

## **The Tools of the FOMC**

Narayana Kocherlakota  
President  
Federal Reserve Bank of Minneapolis

Fargo Area Business Leaders  
Fargo, North Dakota

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Thanks for the generous introduction, Howard. I'm delighted to have this opportunity to speak with all of you today, and especially to make my first official visit to Fargo as president of the Federal Reserve Bank of Minneapolis. Of course, as someone who grew up in Winnipeg, I am very familiar with Fargo and the Red River Valley. My family made many trips down here over the years. I found in Wikipedia that the West Acres Mall opened on August 2, 1972. I can't remember for sure, but it's certainly possible that we visited the mall on August 3!

I'm especially pleased that one of the members of our Minneapolis Board of Directors, Howard Dahl, was here today to introduce me. As you just heard from Howard, he and other members of our board play an important role in the Federal Reserve System, as do members of our advisory councils on agriculture, and small business and labor. I won't mention all the members of those groups, past and present, who are in attendance today, for the list is long, but I thank you for your service.

As Howard just mentioned, I became president of the Federal Reserve Bank of Minneapolis last October. Here's the start of a rather typical conversation that I would have had with my friends and relatives last fall. "Congratulations! That's fantastic. Now, what is it that you will do exactly?"

As it turns out, the job has a lot of interesting aspects. But I think I've been invited to speak here today because I help formulate monetary policy for the United States. So what I plan to do is give you some feel for how this part of my job works. In doing so, I'll highlight the Federal Reserve's quintessentially American structure. Unlike the central banks of other countries, you'll see that ours is specifically designed to draw upon the insights of small-town

businesses, farmers and ranchers, and large manufacturers, among others, to formulate monetary policy. Before I proceed, I must remind you that any views I express here today are my own, and not necessarily those of others in the Federal Reserve System.

What do I mean by an American structure? Well, relative to its counterparts around the world, the U.S. central bank is highly decentralized. The Federal Reserve Bank of Minneapolis is one of 12 regional Reserve banks that, along with the Board of Governors in Washington, D.C., make up the Federal Reserve System. Our bank represents the ninth of the 12 Federal Reserve districts and includes Montana, the Dakotas, Minnesota, northwestern Wisconsin, and the Upper Peninsula of Michigan.

Eight times per year, the Federal Open Market Committee—the FOMC—meets to set the path of short-term interest rates over the next six to seven weeks. All 12 presidents of the various regional Federal Reserve banks—including me—and the seven governors of the Federal Reserve Board contribute to these deliberations. (Actually, in the September meeting, there were only four governors. The good news is that we are back up to six governors, and the White House has nominated Peter Diamond—who just won the Nobel Prize in economics—for the remaining vacancy.) However, the committee itself consists only of the governors, the president of the Federal Reserve Bank of New York, and a rotating group of four other presidents (currently Cleveland, St. Louis, Kansas City, and Boston). I'll be on the committee in 2011.

In this way, the structure of the FOMC mirrors the federalist structure of our government. Representatives from different regions of the country—the various presidents—have input into FOMC deliberations. The input from the presidents relies critically on information they receive from their districts about local economic performance. We obtain this information through the work of our research staffs—but we also obtain it from business leaders in industries and towns,

in my case, across the Upper Midwest. The Federal Reserve System is deliberately designed so that the residents of Main Street are able to have a voice in monetary policy.

So how exactly do the FOMC meetings work? In the remainder of my remarks, I'll take you inside an FOMC meeting. Its structure provides a perfect vehicle to communicate the key considerations confronting monetary policymakers in the United States.

The typical FOMC meeting features two so-called go-rounds, in which every president and every governor has a chance to speak without interruption. The first go-round is referred to as the economics go-round. The meeting participants describe their views on current economic conditions and their outlook for future economic conditions. The presidents' remarks will typically include references to their own local economies, as well as the national and global situation.

As part of my contributions to the economics go-round in the last couple of meetings, I discussed my outlook for GDP, inflation, and unemployment. In terms of GDP, I believe that a modest recovery is under way and is likely to continue. In terms of inflation, I expect a slight but welcome uptick over the next 18 months. Finally, in terms of unemployment, I see ongoing problems in labor markets.

I'll talk first about GDP. Real GDP growth has been positive in each of the past four quarters, and the government's final estimate is 1.7 percent for the second quarter of this year. Based on forecasts from our Minneapolis model, I expect that GDP growth will be around 2.4 percent in the second half of 2010 and around 2.5 percent in 2011. Together over 2010 and 2011, I expect that GDP will grow around 2.5 percent per year. In contrast, in my first speech about seven months ago, I predicted that GDP would grow around 3.0 percent per year over 2010 and 2011. There is a recovery under way in the United States. But it is a distinctly modest one—and

even more modest than I expected at the beginning of this year.

Let me turn now to inflation. From the fourth quarter of 2009 through the second quarter of 2010, the change in the PCE price level was just over 0.5 percent, which works out to an annual rate of just over 1 percent. The Fed's price stability mandate is generally interpreted as maintaining an inflation rate of 2 percent, and 1 percent inflation is often considered to be too low relative to this stricture. I expect inflation to remain at about this level during the rest of this year. However, our Minneapolis forecasting model predicts that it will rise back into the more desirable 1.5-2 percent range by the second half of 2011.

So the news about inflation and GDP is in the "OK, but certainly could be better" category. However, the lack of vitality in the U.S. labor market can only be termed disturbing. The national unemployment rate remained at 9.6 percent in September. Private sector job creation remains weak—only 64,000 net private sector jobs were created in September. I do not expect the unemployment rate to decline rapidly, and so I expect it to be above 8.0 percent well into 2012.

If one digs deeper into the data, the situation seems even more troubling. The National Bureau of Economic Research dates the end of the recession as having occurred in June 2009. Correspondingly, from June 2009 through August 2010, the demand for labor among employers seemed to rise modestly. Since December 2000, the Bureau of Labor Statistics has been keeping data on the job openings rate, which is defined as the number of job openings divided by the sum of job openings and employment. It has also been keeping track of the layoffs/discharges rate, which is the fraction of employed people who have been laid off or discharged in a given month. From June 2009 to August 2010, the job openings rate rose by 26 percent. Over the same period, the layoffs/discharges rate fell by nearly 18 percent.

Nonetheless, despite this apparent increase in the demand for labor from employers, the unemployment rate actually went up slightly from June 2009 to August 2010, from 9.5 percent to 9.6 percent. And other measures of labor market performance actually tell an even bleaker story. From June 2009 to August 2010, the employment/population ratio fell from 59.4 percent to 58.5 percent. At the same time, the seasonally adjusted labor force participation rate fell from 65.7 percent to 64.7 percent.

That was essentially my input into the economics go-round of the FOMC at the last two meetings. GDP is growing, but more slowly than we would like. Inflation is a little low, but only temporarily. The failure of unemployment—and the labor market more generally—to respond to the modest increase in labor demand is deeply troubling.

After the economics go-round, the FOMC meeting then transitions to its second phase, the policy go-round. Again, the meeting participants have a chance to speak in turn about what they perceived to be the appropriate policy choices for the committee. We all are committed to achieving the Fed's dual mandate to attain both price stability and maximum employment. The former objective is generally understood as keeping inflation in a tight range around 2 percent. The second part of the mandate is much more of a moving target. Employment is shaped by many determinants beyond the Fed's control: demographics, social custom, taxes, and so on. The Fed's job is to keep employment as high as possible, given these other factors.

Currently, the FOMC has two quite distinct tools: short-term interest rates and balance sheet management. In terms of the former, the FOMC has set its target range for the fed funds rate at between 0 and 25 basis points. It has committed to keeping the rate in that range for "an extended period," contingent on economic conditions being appropriate. The FOMC is also maintaining a portfolio of roughly \$2.3 trillion. Over 2 trillion of those dollars are invested in

Treasury securities or government-backed securities issued by Fannie Mae, Freddie Mac, and other government-sponsored enterprises.

In his address at the Federal Reserve Bank of Kansas City's annual policy forum in August, Chairman Bernanke described three ways to use these tools if the FOMC chooses to provide further stimulus. The first is to buy more long-term securities. The second is to offer more forward guidance in the FOMC statement. The third is to reduce the interest on excess reserves (IOER) by 15 or even 25 basis points. As Chairman Bernanke indicated, using these tools does not come without costs, and due consideration must be made of both costs and benefits. Along those lines, I will discuss my thoughts on how these tools impact the economy. Again, I must underscore that my thoughts are my own and do not represent the views of anyone else in the Federal Reserve System.

Let me talk first about forward guidance. In part, firms make their decisions about capital expenditures and hiring by comparing the returns to those internal projects to the inflation-adjusted yields available in financial markets for investments of similar horizon. Thus, the real yields on medium-term and long-term government bonds matter for firm investment decisions. Those yields are, in part, shaped by current expectations of future short-term interest rates. The current FOMC statement shapes those expectations by providing forward guidance about its future plans for the behavior of the fed funds target.

Right now, the FOMC states that it will keep the fed funds target range exceptionally low for as long as economic conditions warrant. The statement also predicts that exceptionally low fed funds rates are likely to be warranted for an "extended period" of time. In this way, the statement influences current expectations of future short-term rates and thereby shapes current medium- and long-term interest rates. The FOMC could provide stimulus by saying that it

predicts that low rates are likely to be warranted for an even longer period of time than an “extended period.” This kind of stronger language should lead to a decline in medium-term and long-term interest rates.

I view lowering the IOER as another form of forward guidance. I think that it is unlikely that lowering the IOER by 15 or 25 basis points will have much direct effect on loan markets. However, it is likely that investors would view this move as a signal that the FOMC is planning to keep its target rate even lower for an even longer period of time. In that way, lowering the IOER would serve to lower medium-term and long-term interest rates.

So, the FOMC can influence the economy through various forms of forward guidance about how long it plans for the fed funds rate to be so low. However, the FOMC has another tool at its disposal: what is often termed quantitative easing—QE for short. Under quantitative easing, the FOMC buys long-term securities in the open market. In exchange for those securities, it credits the sellers’ accounts at the Fed with more reserves. The upshot is that there are fewer long-term securities being held by private investors, and banks hold more reserves.

Just to be clear on one point: The FOMC is only authorized by Congress to buy a limited set of securities. Ideas like “the FOMC should buy corporate bonds” would require a change to the Federal Reserve Act—a change that I for one would view as undesirable. In meetings earlier this year, FOMC participants indicated their strong preference to return to an all-Treasury portfolio. So, I’ll proceed in this speech under the presumption is that any new purchases would take the form of long-term Treasuries. But, as I’ll discuss, the idea behind QE is that the yields on those long-term Treasuries will affect yields on all long-term securities.

I see QE as affecting the economy in four main ways. I’ll first discuss them from a theoretical perspective and then discuss what’s known about these effects empirically.



The first effect of QE is that it represents another form of forward guidance about the path of the fed funds rate. It is a way for the FOMC to signal—in a perhaps more striking way—that it plans to keep the fed funds rate low for an even longer time to come.

Second, QE creates more reserves in banks' accounts with the Fed. The standard intuition is that this kind of reserve creation is inflationary. Banks can only offer checkable deposits in proportion to their reserves. Economists view checkable deposits as a form of money because, like cash, checkable deposits make many transactions easier. In this sense, bank reserves held with the Fed are *licenses* for banks to create a certain amount of money. By giving out more licenses, the FOMC is allowing banks to create more money. More money chasing the same amount of goods—voila, inflation.

This basic logic isn't valid in current circumstances, because reserves are paying interest equal to comparable market interest rates. Banks have nearly \$1 trillion of excess reserves. This means that they are not using a lot of their existing licenses to create money. QE gives them new licenses to create money, but I do not see why they would suddenly start to use the new ones if they weren't using the old ones. With that said, I have indicated in earlier speeches that \$1 trillion of excess reserves does create a *potential* for high inflation at some point in the future if the FOMC does not react sufficiently fast when it starts to see inflationary pressures. But I do not see this risk as being heightened in any meaningful way by banks holding even more excess reserves than what they are holding today.

The third effect of QE is the one that is usually stressed: It reduces the exposure of the private sector to interest rate risk. The holder of a long-term Treasury is exposed to interest rate risk. If interest rates rise, the price of the bond falls, and the bondholder is less wealthy. Now think about an example of QE in which the Fed buys \$1 billion of 10-year Treasuries. On the

margin, the bond portfolio of the private sector is now less exposed to interest rate risk. As a consequence, private investors will demand a lower premium for holding other bonds that are exposed to interest rate risk. All long-term yields fall, and so firms should be more willing to undertake long-term capital expansions or hire permanent employees.

The fourth effect of QE is less widely discussed. The Fed cannot literally eliminate the exposure of the economy to the risk of fluctuations in the real interest rate. It can only *shift* that risk among people in the economy. So, where did that risk go when the Fed bought the long-term bond? The answer is to taxpayers.

To see this more clearly, suppose hypothetically that the Treasury wants to borrow \$1 billion today and is choosing between two ways of doing so. One way is to issue a 20-year, zero-coupon, inflation-indexed bond. The bond requires the Treasury to repay \$1.5 billion in real terms in 20 years (roughly a 2 percent real yield). Under this plan, taxpayers face no tax risk, but the buyers of the bond can lose a lot if real interest rates rise greatly. The other way is to issue \$1 billion of one-year indexed bonds and then keep rolling over that debt for 20 years. Now, taxpayers have to repay a lot more than \$1.5 billion in 20 years if short-term real interest rates end up being high.

Basically, if the government uses short-term debt, it exposes taxpayers to interest rate risk. If it uses long-term government debt, it exposes the bondholders to interest rate risk. QE is a special case of this general principle: When the Fed buys long-term government debt from the private market, it shifts interest rate risk from bondholders to taxpayers.

What is the ultimate impact on the overall economy of this shift in risk? In the baseline models used by central banks, all bondholders are taxpayers. In these models, QE is essentially shifting risk from one pocket to another. As a result, the increase in tax risk (what I'm calling the

fourth effect of QE) completely undoes the decrease in interest rate risk (the third effect of QE). QE ends up having no effects, except for those associated with any new forward guidance that it signals.<sup>1</sup>

QE will have nontrivial effects over forward guidance in the context of a more realistic model in which people differ from one another in some relevant way. Along those lines, we might think that some people are active participants in the Treasury markets. Others are not. Then, if the Fed buys long-term Treasuries, it takes risk from the former group and imposes it on the second group. The ultimate macroeconomic impact of QE depends on the extent to which the extra tax risk deters economic activity on the part of this second group. We know little about this effect, either theoretically or empirically.

To this stage, my discussion of QE has been purely theoretical in nature. The Fed engaged in QE from January 2009 through March 2010 by buying over \$1.5 trillion worth of agency debt, agency mortgage-backed securities, and Treasuries. How did this operation—termed the Large-Scale Asset Purchase, or LSAP program—affect the economy? We don't know as much as we would like as yet. However, I think that the best empirical work on the question of how the LSAP affected long-term Treasury yields has been done by Gagnon, Raskin, Remache, and Sack (2010). The paper is a thorough investigation of this key issue. My conclusion from their work is that the LSAP reduced the term premium on 10-year Treasury bonds relative to 2-year Treasury bonds by about 40-80 basis points (on an annualized basis). (The term premium is a measure of the difference in yields that is not explained by the expected path of short-term interest rates.) This fall in term premia led to a slightly smaller fall in the term premia of corporate bonds.

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<sup>1</sup> For example, Eggertsson and Woodford (2003) prove that QE has no real or inflationary impact over forward guidance in their representative agent New Keynesian model. In their proof, they assume that taxes are not distorting.

These estimates are extremely useful benchmarks. My own guess is that further uses of QE would have a more muted effect on Treasury term premia. Financial markets are functioning much better in late 2010 than they were in early 2009. As a result, the relevant spreads are lower, and I suspect that it will be somewhat more challenging for the Fed to impact them.

I've talked about three possible tools—lowering the IOER, strengthening the forward guidance in the FOMC statement, and quantitative easing. As I mentioned earlier, Chairman Bernanke observed in his August 27 speech that each of these tools has benefits and drawbacks that must be balanced against each other. With QE, I would say that the multiple novel effects make the calculus even more difficult than usual.

So, I've taken you through a typical FOMC meeting and the monetary policy situation in the United States. My discussion may have struck you as somewhat technical, and this is no accident. The FOMC meeting participants are a group of unabashed technocrats, seeking to solve an unabashedly technical problem: How do we manage monetary policy so as to ensure lower unemployment and maintain inflation at an appropriate rate? We certainly disagree with one another on occasion. But our disagreements ultimately stem from different assessments of the complicated economic situation and not from political differences.

I believe that the apolitical nature of the FOMC's work hinges critically on another aspect of central bank structure, and that has to do with the Federal Reserve's relationship with the U.S. Congress. On the one hand, the Federal Reserve is a creation of Congress. It has the power to amend the Fed's responsibilities, as the recent financial reform legislation certainly attests. The Senate approves the presidential appointments to the Board of Governors. Both chambers receive regular reports from the Board of Governors on the conduct of monetary policy, financial

supervision, and the payments system. In addition, the Federal Reserve undergoes regular audits of its finances and various operations.

On the other hand, Congress has intentionally removed itself from the direct conduct of monetary policy by granting the Federal Reserve the independence to perform this function on its own. In effect, Congress has said that it does not want monetary policy unduly affected by political considerations. This independence is not only a hallmark of this country's central bank, but is also a characteristic of developed economies worldwide.

So I've talked about a lot of issues today, and I could certainly talk about a lot more. But I have a feeling that you've got plenty of questions, and we are likely to hit on many key topics. So I will stop here and happily take your questions.

Thank you once again for this opportunity.

## References

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