Practical Problems and Obstacles to Inflation Targeting

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The number of conferences, papers, and speeches on inflation targeting suggests a growing interest in exploring whether and in what way the FOMC should consider adopting an explicit numerical objective for inflation. Because the devil is often in the details, it is important to go beyond the general interest in this direction and to begin to think about some practical problems that would have to be resolved if such an approach were to be implemented. In addition, to successfully move in this direction, it is important to understand the obstacles and design a framework that provides the best chance of overcoming the obstacles.

My point of departure is the conviction that, if the FOMC were to announce an explicit numerical inflation objective, the vision of the resulting regime would have to fit both the political realities and the basic approach to monetary policymaking in the U.S. over the last decade. Indeed, the case for adopting an explicit inflation target in the U.S. is typically rationalized in terms of continuity rather than change. That is, it is an attempt to ensure continuity in the conduct of monetary policy, especially after the departure of Alan Greenspan, not to be an instrument for changing the way in which monetary policy has been conducted over the last decade or two. I focus less on the need to ensure continuity after Alan Greenspan than on the need to design a regime that allows for continuity with the approach to monetary policy under Alan Greenspan.

The key distinction essential for understanding the regime that would be a good fit for the U.S. is between inflation targets and inflation targeting. After explaining that distinction, I will offer my view of the vision of the Greenspan FOMC, and consider the consistency of that vision with a regime with an explicit numerical inflation objective. Next, I consider the political climate for adopting an explicit numerical inflation objective and other potential obstacles. I conclude with a consideration of implementation details, as the choice is not ultimately between an explicit and implicit inflation target in principle, but between the current practice and a specific alternative.

I. Inflation Targets and Inflation Targeting

The distinction between inflation targets and inflation targeting, first made in a speech in July 2001 while I was a member of the Board of Governors, can perhaps be best understood in terms of a two by two matrix, shown below. Across the top, I identify two types of inflation targets, one implicit (like the

U.S. today) and the other explicit (as in so-called "inflation targeting" countries today). Down the side I identify two forms of mandate that central banks around the world operate under. These mandates are typically set by the legislatures. The U.S. and Australia operate under a dual mandate, according to which monetary policy is directed at promoting both full employment and price stability, with no priority expressed, and with the central bank responsible for balancing these objectives in the short run. Inflation targeting countries generally operate under hierarchical mandates, one in which price stability is identified as the principal objective, and central banks are restricted in pursuing other objectives unless price stability has been achieved.

Chart 1: Monetary Policy Regimes

Mandate \ Inflation Target	*Implicit*	*Explicit*
Dual	US	Australia
Hierarchical		UK, Canada

The U.S. has an implicit inflation target and a dual mandate, the upper right box. U.K., Canada, and most other so-called inflation targeting countries have an explicit inflation target and a hierarchical mandate. They are in the lower left box. Australia has a dual mandate along with an explicit inflation target. It is this combination that I am suggesting for the U.S. By the way, I just returned from a week in Australia and tried out this proposal there, and it was very well accepted!

The distinction I have drawn between dual and hierarchical mandates may overstate the differences, in practice, between dual mandate and hierarchical mandate central banks. As Lars Svensson likes to remind me, there has been an important evolution in practice in inflation targeting countries around the world. In general, they have moved away from the initially austere implementation, more in line with the spirit of a hierarchical mandate, and have become, in Lars' term, flexible inflation targeters, and close cousins of dual mandate central banks. And, of course, even in the more austere practice of hierarchical mandate, there was always some flexibility with respect to responding to supply shocks and by virtue of a horizon over which inflation was to be gradually returned to its target.

To the extent that flexible inflation targeters operate the same as dual mandate central banks, I believe that the dual mandate is the more transparent mandate. This is important because inflation targeting central banks often claim they are more transparent than the Fed because they have an explicit numerical target. So perhaps the distinction should be between implicit and explicit inflation targets, on the one hand, and implicit and explicit dual mandates, on the other hand.

In any case, I believe the distinction between dual and hierarchical mandates is central to the issue of the obstacles to moving to an explicit numerical inflation target in the U.S. and to the goal of designing a regime that will be perceived as allowing for continuity with the vision of monetary policy as practiced in the U.S. for at least the last decade or two. Indeed, in my experience, many of those who vigorously oppose inflation targets do so because they identify that practice with the hierarchical mandates and a down-weighting of responsibility of the central bank for promoting full employment.

Historically, central bankers have been embarrassed to admit they care about anything other than price stability or conduct monetary policy for any other purpose. Bob McTeer has perhaps said it best when he reminded the Committee that "only hawks go to central bank heaven." Even in the U.S., it is much easier to find quotes by FOMC members about the importance of price stability than about the responsibility of monetary policymakers for damping fluctuations in output around full employment. You all, I expect, recall the pillaring Alan Blinder received from the central bank community when he noted at the Jackson Hole conference in August 1994 that monetary policymakers should keep an eye on the unemployment rate as well as on inflation.

The reluctance of central banks to admit they engage in stabilization policy is illustrated by an incident at the very first Jackson Hole conference I attended as a member of the Federal Reserve Board in August 1996. Two of the leading central bankers in the world took me aside to help educate me about how to conduct myself so I would be viewed as an upstanding central bank citizen. They offered me the very same advice: Good central bankers never admit they pursue stabilization policy. Such an admission would reduce the confidence of the public in your commitment to price stability and therefore undermine your credibility and effectiveness as a monetary policymaker. I responded that I appreciated the advice, especially from such distinguished central bankers, but that it left me a bit confused. They seemed to be telling me that the way to build credibility was to lie, specifically about how I understood the objectives and how I intended to conduct monetary policy. I never followed their advice and indeed tried to educate the public about what the Fed's mandate was and about the importance of the dual mandate.[1]

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[1] One caveat is in order here. There *are* important differences between the full employment and price stability objectives, and I do not want to minimize or disregard these differences, because they are central to good practice for central banks. These differences may indeed be the origin for hierarchical mandates, though I expect the origin has more to do with the disappointing experience with monetary policy and inflation before the inflation targeting regimes were adopted.

First, a central bank, over some appropriate intermediate term, can achieve can inflation target, with a significant degree of precision. It has a choice as to whether that target should be 2% or 3% or some other number. In a word, the with respect to inflation, the buck literally does stop at the central bank. Central banks have less influence over the short-run path of output and employment, but, nevertheless, at the margin, can damp movements in output around its potential level. In addition, the "target" for employment is not a choice variable for the monetary authorities, but one dictated by the structure of the economy.

Second, with respect to an inflation target, central banks know where they want to go. Notwithstanding biases and measurement issues, the central bank can pick a target and get there. Unfortunately, the same cannot be said for the full employment objective. We do not know exactly where it at a given moment or where it may be in the future. It is, of course, not really as murky as that characterization suggests, but we have only an estimate of the NAIRU and of potential output, and we have to update that estimate over time, in part using information based on the experience with inflation.

This measurement uncertainty does not mean that a central bank should not pursue its estimate of full employment, but it may imply that that pursuit has to be different in some subtle way from how it pursues its inflation objective. In particular, central banks perhaps should not simply aim for a particular unemployment rate and decide after the fact if it is really sustainable. Rather monetary policymakers might have to be prepared to move aggressively into the range of the estimate of full employment and then perhaps move more gingerly toward the estimate, watching each step along the way for feedback as to whether it has gone far enough or has overshot.

II. The vision of the Greenspan FOMC

My premise is that the goal of any change with respect to the inflation target is to improve the transparency and accountability of monetary policy and to enhance, on the margin, the effectiveness of monetary policy without fundamentally altering the basic approach to the conduct of monetary policy under the Greenspan FOMC. I therefore set out my vision of that approach, identifying the three principles that, in my view, have guided practice.

1. **Build a reputation for a commitment to price stability in order to anchor inflation expectations**: While an inflation target can, in principle, contribute to this end, inflation expectations, in practice, are based more on performance than promise. Hence, outcomes are more important than rhetoric. Therefore, the first principle is that monetary policy should be conducted to move the inflation rate over time to a low, stable rate (the FOMC's implicit inflation target) and then to maintain it close to that rate, with allowances for normal cyclical variation and shocks. I thus interpret the FOMC under Greenspan as having an implicit inflation target.

2. **Monetary policymakers should aggressively respond to demand shocks that would otherwise move output and employment from their full employment levels, with appropriate consideration for prevailing and prospective inflation rates.** Well-anchored inflation expectations provide monetary policymakers increased freedom to adjust policy in the short run to dampen movements in output relative to potential, without concern that such aggressive use of stabilization policy could destabilize inflation expectations. Indeed, to the extent that inflation expectations are well anchored, monetary policy will have larger short-run effects on real aggregate demand and production, because there will be less leakage into higher prices. The anchoring of inflation expectations itself makes the economy more stable, reducing the effect on overall inflation of adverse supply and demand shocks. Finally, to the extent that policy is successful in maintaining price stability, the instability of output and employment may be reduced, because an important component of that instability arises when the economy is allowed to overheat and inflation rises above the implicit inflation target, forcing a sharp tightening of monetary policy to first contain and then reverse the rise in inflation.

3. **Monetary policymakers should be flexible and pragmatic in the conduct of monetary policy**. Policy rules can provide useful guidance to monetary policymakers, but policymakers' judgment will be essential in responding to unique shocks or circumstances and to making policy when the uncertainty about the model, parameters or the measurement of key variables becomes especially large. One example of this flexibility is the difference between the opportunistic disinflation strategy appropriate when inflation is already above the FOMC's implicit target and the strategy of erring on the side of ease when the inflation rate is below the target and there is a perceived risk of deflation and/or hitting the zero nominal bound. Both these strategies involve nonlinear responses, a propensity for preemptive tightening when inflation is above its target and a propensity for an unusually accommodative policy when inflation is viewed as uncomfortably too low.

The Chairman, in my view, also believes that low, stable inflation contributes to strong productivity growth and hence to a higher maximum sustainable rate of economic growth. This provides still another reason why maintaining low, stable inflation has significant payoffs for economic performance. I expect that the other members of the FOMC have less faith in this principle than the Chairman.

What is unique about the Greenspan vision is the synergy presumed between the two objectives for monetary policy: price stability and damping fluctuations around full employment (as well as between price stability and achieving the maximum sustainable growth). What is also unique is that the Chairman, based on this vision, is generally viewed as being a hawk when it comes to containing inflation and a dove when it comes to quickly providing support for a weakening economy. This is a remarkable combination, politically as well as economically, and one that the FOMC presumably would not what to lose as it considers adopting an explicit numerical target for inflation.

III. The politics of inflation targets

The Congress sets the objectives for monetary policy, just as legislatures typically do in the case of other central banks around the world. The Greenspan vision, if not rhetoric, is, in my view, very much in sync with the Congressional mandate.

There is, in my opinion, no chance that the Congress would accept a regime with a hierarchical mandate that raised the profile of price stability and appeared to diminish the responsibility of the FOMC for stabilization policy. It is true that there have been specific bills introduced in the Congress that would have moved the Fed in this direction. But those bills reflected a minority position, indeed a very small minority position, and the overwhelming majority of the Congress would have rejected such an approach had it ever come to a vote. The only exception would be if there was a period in which monetary policy in the U.S. was not appropriately disciplined and inflation rose to very high levels. The Congress might then impose a more restrictive mandate. And that is, after all, the historical experience that preceded the implementation of many of the inflation targeting regimes around the world. Now that inflation performance has improved, there is an evolution toward a more flexible interpretation of the mandate, closer to the spirit of the dual mandate.

While the Congress might be willing to accept an explicit numerical objective for inflation in the context of a reaffirmation of the dual mandate, there could still be an obstacle in achieving a consensus between the FOMC and the Congress about any change in the framework for conducting monetary policy. The greater danger is that the Congress would want to balance an explicit target for inflation with an explicit target for full employment. That would be and should be unacceptable to the FOMC, a deal breaker. While the FOMC can exercise choice about the inflation target, and expect to be able to achieve any target in the intermediate run, the level of full employment (aka NAIRU) is determined by the structure of the economy, is difficult to identify precisely at any moment, and changes over time. This is perhaps the most important reason why consultation with the Congress is so important as a part of any interest of the FOMC in moving in this direction. My belief is that the Congress would accept an explicit numerical target for inflation in the context of a reaffirmation of the Federal Reserve's responsibility for promoting full employment.

So both the political realities and the focus on continuity require that an explicit numerical target for inflation be implemented as part of a dual mandate and be done in a way that does not undermine the flexibility of monetary policy to respond to various shocks or unusual circumstances. This is both the only choice and the best direction.

IV. Why Bother?

The FOMC already has an implicit inflating target, and policy has been successful in achieving a low rate of inflation, while preserving flexibility to pursue stabilization policy. As a result, there is some understandable skepticism about the payoff in terms of better policy or improved outcomes from making the inflation target explicit.

First, at the margin, an explicit inflation target should contribute to anchoring inflation expectations, both by identifying the point at which the public should put down the anchor, and by establishing a consensus on the Committee about where the anchor should be. I personally believe that the effect of an explicit inflation target is more effective in anchoring inflation expectations once the target has already been achieved than in lowering the cost of initially achieving the target.

The need to anchor inflation expectations is important not just to prevent increases in inflation in response to supply or demand shocks. Recently, it has become important for the FOMC to communicate that inflation is too low and to prevent inflation expectations from declining. Here an explicit numerical inflation target would likely contribute at the margin to making the case that monetary policy will need to remain accommodative for a considerable period.

Second, an explicit inflation target would also ensure a consensus on the Committee about the inflation rate that members aim at, ensuring that everyone on the Committee is pushing in the same direction with respect to the inflation objective.[2] This could, at the margin, improve the coherence of the deliberations and the policy outcomes. It should be noted, however, that the payoff from more coherent internal deliberations could be achieved by having an internally acknowledged target, and does not require that the target be made public. However, it would, in my view, be difficult to sustain and inappropriate politically for the Committee to agree on a target internally, and not announce it publicly.

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[2] This raises an interesting broader question: What should members of a monetary policy committee agree to agree on and what should they be free to disagree on in the conduct of monetary policy? I believe that the members should agree to be bound by the consensus on the committee about the level of the inflation objective. On the other hand, they should be free to disagree about the interpretation of the incoming data and the forecast and about the nature and parameters of the model, including the estimate of the NAIRU.

Third, the added transparency about monetary policy might further enhance the ability of bond market participants to anticipate the future course of monetary policy, shortening the lags from policy to outcomes, and thereby improving the effectiveness of policy. There is, I believe, a synergy between transparency and policy effectiveness, and if so, the adoption of an explicit numerical inflation target will be a step toward a more effective monetary policy, improving the partnering between monetary policy and the bond market.

V. Why Now?

Why has there been a recent increase in interest in the possible adoption of explicit inflation target by the FOMC? Some see the move toward an explicit inflation objective as an effort to ensure continuity after Alan Greenspan or believe that when Greenspan's term is over, and only then, there will likely be an opportunity for a thorough consideration of this direction. I believe there are two additional reasons for increased interest in this topic.

First, the increased interest in an explicit inflation target has been encouraged by the decline of inflation toward the FOMC's implicit inflation target. When inflation was considerably above the implicit target, it was easy to figure out what direction the FOMC wanted to push inflation. When the inflation rate was 6%, for example, it might not have been too important for the markets to know whether the FOMC was headed to 2% or 3%. But as the inflation rate moves close to where the implicit target presumably is, it can become less clear whether the FOMC is content with the prevailing rate, prefers a rise or a further decline in inflation. At this point, an explicit numerical target would clarify the intentions of monetary policymakers. Actually, it would also force the FOMC to clarify its own intentions internally.

Second, now that inflation is below the implicit target, it would be helpful to know how far below it is. That would help markets understand how long monetary policy is likely to stay highly accommodative.

VI. Obstacles

The most obvious obstacle to adopting an explicit numerical target for inflation is, of course, Alan Greenspan. He has made it clear that he is opposed to moving in this direction, though the argument he made at a conference at this Bank—specifically that he opposed an explicit target for inflation because inflation could not be measured precisely enough--was singularly disappointing and uncompelling. No matter. The Chairman clearly prefers the status quo for the remainder of his term and no one on the Committee, including myself when I was there, would push to adopt an explicit inflation target while he was at the helm. But when the Chairman's term is over in early 2006, the topic will likely resurface and become an active one inside and outside the FOMC.

The second obstacle could be the new chairman. The new chairman should presumably be given some time to develop his own views on the topic and will undoubtedly have a considerable influence on whether the Committee moves in this direction. On the other hand, I expect the Committee will be looking to assert greater influence on policy outcomes and directions for policy strategy, and the momentum inside the Committee to at least give this careful consideration is likely to be impossible to contain.

The third obstacle is the politics of an inflation target. The irony is that it might take a chairman with the clout and political savvy of Alan Greenspan to navigate such a change through the political process. I believe that the current legislative mandate provides a legal basis for the Fed to adopt a numerical inflation target, as long as the FOMC continues to accept the dual mandate. Nevertheless, adopting an inflation target would be viewed as an important change in the monetary policy regime, and, as such, would need to be vetted with the oversight committees in the Congress. While I do not believe that new legislation is needed, the Fed would have to ensure that the Congress was comfortable with this direction.

The fourth obstacle is inertia. Members of the FOMC undoubtedly believe, as I do, that the Committee has conducted policy in a flexible yet disciplined and effective manner over the last decade. There is no perceived imperative to change the policy regime. It could be argued that adopting a numerical inflation target is not fundamentally a change in the regime, but the point is still if it ain't broke why fix it.

The fifth obstacle is the challenge of building a consensus for the change inside the FOMC and then for the details of the change. To do so, it will be necessary to meet head on the legitimate concerns of some who have staked out positions against such a direction.

What is the core of the case against an inflation target? Don Kohn, in my view, has presented the most thoughtful argument against moving in this direction. Don will soon present his own views in his own words, but let me summarize my understanding of the case against moving toward an explicit numerical inflation objective. There may be a trade-off between becoming more transparent and accountable by adopting an explicit numerical inflation target and losing some of the flexibility that the Committee has had in the conduct of monetary policy.

My proposal—adopting an explicit numerical inflation target in the context of a reaffirmation of the Committee's commitment to the dual mandate--is designed to meet that concern by making clear that the intention of the change was not to alter the way in which monetary policy has been conducted, but only to make that conduct more transparent and those responsible for it more accountable.

Still, that concern lingers. It can perhaps be appreciated in terms of the loss function underlying the policy rule. Specifically, would it be possible to explicitly identify a numerical objective for inflation without at the same time raising the relative weight on departures from the inflation objective, relative to departures from the output or employment objective? This loosely, but only loosely, translates into a question about implied parameters in the Taylor rule, where that rule is viewed as a simple summary of the way in which the FOMC conducts monetary policy. The question in terms of the Taylor rule is whether the FOMC can make explicit the numerical target for the inflation objective—one of the key terms on the Taylor rule—without, at the same time, also altering the response coefficient on the output gap relative to the response coefficient on the gap between inflation and the inflation target. That is, can the Committee more precisely identify one target without changing the way it balances its two objectives and the aggressiveness, in particular, with which it responds to deviations in output and inflation from their respective targets?

Perhaps even more to the point, does adopting an explicit and numerical inflation target force monetary policymakers to be more mechanical in their conduct of monetary policy, as in following more closely a Taylor rule, as opposed to having the flexibility to deviate from the rule when the Committee wants to do so?

I would not argue that this is a trivial question and one without merit. Indeed, many who favor an inflation target or a full-ledged inflation targeting regime do so precisely because such an approach constrains discretion. It is noteworthy that in their discussions of the policy framework, Governor Bernanke's highest praise goes to one which involves "constrained discretion," while Governor Kohn reserves his highest praise for a policy that is flexible and pragmatic. Of course, they both undoubtedly see the merit in the attempt to achieve a balance among these properties of a policy regime.

I do not believe that, under my proposal, there would be much risk that monetary policy would lose its current flexibility, but the outcome would depend on how the change was understood by the Committee, the Congress, and the public. My recent experience reinforces this point. I have recently talked to a couple of economists who often have said that they oppose moving to an inflation targeting regime, but, when they heard my proposal, not only indicated that they could support it, but seemed at least modestly enthusiastic about moving in that direction. That suggests that much of the opposition to an explicit numerical inflation target is really opposition to the hierarchical mandates and perceived practices of so-called inflation targeting regimes.

In any case, I believe that the Committee would have to become comfortable that they could conduct policy with the degree of flexibility they have in recent years in order to be willing to adopt an explicit numerical inflation target.

The last obstacle to adopting an inflation target is agreeing upon the details. As it is often said, the devil is in the details. Even those who might support some version of an inflation target might not be able to agree on the details of such a regime. This provides an excellent bridge to my last section, practical problems with implementing an inflation target.

VII. Practical considerations

I presume that the staff would be asked to come up with some recommendations and perhaps options for the various implementation details required to develop a proposal for the adoption of an explicit numerical inflation target. I will identify what the key issues are that have to be resolved in order to come up with a specific proposal and also offer my own views on how the various issues might be resolved. But I have some unresolved questions of my own about some of these issues and would quite likely adjust some of my provisional conclusions after reading the staff's recommendations and hearing the comments both from members of the Committee and outsiders who have been focused on this topic.

1. What price index should the inflation target be based upon?

I do not believe there is a definitive answer to this question, but I also do not believe that the answer is very important, assuming the choice is between a broad production-based index, such as the chain-weighted price index for GDP, or a broad based consumption measure, such as the CPI or the PCE.

I do not believe that economic theory establishes whether a production or a consumption-based measure of inflation is a better target. Empirical analysis might reveal interesting differences in the way that monetary policy would respond to shocks under production and consumption based measures, and that analysis might help to make the decision. For example, the aggressiveness of the response of monetary policy to changes in the price of oil would be more aggressive under a consumption-based measure, although that conclusion would be reversed if the target was expressed in terms of a core measure of consumer price inflation.

Still I expect, like all other countries that have an inflation target, the choice will be a consumption-based measure, as these appear more widely understood by the public. This is also the direction of the discussion at FOMC meetings that discussed this topic, specifically in July 1996.

This would leave us with a choice between the CPI and PCE measures. I viewed this as a close call up until the release of the chain version of the CPI. The chain CPI inflation rate lined up much closer to, and indeed very close to, the PCE measure. I would therefore opt for the PCE measure.

While I believe that a single index should be identified, and be the effective target over the intermediate term, the Committee should continue to monitor inflation prospects by looking at a variety of indexes. There are periods over which one or the other index might appear to be distorted by special developments. Over the longer run, the special influences wash out and the Committee can focus on the average inflation rate for a particular measure.

2. Should the target be defined as applying over a specific time horizon?

The Congress and the public, as well as the FOMC itself, is going to want to monitor the success of the FOMC in achieving the target established for inflation. What guidance should the Committee provide about how to assess performance relative to the target.

First, the Committee should always refer to inflation in terms of the 12-month inflation rate for the measure it selects, and specifically not talk about monthly or even quarterly inflation rates. All monitoring of FOMC performance relative to the target should be focused on the 12-month rate, washing out higher frequency noise and even distortions that might arise as a result of seasonal adjustment.

Second, the Committee should emphasize that it is focused on achieving the target over an intermediate term, and will move only gradually to return inflation to the target if a shock pushes inflation away from the target.

Many inflation-targeting countries explicitly interpret their inflation target as applying to the intermediate term, typically out 1½ to 2 years. This is sometimes referred to as inflation forecast targeting. Central banks often report their inflation forecast over this horizon, and it is expected that such forecasts will be lined up on the inflation target.

This approach creates a potential tension with a dual mandate. Under such a regime, it is not always appropriate to be at the inflation target, given the short-run trade-off with employment. In addition, given that inflation is pro-cyclical, it is to be expected that inflation should be above the inflation objective late in an expansion, so that it does not fall too far below the inflation objective during the next recession.

In my view, a good way to assess compliance with the target would be to look at average inflation rates over periods long enough to wash out the effect of the business cycle on the inflation rate. On the other hand, I would not explicitly target an average inflation rate, as that would require the Committee to offset any period of below-target inflation with above target inflation later. I would prefer to let bygones be bygones" and to always focus going forward on moving back gradually to the inflation objective, with appropriate allowance for stabilizing output relative to potential along the way.

3. Should the target be the overall measure of inflation or a core measure of inflation?

If the objective is viewed as the forecast for inflation over the intermediate term, say 1 ½ to 2 years out, then it does not matter very much if at all whether the target is specified as overall or core inflation. That is because any shock will have dissipated by then, so the policy that would be consistent with achieving overall and core inflations rates in line with the objective two years out would be fairly close.

Still, the public and the Committee are going to want to monitor inflation outcomes along the way to determine if the inflation performance is broadly consistent with the objective. A case could be made setting the objective in terms of either overall or core inflation.

The case for an overall measure is that it is what you want to focus on in the long run, is simple, requires no manipulation of the data, and is well understood by the public.

The case of the core measure is that it is the measure that the FOMC will likely focus on to monitor performance in the short run and to ensure that its policies are consistent with achieving an intermediate term inflation objective, whether the latter is stated in terms of the core or overall inflation rate. The markets will better understand the adjustments being made in monetary policy by focusing on the outcomes and forecasts for core inflation and the FOMC's communication with the markets will be improved by explicitly focusing on the core measure in their assessment of current conditions and the near-term forecast. It is important, for example, not to confuse the public or markets into thinking that an increase in oil or food prices that result in a temporary blip to the overall rate will dictate an immediate response from monetary policymakers. For this reason, I have a preference for the core measure as the inflation target itself.

Still, the choice between core and overall measures of inflation could make a difference in the conduct of monetary policy, at least if policymakers were responding to recent changes in inflation in their decisions about the setting of the funds rate target. As a result, the optimal response to price shocks remains an important consideration in the choice between core and overall inflation rates as targets. If it is optimal to "look through" the direct effects of a price shock, and only respond to the extent that there are indirect effects that later raise the core inflation rate, this might suggest a preference for the core measure. On the other hand, the presumption that some portion of a price shock would likely pass-through to the core may suggest the desirability of some initial response to the direct effect.

4. Should the target be set as a point or a range and if a range should there be a special focus in the midpoint?

I prefer either a point target or a range with a clear focus on the midpoint as the explicit target. This would likely provide a better anchor for inflation expectations and reduce the indecision in the markets when the central bank were at one end of the range about whether or not the central bank would look for an opportunity to move back to the middle.

A point target is simple and clear. It makes it obvious, because it is a point, not to always expect to be at the inflation target. It does not require nor prevent a nonlinear response when inflation gets too far above or below the target.

If the decision is to set a range, there should be a clear understanding of what the purpose of the range is and what will be different if inflation is inside or outside the range. One purpose of a range might be to identify a range of variation that is typical cyclically and would not be as strongly resisted as movements outside the range. That suggests a kind of nonlinear policy response that could, in turn, be effective in limiting the variation of inflation expectations. The range might also identify, for example, the upper limit to where the Committee would be comfortable pursuing an opportunistic disinflation strategy, and the lower limit could identify the level below which policy would be more focused on erring on the side of ease, because of concerns about the possibility of deflation or hitting the zero nominal bound. Finally, the range could be a trigger for some reporting requirement.

Many inflation targeting countries have chosen a range of two percentage points, typically from 1% to 3%, though Australia has a narrow 1 point range, sometimes referred to as a thick point! Governor Bernanke has indicated that he would like to see inflation within a one percentage point range, 1% – 2%. I am somewhat agnostic on the choice between a point and a range, but have been edging toward favoring a point target.

5. Should the inflation target be set once and for all or be subject to adjustment?

The spirit of an inflation target is that it should be set and remain in place for long periods, so as to ensure economic agents that they can make longer run decisions with confidence about the average inflation rate over such horizons.

But, while the target should not be changed often, there should be a willingness to revisit the target, on occasion, as evidence about the inflation bias evolves and as research provides new information about the appropriate size of the cushion relative to zero true inflation.

6. Should the target be a price level or inflation target?

There has been considerable discussion about the benefits of a price level rule for an economy facing the danger of deflation. Similar benefits accrue to a target for the average inflation rate over some period, as long as there is a commitment to compensate, for example, for periods when inflation is below the target with periods where inflation is above the target. However, as I have suggested, the case for moving to an explicit numerical inflation target is generally perceived to be an attempt to preserve continuity in U.S. monetary policy, not to provide an opportunity for a significant change in the way in which that policy is conducted. So I would not anticipate that an option of a price level or average inflation target would be seriously considered.

7. Should the inflation target be set for true price stability or price stability plus a cushion, and if there should be a cushion, how large should it be?

The FOMC considered this topic in considerable detail at the July 1996 FOMC meeting that, by chance, was the first FOMC meeting I participated in. Janet Yellen made the case for an inflation target set high enough to both take into account measurement error and also to allow a cushion that took into account the potential deterioration in economic performance if inflation were too low.

She called for an inflation target of 2% and everyone on the Committee then had an opportunity to reveal their preference. But first Alan Greenspan challenged her, in effect, asking how she could argue for a 2% inflation target when the Federal Reserve Act clearly set the objective as price stability. Janet was prepared for the question. She noted that the Federal Reserve Act mandated both maximum employment and price stability. She did not believe that maximum sustainable employment was possible at a zero inflation target, so it was up to the Committee to balance these objectives. She opted for 2% inflation and maximum sustainable employment.

Janet then seized the imitative, asking the Chairman to indicate how he would define price stability. Greenspan tried to get away with his vague definition: "Price stability is that state in which expected changes in the general price level do not effectively alter business or household decisions." But Yellen pressed him and asked if he could put a number on that. Remarkably, the Chairman agreed, and said he preferred zero inflation, correctly measured. Janet asked if he could settle for 2% incorrectly measured.

By the way, this is the only time during my 5½ years on the Board and the FOMC that anyone was able to extract a number from the chairman related to his forecast, his estimate of productivity growth or anything else, other of course than his recommendation each meeting for the federal funds rate target.

During a go-around on the topic, only a few Committee members preferred a target of zero, and the consensus was very strong for a 2% inflation target. The Chairman ended up summarizing the discussion as "an agreement for

2%," but then cautioned Committee members not to reveal that such a discussion even took place.

Interestingly, the Chairman asked toward the end of the discussion to what measure of inflation the 2% target should apply. Yellen indicated she did not have a specific measure in mind, but most of the Committee appeared to be thinking in terms of the CPI, specifically the core CPI. Greenspan argued that the PCE was the better measure of consumer price inflation and that the target should be set in terms of the best measure. He then pointed out that while the core CPI was 2½%, the core PCE was already 2%, so that the Committee could apparently declare victory.

Bob McTeer noted however that the specific target depends on the specific measure. For example, if the Committee preferred 2% for the core CPI, the consistent implicit target form the core PCE would be 1½%, given the recent differentials among the measures. Ironically, the Chairman's apparent acquiescence to a 2% target for the core PCE would have left him with a higher implicit target for CPI inflation than preferred by the rest of the Committee.

What if that discussion were opened up today? Governor Bernanke has indicated his preference for a target of 1 – 2%, presumably for the core PCE measure, in line with the spirit of the July 1996 meeting. But a lot has happened since then, particularly the experience in Japan with deflation, and the experience in the U.S. with low inflation and fear of deflation.

The lessons drawn from these experiences has reinforced the wisdom of Yellen's remarks in July 1996, specifically that inflation can be too low as well as too high, and that monetary policymakers need to raise inflation to its target when inflation falls below the target, just as they need to lower inflation when it rises above the target.

Indeed, the lessons from recent experience suggest that policy should be asymmetric, in light of the asymmetric risks associated with deflation and the zero nominal bound. That is, policymakers should be more aggressive raising inflation to its target when it is initially too low than lowering it to its target when it is initially too high.

An interesting question is whether the inflation target should be set high enough so that policymakers could respond symmetrically to movements in inflation above and below the target, except perhaps in small percentage of likely cases.

That suggests that consideration might be given for example to a 1 ½% or 2% target for the core PCE.

8. Should additional reporting requirements accompany the introduction of an explicit numerical inflation target?

A feature of inflation targeting regimes, in additional to an explicit numerical inflation target and a hierarchical mandate, is greater transparency about the forecast and a greater focus on explaining any departures from the inflation target, usually in the form of a regular "inflation report."

First, the FOMC should not issue a separate "inflation report." To do so would be inconsistent with the spirit of the dual mandate. The only change relative to the current Monetary Policy Report and semi-annual testimony would be some explicit commentary on the outcome for inflation relative to the target, and, when inflation is outside the monitoring range, why that occurred and how the Committee viewed the process and timetable for a return to an inflation rate toward its target.

Second, the FOMC forecast should explicitly include whatever inflation measure the target is based upon. Today, the FOMC provides its forecast of the overall inflation rate for the PCE, while many, including myself, believe that the Committee makes its decisions based more on the core measure. If the target is stated in terms of the core measure, it should be included in the FOMC forecast. Better yet, the FOMC should provide the forecast for both overall and core measures.

Third, since the FOMC controls inflation over the intermediate term, it would be useful if the FOMC forecasts always went out at least 1½ to 2 years. The current practice is that the FOMC forecast in late January or early February only extends through the remainder of that year. This should be extended for another year.

Fourth, it might be useful to increase the frequency of FOMC forecasts from twice a year to four times. Just as a picture is worth a thousand words, a forecast can be more revealing than speeches and testimonies.

Fifth, if there is more attention on the forecast, the Committee should fine-tune the process by which they are prepared by the individual Committee members. The forecasts are supposed to be based on “appropriate” monetary policy, but the forecasts the staff provides the Committee are often based on a constant nominal funds rate. The staff should help the Committee members in the forecast process by always providing them with a forecast based on a policy rule or an “optimal policy” simulation, especially in advance of the dates when FOMC forecasts are to be prepared.

VIII. An example of an explicit numerical inflation target

The FOMC will conduct policy in an effort to achieve maximum sustainable employment and price stability, where the latter is defined as an inflation rate of **1½%**, measured by the **core PCE inflation rate**. Given that the economy is subject to shocks and business cycles, it will be impossible for the Committee to achieve simultaneously both objectives at each moment in time. The objective for employment is to minimize the variance of employment relative to its maximum sustainable level. The objective for price stability is to achieve an average for the rate of inflation as close as possible to the inflation target on average and over the intermediate run.

The inflation target is **symmetric,** as the Committee recognizes that inflation can be too, low as well as two high. Therefore, monetary policy would be directed to raising inflation if it fell below the target, and lowering inflation if it rose above the target.

The Committee has intentionally set the target at a level that takes into account a presumed upward **bias in the measurement of inflation** and in addition, provides some **cushion** in order to reduce the likelihood that the economy could encounter deflation or that the federal funds rate could reach the zero nominal bound.

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