

Systematic Policy and Forward Guidance

Money Marketeers of New York University, Inc.
Down Town Association

New York, NY

March 25, 2014

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President and CEO
Federal Reserve Bank of Philadelphia



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OF PHILADELPHIA

The views expressed today are my own and not necessarily
those of the Federal Reserve System or the FOMC.

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Highlights

- President Plosser highlights the relationship between systematic monetary policy and forward guidance. His goal is to help underscore how a systematic approach to monetary policy can improve the effectiveness of monetary policy in both normal times and in more unusual or extreme circumstances, such as when policy is constrained by the zero lower bound on nominal interest rates.
- President Plosser's preference for dealing with forward guidance is for the FOMC to articulate a reaction function as best it can. This entails describing a systematic approach to policymaking, where policy decisions are based on available information in a consistent and predictable way.
- President Plosser believes the most recent FOMC statement took a step in this direction when it moved to a qualitative form of forward guidance by stating that the Committee will be assessing progress – both realized and expected – toward its policy objectives.

Introduction

I want to thank William Kanto and the Money Marketeers for inviting me to speak again this evening. Your series of guest speakers over the years has been quite illustrious, and it has included many Federal Reserve governors and presidents, not to mention distinguished economists and a wide array of others. So, before I share some thoughts on monetary policy with you tonight, I will begin with the usual disclaimer that my views are my own and do not necessarily reflect those of the Federal Reserve System or my colleagues on the Federal Open Market Committee (FOMC). Of course, that disclaimer is a two-way street, and you should not necessarily associate the views of my colleagues with my views.

I believe that this diversity of views among FOMC participants does more than assure variety among your guest speakers. It is one of the great strengths of our decentralized central bank. Open dialogue and diversity of views leads to better policy decisions and is the primary means by which new ideas are gradually incorporated into our monetary policy framework. Thus, I believe diversity of thought is a sign of thoughtful progress. As I noted in 2009 when I last spoke to you, the famous American journalist Walter Lippmann once said, “Where all men think alike, no one thinks very much.”

Tonight I would like to focus on a particular aspect of current monetary policy that has been a source of much discussion and debate – forward guidance – that is, the practice of providing information on the way monetary policy is likely to evolve in the future. Forward guidance has taken on greater significance since the FOMC lowered the target federal funds rate to essentially zero more than five years ago. Facing this zero lower bound constraint on its primary policy instrument, the FOMC has been attempting to implement monetary policy, in part, by influencing expectations of future policy. The logic for this approach derives from the important role expectations play in shaping economic outcomes. If monetary policy can affect those expectations in specific ways, it can influence current economic conditions.

The approach I want to take in my discussion is to highlight the relationship between such forward guidance and systematic monetary policy. By systematic, I mean setting policy in a rule-like or largely predictable manner in response to changes in economic conditions. Forward guidance and systematic monetary policy are closely related. Understanding this relationship can provide insights into effective monetary policy in both normal times and in more unusual or extreme circumstances, such as when policy is constrained by the zero lower bound on nominal interest rates.

So, I will begin with a brief review of the benefits of systematic policy. I will highlight why I think most academic economists have concluded that conducting monetary policy in a rule-like manner is preferable to regimes that are more discretionary.

Systematic Policy

For someone my age, it doesn't seem all that long ago when it was taken for granted that central banking was supposed to be mysterious and secretive — the less said about monetary policy the better. Indeed, it wasn't until 1994 that the FOMC began to publicly announce the policy changes made at an FOMC meeting. Up until then, the markets were left to infer the policy action from the Fed's behavior in the market.¹

But times have most definitely changed. Transparency has replaced secrecy, and open communications have replaced mystery. While there are those who long for those thrilling days of yesteryear when central bankers said little and communicated even less, I don't think we can turn back the clock — nor should we.

Economic science has come a long way in the past 30 years, and one of the most important developments has been the recognition of the important role that expectations play in understanding economic outcomes. This is particularly evident in financial markets, where investment decisions and the valuation of securities depend on assessments of future economic outcomes. But this is also true for individuals buying homes and businesses making capital investments.

When businesses and households have a better understanding of how monetary policy is likely to evolve, they can make more informed spending and financial decisions. If policymakers can reduce uncertainty about the course of monetary policy, the economy is likely to perform more efficiently. Thus, monetary policy that is more systematic and predictable can reduce expectational errors and contribute to a more stable and efficiently functioning economy. This recognition of the important role played by expectations has led many academics and policymakers to stress the importance of credibility and commitment to well-articulated monetary policy objectives. It has also led to extensive research on monetary policy rules that can enhance the predictability of policy. In fact, virtually all of the mainstream macroeconomic

¹ See the Federal Reserve Bank of Philadelphia, "Timeline to Transparency," www.philadelphiafed.org/about-the-fed/transparency/ (accessed March 22, 2014).

models are built upon the presumption that monetary policy is conducted in a rule-like manner that is well understood by all agents in the economy.

In their Nobel Prize-winning work, Finn Kydland and Ed Prescott demonstrated that a credible commitment by policymakers to behave in a systematic, rule-like manner over time leads to better outcomes than discretion.² In monetary policy, less discretionary behavior and a commitment to a more systematic approach have been shown to lead to more economic stability – lower and less volatile inflation and less volatile output.

Yet, the science of monetary policy has not progressed to the point where we can specify the optimal rule for setting monetary policy and turn decisions over to a computer. Judgment is still required. Moreover, optimal rules, that is, those that maximize economic welfare, are highly dependent on the particular model from which they are derived. For example, the optimal rule for one model can produce very bad outcomes in another model. In addition, optimal rules can often be quite complex, thus making them difficult to implement and to communicate to the public. In other words, they may not be very transparent.

However, these limitations to implementing optimal policy rules should not prevent us from adopting a systematic approach to the conduct of policy. There has been a great deal of progress in identifying simple, robust rules that appear to perform well in a variety of models and environments. Such robust rules can form a basis for developing more systematic, rule-like policymaking. This rule-like approach does not mean one can know the future or what future policy decisions will be. You often hear policymakers speak of policy as being data dependent, and indeed, it is. But the data should feed into a systematic decision-making process so that policy will be similar in similar environments. One way to think about this systematic part of policy is as a reaction function with parameters that are largely stable over time.

² Finn E. Kydland and Edward C. Prescott, “Rules Rather than Discretion: The Inconsistency of Optimal Plans,” *Journal of Political Economy*, 85 (January 1977), pp. 473–91.

One important and desirable characteristic of such a reaction function is that it can be easily articulated to the public. This greatly improves the transparency and predictability of monetary policy, which reduces surprises. Everyone is more informed about the course of monetary policy because they understand how policymakers are likely to react to changing economic circumstances.

The most well-known simple rule is that proposed by John Taylor in 1993.³ The Taylor rule calls for setting the nominal fed funds rate based on three factors. The first represents the economy's long-run real interest rate, perhaps the steady-state real interest rate, plus the Fed's target rate of inflation. This is sometimes referred to as the normal, or neutral, nominal rate of interest.

The second factor is a function of the deviation of inflation from the central bank's target or goal. If inflation is above the target, the Taylor rule says the funds rate should be higher, and if it is below target, the funds rate should be lower. The third element in the Taylor rule calls for an adjustment of the funds rate to departures of real GDP from some measure of "potential" GDP. Simply put, when GDP is below "potential," the funds rate should be reduced, and when it is above, it should increase.

I will point out that our recent thresholds did not provide a reaction function. They simply suggested a range of economic conditions under which we would not act. They conveyed nothing about our actions in other states of the economy. In my view, this was one of the major drawbacks to the approach and the reason changes were needed.

Over the past 20 years, the Taylor rule has garnered a great deal of attention and study. Many variations have been proposed and their properties investigated. Almost all the simple rules that have been found to be robust over a range of models have very similar constructions and can be expressed as variants of Taylor's original specification. Of course, the Fed has never

³ John B. Taylor, "Discretion Versus Policy Rules in Practice," *Carnegie-Rochester Series on Public Policy*, North-Holland, 39, 1993, pp. 195–214.

adopted a formal reaction function or simple rule for setting monetary policy. But the FOMC does look at the implications of various rules for interest rates when it makes its policy decisions.

The fact that the FOMC has not adopted a formal reaction function might reflect the desire for discretion on the part of some policymakers. But it also reflects the difficulty in reaching a consensus. The Committee is composed of 19 members with varying views about how the economy functions, the shocks affecting the economy, and how policy should be set to meet the FOMC's monetary policy goals. Despite not having formally adopted a particular rule, the Fed appeared to behave in a systematic way at various times in the past. Indeed, Taylor's 1993 article noted that his rule approximated Federal Reserve policy setting over the 1987–1992 period, save for a deviation during the stock market crash of 1987.

I believe that despite the challenges, there would be large benefits to the FOMC reaching a consensus on a reaction function that could serve as a useful guide to understanding its behavior. Those benefits would be in the form of increased transparency and in the alignment of the public's expectations with policymakers' intentions. As I've discussed before, there are limitations to the use of simple rules, and no central bank can be constrained by one simple rule in all circumstances. Rules are basically intended to work well on average, but any central bank looks at many variables in determining policy. There will be times when policy must deviate from a reaction function or policy rule. However, simple rules do provide valuable benchmarks for assessing the appropriate stance of policy. They also provide guidance about the likely path of policy and thus are intended to reduce volatility. However, this outcome cannot happen unless the central bank is willing to publicly communicate a reaction function or rule.

Another benefit of articulating a rule is enhanced accountability. There will inevitably be times when economic developments fall outside the scope of our models and warrant unusual monetary policy action. Events such as 9/11, the Asian financial crisis, the collapse of Lehman Brothers, and the 1987 stock market crash may require departures from the simple rule.

Having articulated a rule guiding policymaking in normal times, the policymaker will be expected to explain the departures from the rule in these unusual circumstances. With the rule as a baseline, departures can be quantified and inform us how excessively tight or easy policy might be relative to normal. If the events are temporary, policymakers will have to explain how and when policy is likely to return to normal.

Thus, I see several benefits to the FOMC reaching a consensus on a reaction function or policy rule, including aligning expectations for policy and enhancing transparency and accountability of the policymaking process.

Forward Guidance

One way to think about the policy reaction function is as a form of forward guidance. Indeed, it is perhaps the best and most useful form of forward guidance.

In normal times, forward guidance provides the public with information about the expected path of policy. As I've discussed, forward guidance is a form of transparency that reduces volatility by reducing policy uncertainty relative to discretionary decision-making.

However, with the policy rate at or near zero, forward guidance can play a role in increasing the degree of accommodation. When the policy rate is constrained by the zero lower bound, the future policy rate becomes potentially more important than the current policy rate in influencing current economic conditions through its impact on expectations. In some models, when faced with the zero lower bound, it can be desirable to indicate that future policy rates will be kept lower for longer than might otherwise be the case.⁴ Thus, policymakers may want to deliberately commit to deviating from what they would otherwise choose to do under normal conditions, such as following a Taylor-like rule or their normal reaction function. In these models, such a commitment would tend to raise inflation expectations and lower long-run nominal rates, thereby inducing households and businesses to spend more today.

⁴ Gauti B. Eggertsson and Michael Woodford, "The Zero Bound on Interest Rates and Optimal Monetary Policy," *Brookings Papers on Economic Activity*, no. 1, 2003, pp. 139–211.

This use of forward guidance asks more of policymakers than just articulating a reaction function. In a sense, it requires more of a commitment from policymakers; it requires them to commit to a future path that will not be time consistent if policymakers were only forward looking. Instead, policymakers need to commit to a policy path that is history dependent. As I noted, you can think of this as a commitment to deviate from a prior reaction function, particularly if that reaction function makes no provision for operating at the zero lower bound. If such a commitment can be made credible, it can yield better economic outcomes. But managing the public's beliefs about the future policy path is challenging if policymakers must convince the public that they will not behave as they have in the past. And I would argue that that is the circumstance that the FOMC faces.⁵

Managing expectations is even more challenging when policymakers have not been clear about the reaction function they use in normal times. How can policymakers credibly commit to deviate from something they have never committed to in the first place? How can policymakers convey that they will be implementing policy that is more accommodative than normal when they have not been clear about what would constitute the normal degree of accommodation?

Managing the public's expectations may be not only difficult but also counterproductive. Without the public's understanding of policymaking in normal times, trying to pursue a commitment to looser-than-normal policy may send the wrong signal. For example, if the public hears that the policy rate will be lower for longer, it may interpret the message as policymakers saying that they expect the economy to be weaker for longer. If this is the interpretation, then the forward guidance will weaken rather than strengthen current spending.

⁵ This would not be the case if the reaction function or rule explicitly described how policy would be conducted at the zero lower bound. In that case, new forward guidance would not be required, as the reaction function would have already notified the public what to expect.

Where Do We Go from Here?

My preference for dealing with forward guidance is for the FOMC to articulate a reaction function as best it can. This entails describing a systematic approach to policymaking where policy decisions are based on available information in a consistent and predictable way. I believe the most recent FOMC statement took a step in this direction when we moved to a qualitative form of forward guidance by stating that we will be assessing progress – both realized and expected – toward our policy objectives. The idea that policy will change as we approach our objectives has the flavor of a reaction function.

But, of course, there is more work to do. Because we do not know the true model of the economy, I would suggest the Committee begin by considering a set of robust policy rules designed to have good results in a variety of models and across various stages of the business cycle. Such robust rules recognize that data are measured imprecisely and are subject to revision.

These robust rules typically indicate that policy should respond to changes in the gap between inflation and the inflation goal, and to changes in the deviation of output from a measure of potential output, or to changes in unemployment from the steady-state or the natural rate of unemployment. Most robust rules suggest that the reaction to the changes in the inflation gap be more than one-for-one and should exceed the reaction to changes in the output or unemployment gap. The rules also suggest that policy should be somewhat inertial. By recognizing the fundamental difficulty in measuring potential output or the natural rate of unemployment, I think a good case can be made to consider rules that rely on the growth of output or changes in the unemployment rate or employment growth.

I want to stress that these rules suggest that policy should respond to changes in the output or unemployment gap not because policy is seeking to fine-tune the real economy but because doing so allows the economy to efficiently use resources given the economic disturbances that it experiences.

By considering such robust rules, the FOMC might be able to move toward a consensus on a qualitative description of its reaction function as an important first step. For example, we would not have to specify the precise mathematical rule but would provide assessments of key variables and then communicate our policy decisions in terms of changes in these key variables. If policy were changed, then we would explain that change in terms of how the variables in our response function changed. If we choose a consistent set of variables and systematically use them to describe our policy choices, the public will form more accurate judgments about the likely course of policy – thereby reducing uncertainty and promoting stability.

The FOMC has kept the federal funds rate at effectively zero since December 2008. For much of this time, interest rate rules suggested that the zero lower bound on nominal interest rates was constraining policy; in other words, that nominal rates should be negative if that were possible. However, many robust rules now suggest that given the progress the economy has made over the past year, policy either is no longer constrained or will soon not be constrained by the zero bound. That is, they indicate that the policy rate should be above zero.

Rule-based policymaking would require the FOMC to indicate how it plans to adjust policy to a more normal stance. The Committee could decide to simply follow the prescriptions offered by the reaction function. Or instead, the Committee might decide that normalization will be delayed with a more gradual adjustment of rates relative to the prescriptions of the reaction function. But even if the FOMC were not prepared to choose a particular rule, it could articulate more clearly a qualitative reaction function that would serve as a baseline for future changes in policy as we exit the zero lower bound. It is my belief that doing so would be a more understandable form of forward guidance, less subject to misinterpretation as policy transitions from unusual times to more normal times.