing the credibility of our commitment to price stability, we have already given up the flexibility to let expected inflation get out of control. That is what a commitment *is* — a pledge to forego future flexibility. An announced inflation objective is meant to guide policy actions *over the long run*. It would not hinder the kinds of policy actions undertaken these days to stabilize employment and output in the short run. And as I discussed earlier, there is evidence that anchoring inflation expectations more securely with an explicit long-run target would actually *increase* the flexibility of monetary policy to react to shocks in the short run.

If the Fed adopts an explicit inflation target, we would inevitably feel compelled to explain and work to unwind any substantial short-run departures from our long-run target. More to the point, however, it would force the Fed to respond when measures of *expected inflation* move much outside of the target range. There are no circumstances, I would submit, in which expected inflation should be outside of a narrow band around the target for very long. This is the narrow scope of flexibility that's at stake with an inflation target, and it is hard to see what good it would do to retain it.

Finally, a third factor critics mention is that with inflation expectations well-contained over recent years, the benefits of announcing a specific inflation objective might be small in any case. In response, I would point out that no credible observer believes there is any reason for inflation to be persistently higher or lower than it is today. The benefits might not be large, but I fail to see the case for encouraging fluctuations in the credibility of the Fed's commitment to price stability. In short, I disagree with each of these three arguments against an inflation objective.

Before concluding, I would like to say a few words about how establishing an inflation objective would work in practice. First, I think it would be best if the target were stated in terms of one of the consumer price indexes, because the public is most familiar with such measures. In addition, economic theory tells us that monetary policy should stabilize the value of money relative to the goods and services that go into household consumption, as opposed to other conceivable baskets of goods and services. There are several consumer price indexes to choose from. In terms of the Consumer Price Index (CPI), I would want a 2 percent midpoint for the target range. The CPI has some well-known methodological flaws as a measure of purchasing power, however. Economists prefer the Price Index for Personal Consumption Expenditures from the National Income and Product Accounts — the so-called PCE price index. In terms of that index I would want a 1.5 percent midpoint for the target range.

I should say something about what reasoning led me to these values — 2 percent for the CPI or 1.5 percent for the PCE index. First, 1 percent appears to be a good target for actual inflation. One factor in selecting a target is that interest rates ultimately build in compensation for expected inflation, so higher target inflation ultimately means higher interest rates. Minimizing inflation therefore helps minimize the inefficiencies that arise from the incentive to substitute away from assets like currency or bank reserves that do not bear interest. Minimizing inflation also reduces the distortions that arise in sectors where prices are sticky. A 1 percent target is preferable to zero or some negative number, however, because of the value of building in a cushion against the possibility that interest rates bump up against the zero lower bound. Real interest rates are what matters for monetary policy, but it is nominal interest rates — which are just real rates plus expected inflation — that cannot be driven below zero. Thus, an inflation rate a bit above zero gives us a bit more leeway to lower real interest rates to prevent inflation from falling below target.

Finally, given a target of 1 percent for actual inflation, we need to take into account known measurement biases in our price indices. Our best current research indicates that the CPI overstates actual inflation by about 1 percentage point, on average, and the PCE price index overstates actual inflation by about a half of a percentage point. Thus, I prefer 2 percent for the CPI and 1.5 percent for the PCE. I have a preference for targeting a measure of core inflation — in other words excluding food and energy — because it would be sufficient to anchor overall inflation over time, but it would give us the latitude to allow relative energy and food prices to fluctuate in the short run without necessarily requiring an immediate monetary policy response. Not coincidentally, the core PCE price index is the one favored by Fed staff and policymakers for internal analysis and discussions, and thus its use as a target would enhance monetary policy transparency.

I favor a range around our target with a width of 1 percentage point, rather than a simple point target. As I noted earlier, an announced target range would inevitably draw the Fed into discussing inflation in relation to the range. If inflation moved outside the range we would feel compelled, I believe, to acknowledge that fact and to state how inflation will be brought back within the range. A range rather than a point target would give the Fed a reasonable "safe harbor" within which we would not be pressed to explain fluctuations in inflation. The narrowness of a 1-percentage-point range, however, would discipline us to explain any substantial deviations of inflation from the target.

I would regard the Fed's announced inflation objective as a long-run range, and hence I would expect the Fed to revise its numerical inflation objective relatively rarely, mainly for improvements in measurement.

How the Fed communicates about an inflation target is important. In some countries, the adoption of inflation targeting has involved explicit action by the legislature or the administration. In contrast, I believe that the Federal Reserve can legitimately describe inflation targeting as a natural incremental step in the evolution of our policy operations, a step we take because we believe it will improve the ability of monetary policy to stabilize employment, growth, and inflation by enhancing the effectiveness of short-run communications and tying down inflation expectations. We also should emphasize, I believe, that that our announced inflation objective is meant to guide monetary policy over the *long run*, and that it should not prevent the Fed from taking the kinds of policy actions it takes today to stabilize employment and output in the short run.

Admittedly, monetary policy has been working reasonably well of late. In particular, the Fed already makes low inflation a priority, and inflation expectations have been low and reasonably stable. So why take the additional step of announcing an explicit inflation objective? At the risk of some repetition, let me summarize the argument I have advanced here. First, the enormous costs of failing to maintain price stability are now well understood, and there is no reason for inflation to be much higher or lower on average than it is today. Second, by announcing an inflation objective, the Fed would not be surrendering any flexibility that it has not given up already, or should not be happy to give up. We would be reducing extraneous fluctuations in expected inflation. And third, since there are no circumstances in which the Fed would like to see inflation much higher or lower than it is today, announcing an explicit long-run inflation objective is mainly an incremental step in the direction of transparency. Ambiguity about the Fed's long-run inflation intentions has outlived its usefulness.

In addition to the operational benefits mentioned above, greater transparency is important because it defuses the idea that secrecy has any role to play in the policy process, and it opens the door to even greater transparency and a broader comprehension of short-run policymaking on the part of the public. And the understanding and support of our citizens is ultimately the only way to secure good monetary policy in the future.