

## Comments and Discussion

### COMMENT BY

**CHARLES W. CALOMIRIS** This impressive paper by Jeffrey Campbell, Charles Evans, Jonas Fisher, and Alejandro Justiniano contains many useful facts about monetary policy, and its existence itself is an interesting fact, because one of its authors is an important monetary policymaker seeking to influence Federal Reserve actions and the market's perceptions of them. Charles Evans is among the most aggressive advocates of monetary expansion within the central bank, and he has elsewhere proposed a novel approach to expansion, called the "7/3" approach. Under that proposal the Federal Reserve would not only expand the money supply but promise to continue expanding it so long as the unemployment rate is above 7 percent, unless the annual inflation rate rises above 3 percent. To build his case for such a new policy commitment, Evans has written this paper with three other economists at the Federal Reserve Bank of Chicago, arguing, first, that the Federal Reserve has already been making similar sorts of policy commitments, and second, that these commitments have been very effective policy tools.

The central factual claim in the paper is that forward guidance by the Federal Reserve has not merely provided information to the markets, in what the authors term "Delphic" forward guidance; they argue that some of the observed market consequences of forward guidance can *only* be understood as evidence of a perceived commitment by the Federal Reserve to the markets, which the authors label "Odyssean" forward guidance. In their view this evidence of market reactions to Federal Reserve commitments shows how powerful such commitments can be, and therefore buttresses the case for more of the same today (the 7/3 proposal).

As every student of Homer's classics is aware, however, there is more than one possible meaning for the term "Odyssean policy." In Homer's

*Odyssey*, Odysseus did indeed use a commitment device to prevent himself from falling prey to the song of the Sirens (the meaning the authors intend in referring to “Odyssean” forward guidance), but in the *Iliad* he also was the architect and perpetrator of the most effective deception in the history of warfare. Just as the Trojan Horse helped the Greeks convince the Trojans to abandon their defenses, so might an advocate of new monetary commitments lower the guard of markets and other policymakers by persuading them that the Federal Reserve has made such commitments successfully in the past. Which of these two “Odyssean” policies does this paper do more to illuminate, the power of past Federal Reserve commitments, or the wishful thinking of a policymaker flogging the monetary equivalent of a Trojan Horse?

As a close follower of the Federal Reserve and its policy pronouncements, I reacted with something of a shock to the claim that it has been using forward guidance to make successful commitments to markets in recent years. A commitment is defined as a *credible promise* to do something. The authors use the same words to define commitment in the first page of their paper. For example, we can agree that Evans’s 7/3 policy proposal would be a real commitment, since it would enunciate a clear contingent policy for the future, based on observable phenomena (inflation and unemployment), which would thereby allow the Federal Reserve to be held accountable, through loss of reputation in the markets, for violating that commitment. In macroeconomic theory, the usefulness of a commitment is to overcome the problem of time inconsistency by binding oneself today to a policy action in the future that is long-run optimal from today’s perspective but that will not be optimal to choose in the future.

By this definition, nothing the Federal Reserve has done through its forward guidance can reasonably be construed as a commitment. Certainly, the plain language of its forward guidance statements does not constitute promises. For example, in its most recent statements the Federal Reserve “anticipates,” but does not promise, that interest rates will remain unchanged through 2014. It explicitly reserves the right to change its policies as economic circumstances change. Furthermore, policymakers at the Federal Reserve often draw attention to the fact that forward guidance is not a commitment. For example, Charles Plosser (president of the Philadelphia Federal Reserve Bank and an opponent of monetary expansion recently) has emphasized that forward guidance today is a forecast, not a promise, and that the Federal Reserve has explicitly reserved the right to change course if the data on which its forecast is based change (Plosser

2012). During his recent confirmation hearings, Federal Reserve Board nominee Jeremy Stein agreed with that assessment. Forward guidance before the recent crisis was even less specific and contained no language that could reasonably be construed as a promise.

Is it possible that the Federal Reserve is making *implicit* commitments through forward guidance, even though its own language and many of its policymakers say otherwise? That does not seem possible. A commitment requires clarity about what is being promised; otherwise it is hard to see how there could be any accountability for violating it. Members of the Federal Open Market Committee (FOMC), both individually and as a group, have used forward guidance to express their beliefs based on current evidence but have never made a commitment. If members were to change their forecasts of economic activity in, say, mid-2013 in response to new information, and then decide to start raising interest rates in late 2013 in light of their new beliefs, that would be entirely consistent with their past forward guidance statements, and it would be hard to see why the Federal Reserve as an institution or the FOMC members as individuals would suffer any loss of reputation as a result. Forward guidance simply entails no commitment, as defined either by macroeconomic theory or by common English usage.

The authors understand English as well as I do, so why do they insist that the Federal Reserve has been making important commitments through forward guidance? Their argument that forward guidance has been used as a commitment is purely empirical. The authors claim to have unearthed facts that prove that forward guidance has been functioning as a commitment device. First, they show that a study of the effects of Federal Reserve statements provides convincing evidence that forward guidance moves federal funds futures prices at the time the guidance is provided to the market. Furthermore, they argue, these changes in futures prices are useful for predicting federal funds rates in the future *because they predict Federal Reserve actions*, not because they contain information about the short-term state of the economy. If the movements in federal funds futures prices at the time of guidance announcements were correlated only with information about the economy that the Federal Reserve possessed but that markets had not yet understood, then the authors would regard that guidance as “Delphic” but not “Odyssean.” Those guidance announcements must be regarded as Odyssean, they argue, because they are not only useful for revealing unknown facts about the economy; they predict future policy actions, conditional on the state of the economy.

Is this argument correct? No. It ignores two very plausible alternative possibilities: first, that forward guidance provides information to the market about the Federal Reserve's objectives, and second, that forward guidance provides information to the market about the Federal Reserve's beliefs about the long-run natural rate of unemployment (an unobservable variable that underlies the future "deviations" from the Taylor rule that the authors identify).

The Federal Reserve's objectives are only vaguely specified or constrained by statute. Its well-known legislative triple mandate (with respect to inflation, employment, and interest rates) does not specify trade-offs among those three objectives. The Federal Reserve recently announced a desire to target inflation at about 2 percent per year over some unspecified long run. It is well known that the Federal Reserve thinks about policy in the context of Taylor rules, at least in part, but also that it employs more than one version of the Taylor rule when thinking about its policy options, and that it has made no explicit commitment to using any particular version of the Taylor rule. Furthermore, the Federal Reserve has frequently noted that its policy actions reflect policy considerations other than those embodied in the Taylor rule. This was especially true during 2002–05, when the Federal Reserve loosened policy dramatically and deviated consciously from the Taylor rule when doing so. FOMC members discussed special considerations, including oil prices, geopolitical circumstances, and other perceived downside risks, which, they argued, required special actions not contemplated by adherence to the Taylor rule. Thus, Federal Reserve policy cannot be said always to follow a Taylor rule, much less a single, known Taylor rule. Policymakers may at times abandon the Taylor rule, and even to the extent that they adhere to it, one thing that is not known, and which is subject to change, is the relative cost the FOMC members attach to deviations from targeted inflation relative to permitting unemployment to rise above its long-run non-accelerating-inflation (or "natural") rate.

This uncertainty about objectives also reflects the fact that the Federal Reserve is a highly politicized entity. It is subject to substantial political risk because the federal government can change its charter at any time. Indeed, changes in the structure and powers of the Federal Reserve and the mandates under which it operates are frequently proposed. In my experience, FOMC members are quite aware of these risks and very responsive to them, although they never acknowledge this publicly. Thus, both because of changes in the ideological makeup of the FOMC and because of political pressures that its members may feel, the cost weights that the members

attach to short-term increases in unemployment and inflation are neither known nor immutable. Those weights likely change over time as the result of changes in the membership of the FOMC or in the political pressures that influence their actions. For example, it is often noted in the press that the current Federal Reserve is unusually responsive to the political consequences of high unemployment. One obvious interpretation of market reactions to forward guidance—and one that the authors do not consider—is that such guidance reveals something about these changing objectives of the FOMC.

The second obvious alternative explanation for the authors' finding is that forward guidance reveals something about the FOMC's beliefs about the natural rate of unemployment. Even if policymakers employed a rigid Taylor rule, and even if their policy preferences with respect to the costs of deviations of inflation and unemployment from their long-term levels were known, forward guidance could still reveal something to the market about FOMC members' beliefs about the natural rate of unemployment (which is contained within the Taylor rule as an assumption). The natural rate is not a constant, and indeed it can be subject to dramatic and unobservable medium-term change. The authors' model assumes that the natural rate is known to everyone, and for purposes of their analysis they set it equal to a consensus view based on published forecasts. But in practice no one knows what the natural rate is, and everyone wants to know what the members of the FOMC think that it is.

Uncertainty about the natural rate is especially high in the wake of a severe recession. Studies of labor markets show that the ability of unemployed workers to find employment declines with the amount of time they are out of work. During a recession as deep as the recent one, many people are without work for longer periods than under normal economic circumstances (Davis and von Wachter 2011): today a substantial proportion of the unemployed have been unemployed for 2 years or more. Long-term unemployment can reflect secular declines in some industries, and thus the need for sectoral reallocation of workers and retraining before workers are likely to find new jobs. Furthermore, unemployment itself reduces the skill set of workers within their industry, making it hard for the long-term unemployed to find employment even if their sector has not suffered long-term decline. When the economy has just weathered a severe, long-lived recession, one cannot say with any reasonable certainty what the natural rate of unemployment is. It may be 5 percent or it may be 7 percent. Because the natural rate is not a matter of knowledge, much less a matter of common knowledge, uncertainty can arise among market

participants over what FOMC members believe it to be. Forward guidance, therefore, provides information to the market about the Federal Reserve's beliefs about the natural rate, and the markets' reactions to forward guidance, as measured by the authors, could be interpreted as reflecting, at least in part, changes in those market inferences about the Federal Reserve's beliefs about the natural rate.

For these reasons it is not correct to argue that the evidence presented in the paper regarding federal funds futures markets shows that forward guidance has been Odyssean rather than Delphic. Given the strong *prima facie* arguments against viewing forward guidance as a form of commitment, it is far more likely that FOMC statements have affected market perceptions of the Federal Reserve's changing objectives and beliefs.

All of this does *not* mean that the authors are wrong to advocate for a "bright-line" rule like Evans's proposed 7/3 commitment. It simply means that any argument for such a rule must be guided mainly by theory rather than experience. There is certainly a respectable case to be made (building, for example, on the logic of Eggertsson and Woodford 2003) that some version of a 7/3 rule could credibly place the Federal Reserve's reputational capital at risk, and thereby constitute a credible commitment to maintain expansion into the future, which could add to the stimulative effect of monetary loosening. I also agree with the authors that such a two-sided commitment could potentially mitigate inflation risk by binding the Federal Reserve to react to accelerating inflation in the future through an explicit commitment not to tolerate rising inflation.

Still, I do not support further action by the Federal Reserve to loosen at this time, even if accompanied by a bright-line 7/3 rule. I see little potential short-term gain to the economy from further reducing long-term interest rates (which are already at historic lows) by a few basis points. A few more basis points reduction in long-term bond rates will not do much to address the deep problems (including fiscal policy uncertainties) that are constraining current economic growth. Nor do I believe that the authors' modified DSGE model's estimates, based on past observations, are very relevant for gauging the extent of inflation risk going forward. The risks faced by the Federal Reserve in the future reflect particular circumstances related to its balance sheet structure and to the political constraints under which it operates. These factors imply extraordinary circumstances and unique new sources of inflation risk. When these are taken into account, the risk-reward ratio for further expansionary monetary policy is very poor. The time has come for the Federal Reserve to end its quantitative easing policies, and to begin to phase in a gradual, preannounced increase

in reserve requirements. Such an increase, if designed properly, would have no discernible immediate effect on economic activity but would be a crucial safeguard against future inflation, and it would produce an orderly transition to the inevitable tightening of monetary policy sometime in the future. Excess reserves are very large at the moment. An increase in required reserves would have virtually no effect on the current supply of money or the current supply of lending (for a historical parallel see Calomiris, Mason, and Wheelock 2011). The most likely immediate response by banks, if any, would be to reduce their Treasury holdings, shifting them into cash.

In my view there are two independent reasons to move to higher long-run reserve requirements. First, much higher (and remunerated) reserve requirements are desirable as a long-term prudential tool to complement capital requirements (Calomiris, Heider, and Hoerova 2011, Calomiris 2012). Cash reserve requirements are observable and hence credible protections for insured deposits, unlike capital requirements, which are accounting artifacts prone to manipulation by bankers and supervisors. Furthermore, cash holdings have important incentive consequences for effective bank risk management, because higher cash-to-asset ratios limit the losses borne by deposits for any given loss in risky assets. Book capital ratio requirements in the banking system are a recent prudential tool (in the United States, they began to be used only in 1981) and lack a track record of much success. Cash ratio requirements have a much longer and more effective history. It is high time to restore substantial cash ratio requirements as part of the prudential regulatory toolkit.

Second, the high level of excess reserves in the banking system, combined with the structure of the Federal Reserve's asset portfolio, presents a substantial risk of future inflation if banks at some point choose to convert those excess reserves into loans. Some monetary policymakers see the Federal Reserve's commitment to low inflation as already sufficiently credible, and others (including Evans and other proponents of the 7/3 proposal) argue that a bright-line rule would add to that credibility by announcing not only a long-run objective but also a short-run constraint on the tolerance for inflation. In my view, however, Federal Reserve policymakers are too sanguine about their ability to contract the money supply in the future in reaction to a sharp rise in loan supply by banks, especially if that increase were to occur alongside an increase in long-term interest rates.

The experience of the 1930s shows that loan supply can jump very quickly following a severe banking crisis. From 1933 to 1939, total lending

by Federal Reserve member banks was essentially flat. From December 1939 to December 1941, loans rose by roughly 20 percent. It is not farfetched to argue that a similar surge in bank lending could occur today.

Federal Reserve officials argue that they have all the tools they need to contract the money supply as necessary, even though they have tripled the amount of high-powered money relative to its precrisis level. They point to the potential use of contractionary open-market operations, increases in the interest rate paid on excess reserves, and the use of reverse repurchase agreements as tools that they could employ in addition to reserve requirement increases. I do not find those arguments very convincing. The central problem that policymakers do not like to recognize is the political risk the Federal Reserve could face from employing some of these policy tools.

Consider the problem of relying on contractionary open-market operations if bond market yields and bank loan supply both rose suddenly. The key problem is that significant sales of the long-term Treasuries or mortgage-backed securities necessarily used in such operations could, in an environment of substantially higher interest rates, make the Federal Reserve insolvent on an accounting basis (Shadow Financial Regulatory Committee 2010).<sup>1</sup> Of course, such insolvency would not physically prevent the Federal Reserve from contracting its balance sheet, but the prospect would be a public relations nightmare. It could damage the Federal Reserve's image and lead to an adverse political backlash in Congress, with uncertain consequences. For that reason many observers worry that the Federal Reserve is unlikely to take on the political risks that would attend making itself insolvent on an accounting basis. It might instead choose to delay open-market sales of its assets in response to a sudden increase in interest rates and loan supply. In that case it would have to either accept the inflationary consequences of doing so or rely on other tools to lean against the expansion in the supply of money and loans.

What other tools? Reverse repurchase agreements have been discussed, but it is far from certain that money market mutual funds would be willing to engage in these transactions on the necessary scale, and some market participants have expressed skepticism that this would be feasible. Higher interest on excess reserves could help to limit bank expansion of loans and deposits, but the elasticity of demand for excess reserves is unknown, and

1. See also Charles W. Calomiris, "An Insurance Policy Against Inflation," *The Wall Street Journal*, March 12, 2012; Charles W. Calomiris and Ellis Tallman, "In Monetary Targeting, Two Tails Are Better Than One," *Bloomberg Businessweek*, November 18, 2010.



during a spike in bank loan supply the rise in interest payments to banks needed to entice them to avoid a surge in lending might require a very large expenditure by the Federal Reserve. Such an increase in interest cost, alongside the low interest earned on its assets, could itself produce huge losses at the Federal Reserve that would threaten its accounting solvency.

In other words, in the real world where political forces do shape monetary policy, the Federal Reserve's current balance sheet structure (large amounts of excess reserves combined with assets that will decline in value if long-term interest rates rise) may be an unfortunate form of "commitment device," where the commitment is to restricting open-market operations and potentially to producing undesirable inflation. Given that reality, the prudent thing for the Federal Reserve to do is to recognize that increased reserve requirements are its best tool for preventing increased inflation. A phasing in of increases in reserve requirements though a preannounced plan would be desirable because it would avoid disruptive surprises to the market. Given the implementation delays that will necessarily attend any such shift in reserve requirements, it is high time for the Federal Reserve to begin that process. Waiting to begin until inflation is upon us could result in a significant surge in inflation.

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