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# **Some Practical Considerations for Monetary Policy Frameworks**

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FEDERAL RESERVE BANK OF CHICAGO

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## Introduction

I would like to thank the Shadow Open Market Committee (SOMC) for the opportunity to speak here this afternoon. The SOMC is a distinguished and knowledgeable group that encourages public discourse on important issues related to monetary policy. I hope to add to this morning's stimulating discussion in my prepared remarks. However, before I begin, let me remind you that my comments here today are my own and do not necessarily reflect the views of the Federal Reserve System or the Federal Open Market Committee (FOMC).

I became president of the Federal Reserve Bank of Chicago in September 2007, just a few months before the business cycle peak. The subsequent story line is familiar to all of you. The National Bureau of Economic Research (NBER) dated the beginning of the recession as December 2007, and by the fall of 2008, we were dealing with the largest financial crisis since the Great Depression.

These difficult times required extraordinary monetary policy responses. The Fed established emergency lending facilities to support financial market functioning. Between September 2007 and December 2008 the FOMC cut the federal funds rate target from 5-1/4 percent to essentially zero. Thereafter, providing further accommodation required turning to nonconventional policy tools: Two important ones were large-scale purchases of Treasury and agency securities, which increased our balance sheet to \$4.5 trillion, and forward guidance about how long we would maintain the funds rate at its effective lower bound.

These policies were effective. And, today, the fundamentals for the U.S. economy are strong. By most assessments, the U.S. has achieved full employment. While the attainment of sustainable 2 percent inflation has taken longer, it now appears closer. Since December 2015, the FOMC has raised the federal funds rate to a range of 125 to 150 basis points, and the Committee is in the process of a slow, steady renormalization of the balance sheet.

If we are lucky, the future economic and financial climate will more closely resemble the pre-Great Recession experience (if not exactly a Great Moderation economy). Such a relatively benign environment hopefully would allow changes in the federal funds rate target alone to provide adequate monetary accommodation when needed.

But, for a host of reasons, it is all too likely that policymakers will face more difficult monetary policy challenges when the next downturn occurs. So, with the economy close to maximum employment and price stability, now is a good time to take a hard look at whether—and how—the Fed’s monetary policy framework might be retooled to better deal with less favorable circumstances that inevitably will arise.

### **Summary of three messages**

Before I go further, let me state the three messages I want to develop this afternoon.

First, most alternative monetary policy frameworks that have been discussed exhibit two pretty clear characteristics: During meaningful economic downturns they likely will generate periods of aggressive monetary accommodation with short-term policy rates at the effective lower bound; and they also likely will require an extended period of inflation above 2 percent—and perhaps substantially so for some time. These features are obvious to everyone in this room. And they beg the question: How will these policies be communicated to the public and how will the public view these outcomes? Policymakers need to plan for this.

Second, in selecting and designing any particular alternative framework, what will be the roles of financial competition and regulatory policies and what will be the implications for market functioning? These alternative frameworks will likely feature long periods of low or negative real interest rates and the use of instruments such as large-scale asset purchases. How do we assess the interplay between the choice of monetary policy framework and the “stance” of financial regulatory oversight and supervision? Will these policies induce behavior that requires enhanced regulation in order to mitigate financial instability risks? Or, for each framework, are markets inherently self-equilibrating such that market discipline alone will be sufficient?

The ultimate effectiveness of any strategy will depend on the answers to these questions. So policymakers will need to address the financial stability implications for each suggested alternative.

Third, even if nothing much comes of these discussions and no dramatic changes are made to our monetary policy framework, there are opportunities to improve our existing strategy. Namely, I think additional communications enhancements are needed to bolster the credibility that the FOMC will deliver on its policy mandates. We should concentrate more explicitly and more publicly on outcome-based policy settings aimed at delivering maximum employment and 2 percent inflation on average through the cycle. It is of great importance to strengthen the public’s understanding of potential policy actions to better deliver symmetric 2 percent inflation expectations. We need to reduce the percentage of the public that believes the FOMC’s 2 percent objective is a ceiling.

Better communicating such an outcome-based approach is a more useful enhancement for bolstering credibility than strict adherence to instrument-based policy rules—a prescription that theoretical analysis often relies on to deliver monetary credibility. Of course, such an outcome-based emphasis would also be beneficial for executing any of the alternative policies under consideration.

To address these issues, I think context and historical perspective are critically important. I am reminded of my time in Bennett McCallum's monetary economics class at Carnegie Mellon back in the 1980s. I distinctly remember Ben saying that much of economics comes down to two simple propositions: 1) people do pretty well for themselves; and 2) there is no such thing as money illusion. This is just a common sense way of saying that the public cares about real quantities; relative prices matter; and that because the public knows and lives by this, they can't be fooled repeatedly.

The Federal Reserve's post-1978 monetary policy strategy has embodied these insights. This was formally stated in the Bernanke era as a long-run strategy for monetary policy statement announced in January 2012.<sup>1</sup> Monetary policy is to pursue maximum employment—disciplined by an assessment of structural and sustainable labor market realities—and low and stable inflation, explicitly defined by a symmetric objective of 2 percent personal consumption expenditures (PCE) price inflation.

Any changes that might be made to our policy framework must be faithful to this overarching strategy of doing our best to satisfy our dual mandate objectives.

Of course, the immediate impetus for thinking about alternative monetary frameworks is the zero lower bound (ZLB) and the extraordinary monetary efforts taken during the Great Recession and its aftermath. Here, I thought Larry Summers's comments at a recent Brookings/Hutchins conference framed the issue quite well.<sup>2</sup>

If we faced a steady-state neutral nominal policy rate of 5 percent, in most circumstances we would have enough monetary capacity to deliver the accommodation necessary to react to downturns or to counter undesired disinflation. Five hundred basis points of easing ought to be enough to provide substantial financial support to the economy while avoiding the ZLB and maintaining an upward-sloping yield curve with vibrant credit intermediation to facilitate the business needs of Main Street.

But today we live in a world where, for well-known reasons, the long-run equilibrium real federal funds rate might optimistically be 1 percent, but it is perhaps lower. Adding in our 2 percent inflation target leaves the long-run nominal rate at 3 percent or lower. That falls well short of that 500-basis-point buffer that Federal Reserve policymakers have needed in the past.

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<sup>1</sup> Federal Open Market Committee (2012).

<sup>2</sup> Summers participated in the conference titled *Should the Fed Stick with the 2 Percent Inflation Target or Rethink It?*, held on January 8, 2018, in Washington, DC, by the Hutchins Center on Fiscal and Monetary Policy at Brookings. Video and audio replays, the transcript, the agenda, and session materials for the event are all available online, <https://www.brookings.edu/events/should-the-fed-stick-with-the-2-percent-inflation-target-or-rethink-it/>.

A number of alternative monetary policy frameworks that could provide additional accommodation have been proposed: An explicitly higher inflation target—say, 4 percent; nominal gross domestic product (GDP) targeting; temporary, state-contingent price-level targeting; and unconditional price-level targeting (PLT).

It is not my intention today to offer any endorsements or critiques of these proposals. As I emphasized previously, I would like to highlight some of the important issues that will likely inform us about the strengths and weaknesses of the various frameworks.

### **Alternative frameworks and their implications for inflation**

Let me turn now more directly to the subject of alternative frameworks and their implications for inflation. These alternative frameworks often allow for a higher inflation rate—either permanently, with a higher inflation target, or temporarily, as policymakers close price-level or nominal-GDP gaps that opened up during protracted periods of below-target performance. What would be the public's reaction to such higher inflation rates? To think about this, it's useful to consider the costs of inflation and the choice of an inflation target.

Traditional monetary theory often focused on the shoe-leather transactions costs associated with high steady-state inflation—notably, those incurred in minimizing holding non-interest-bearing money. Later discussions included menu costs, relative price distortions arising from sticky prices, and interactions between the tax code and inflation.

I would think such costs are lower today than, say, in the 1950s, when Cagan (1956) wrote about money demand and provided foundations for assessing these costs. Interest-bearing transactions accounts, other financial innovations, e-commerce, and partial indexation of the tax code likely reduced these costs substantially.

High inflation variability presents a different set of costs. A common argument for lower inflation objectives is that high average levels of inflation are associated with more variable inflation and that such variability generates real costs for the private sector.

As Herbert Stein said in my undergraduate macro seminar in 1978, the way a country like Israel got to 60 percent inflation was not by starting at 10 percent and increasing it by 10 percentage points each year. It instead followed an extremely volatile path with inflation going from 5 percent to 8, 15, 30, 60, and eventually above 400 percent by 1984—but that was after I graduated from the University of Virginia in 1980!

The risk of this type of out-of-control inflation acceleration and volatility is clear for dysfunctional monetary regimes. And it certainly is very costly. But I am not aware of a theory that delivers such outcomes without the additional fuel of aberrant central banks pursuing objectives other than a stable inflation objective—for instance, if monetary policy were to be subjugated to supporting unsustainable fiscal conditions.

These are general concepts. What about a specific number for the inflation target?

Many monetary economists start their thinking with the Friedman rule, which says that

to compensate for the opportunity cost of holding money, the optimal inflation rate is negative and equal in absolute value to the risk-free interest rate. Others have argued that zero is the appropriate natural focal point.

Alan Greenspan offered up another way to think about price stability: We should seek a rate low enough and stable enough that businesses and households won't factor inflation into their planning (too much).<sup>3</sup> One could argue that because in today's advanced economies we see few real resources expended to mitigate inflation costs, the Greenspan definition supports something around 2 percent for an inflation target.

Central banks around the world have largely settled on 2 percent as an inflation target. I guess it is tempting to think that this consensus must mean that 2 percent is the right answer. I won't go there. But it is useful to explain why 2 percent PCE inflation might be the right answer.

When the Federal Reserve started discussing an explicit inflation target in the 1990s, it certainly recognized that many factors play a role in determining the best inflation objective.

For example, there is the interplay between sticky wages and productivity. As highlighted by Akerlof, Dickens, and Perry (1996), downwardly rigid nominal wages can throw sand in the gears of labor markets and boost unemployment. The basis for trend nominal wage growth is the productivity trend plus long-run inflation, which should equal the inflation target. Accordingly, higher productivity growth—such as we experienced in the late 1990s and early 2000s—can support lower inflation objectives while maintaining nominal wage trends that are high enough to support adequately flexible real wages without undue reliance on a large percentage of nominal wage cuts in order to equilibrate labor markets.

Of course, another key consideration in target choice is how often our monetary policy framework might encounter the zero lower bound. Analyses done in the 1990s and early 2000's indicated that the odds were not large; for example, Reifshneider and Williams (2000) estimated it at about 15 percent. But this calculus has changed; more recently, a 2017 Brookings paper by Kiley and Roberts found that, given today's low productivity trends and a 2 percent inflation target, the probability of hitting the ZLB is closer to 40 percent.<sup>4</sup> This represents a very high risk of experiencing a costly economic event that would require remedies policymakers often find difficult, if not downright distasteful.

Clearly, these ZLB odds would be less under 3 or 4 percent inflation. So a higher inflation objective should be included in any complete list of possible alternative frameworks. The other frameworks under consideration also would include potentially protracted periods of inflation above 2 percent. Closing an underrun of a price-level target necessitates producing higher inflation for a time; and closing a big gap would require a major inflation episode.

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<sup>3</sup> Greenspan (1994).

<sup>4</sup> Kiley and Roberts (2017).

But how do we know such policies will be acceptable to the public? Here, we have to return to the costs of inflation rates and variability that I just ran through.

There are a lot of questions to ask:

- How big are the “inflation tax” and shoe-leather costs at the relevant inflation rates?
- How much of other perceived costs of higher inflation rest on aversion to nominal wage cuts or other issues regarding the differences between real and nominal variables?
- With regard to pursuing a moderately higher inflation objective, is higher variability preordained, even if only temporarily in the level-targeting regimes? Or is our monetary policymaking apparatus robust and credible enough to deliver low variability over a range of inflation objectives?
- Could the central bank successfully communicate the benefits of less protracted and shallower cyclical shortfalls in employment and economic activity that might accompany a higher inflation policy that avoids the zero lower bound? And if it could, how would the public weigh them against the perceived costs of inflation?

The bottom line is that the acceptability of 2 percent versus a higher inflation objective—even temporarily—probably comes down to 1) how well various innovations and indexing have reduced the costs of inflation; 2) perceptions about real and nominal variables; and 3) the ability of central banks to consistently implement policy so that inflation variability is relatively contained at different inflation targets.

Of course, a related set of issues would arise following a protracted period of overshooting a level target. Would the public support the monetary restraint required to deflate a large positive nominal-income or price-level target gap? The lessons of the 1980s were painful. However, because of the asymmetries inherent with the ZLB and the ability of the Fed to confidently enact monetary restraint by simply increasing short-term policy rates, I see the overshooting scenario as less likely than a protracted undershooting of target.

### **Interactions between monetary and regulatory frameworks**

Let’s now turn to the second point about interactions with financial markets and regulatory policies. Achieving our maximum employment and inflation mandates might require some long periods of strong monetary policy accommodation. Is the financial market system and regulatory environment robust enough to limit financial instability risks in such circumstances? Can the Fed conduct an effective and independent monetary policy strategy irrespective of the state of financial markets and regulatory policies?

Financial stability is an important goal of the Federal Reserve. Indeed, the Fed was established to provide an elastic currency that supports credit intermediation. As we were all too aware during the crisis, a breakdown in financial intermediation can have severe consequences for the real economy. So we must ask if some alternative monetary policy frameworks might be more (or less) prone to generating financial

instability risks.

An important channel through which any accommodative monetary policy works is to increase incentives for prudent risk-taking, particularly with respect to physical capital investment opportunities. Lower-for-longer interest rates or policies aimed at reducing term premiums also incentivize financial risk-taking. But most economic models are silent on the regulatory parameters that could check excessive risk-taking should it take place.

What should the FOMC do if our economic and financial stability objectives come into conflict?

I am in the camp that believes that monetary policy tools should focus on achieving our legislative mandates to support maximum employment and price stability. And I'd note that a healthy real economy generally supports financial stability. I believe remaining financial stability concerns are best met by well-structured macroprudential policies supported by vigilant micro-level supervisory and regulatory oversight.

Accordingly, I see the state of financial regulation as important for assessing the effectiveness of these new alternatives. As I mentioned earlier, the proposed alternative frameworks have the potential for requiring protracted periods of accommodation and, if facing the ZLB, heavy use of nontraditional policy tools.

If market discipline and our regulatory structures were too weak and the financial system became too fragile during such actions, then the ability of monetary policy to achieve its dual mandate responsibilities would be harmed. In the extreme, if the actions needed to achieve, say, a price-level target, turned out to be impractical owing to financial fragility concerns, then the credibility of the PLT approach itself would be damaged from the start.

So it is clear that the state of financial regulation must be taken into account whenever a particular monetary framework is being considered. A robust financial market culture, in which excessive risk-taking is punished by market discipline first and regulatory restrictions next, would allow for stronger and likely more effective monetary strategies to be pursued. But a weak self-regulating market culture, without adequate compensating public-sector guard-rails, could perhaps preclude the otherwise most effective monetary framework strategies.

Of course, given the spectrum of competing incentives, these financial regulatory challenges are quite difficult. And a robust macroprudential structure is relevant for any monetary policy structure, including our current one. But—and this is my point here—when designing strategies, we must understand the interactions between the monetary and regulatory frameworks. And we must recognize that these will change over time—both secularly and with the business cycle. I certainly acknowledge that we have much important work to do on this front.



## **Need for outcome-based policies**

As I turn to the third and last issue, I want to reiterate that I am not prejudging any alternative framework today. That being said, within the mix of possible alternatives, the Fed needs to give strong consideration to staying with our current monetary policy strategy. If we do so, we must ensure that it is as robust as possible. I believe an important way of achieving this is to emphasize outcome-based policies.

Over the past several years, most of my monetary policy commentary has emphasized the need for policy setting aimed at achieving our maximum employment and price stability objectives more quickly and with more insurance against costly risk scenarios relative to many other policies—notably, those generated by the well-known monetary policy rules. This is what I mean by focusing on outcome-based policies.

I know that many react by saying this looks like time-inconsistent discretionary policy, and that the literature favors following policy rules. This brings me to the role of policymaker discretion versus adherence to strict policy rules in monetary policy strategy discussions.

This topic is extremely relevant whether we stick with our existing strategy or turn to a new one. For example, price-level and nominal-GDP-level targeting provide relatively specific guidance on how monetary policy should evolve from period to period (if not FOMC meeting to FOMC meeting); the degree of discretion would likely be a good deal less than in the Fed's current "balanced approach" long-run policy strategy. How should we weigh this difference when assessing the policies?

In such discussions, I think outcome-based policy action should take precedence over instrument-based decision rules. Changes in the economic environment may reduce the effectiveness of a strict instrument-setting rule or, at times, even make it counterproductive—for instance, if we were to insist on a 2 percent intercept in a Taylor rule when we think the equilibrium funds rate is really closer to zero. A policy focused on hitting mandated outcomes and risk management against adverse scenarios can avoid such missteps. By using informed discretion in instrument setting, a central bank can do a better job in delivering on its ultimate employment and inflation targets.

Therefore, when judging one alternative against another, it's not a particular policy's adherence to an instrument decision rule that is important, but instead its ability to deliver on the central banks' mandated policy goals.

Here I would also note that that discretion and time inconsistency in an optimal-control policy rule need not lead to undesirably high inflation. Of course, it does in the familiar benchmark for this topic—the Barro–Gordon model.<sup>5</sup> But this is because the model hardwires pursuing an unsustainably low level of unemployment in policymakers' preferences. The central bankers succumb to the lure, break the predetermined optimal plane, and, voilà, generate inflation.

But by a similar argument, extreme distaste for inflation among conservative central

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<sup>5</sup> Barro and Gordon (1983).

bankers could lead to a downward bias in inflation. Ken Rogoff's conservative policymakers' preferences not only eschew unsustainably low unemployment, they create a policy strategy that, on average, generates below-target inflation. In effect, the inflation target is no longer symmetric. It is more like a ceiling that the conservative central banker is loath to breach.

Now, I don't want to be misread as saying that time consistency is unimportant. Rather, I feel in practice the issue is less about instrument setting and more about the need for policymakers to maintain a consistent, clear view of their long-run objectives and implement the best policies that will achieve these goals.

Indeed, successfully communicating such a commitment in advance and demonstrating it strongly when the time comes would be key to establishing and maintaining the credibility of any new operating framework. The new framework must be seen as an innovative way to achieve the existing policy mandate—and not as a simple change in the goalposts.

In sum, I think that emphasizing outcome-based policies is key for our current policy framework and for evaluating any alternatives we consider. Critiques over time consistency, discretion, and bias in policymaker preferences all need to be judged against the strategy's ability to deliver on the central bank's mandated policy objectives. We must remember that not every theoretical impurity translates into a real-world stumbling block and that the real world is not as straightforward as the simple economies we write down in our models.

Thank you.

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