Jeremy C Stein: Challenges for monetary policy communication

Speech by Mr Jeremy C Stein, Member of the Board of Governors of the Federal Reserve System, at the Money Marketeers of New York University, New York City, 6 May 2014.

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The views expressed here are my own and are not necessarily shared by other members of the Federal Reserve Board or the Federal Open Market Committee. I am grateful to William English for helpful comments.

The Money Marketeers have a long tradition of hosting policymakers and fostering informed public discussion, and I am delighted to join in this tradition.

Last month I announced that I would be leaving the Federal Reserve Board at the end of May in order to return to my teaching position at Harvard. So I would like to take a moment to express my gratitude to my many colleagues at the Board and around the Federal Reserve System who have taught me so much – not just about economic policy, but about public service. It has been a privilege to work alongside such a talented and selfless group of people and to be a part of such a special institution.

One of the many aspects of the job that I had not fully appreciated before joining the Board is how challenging the whole process of communicating about monetary policy can be. As you know, over the past several years the Federal Reserve has dramatically altered how it talks to financial markets and to the public at large. For much of its 100-year history, the Fed was remarkably opaque; indeed, around the time I started my academic career in the mid-1980s, there was an active literature on the causes and consequences of such opacity. The title of Marvin Goodfriend's 1986 paper captured the situation well: "Monetary Mystique: Secrecy and Central Banking."[1] In the 1990s, however, the Fed began to move toward greater transparency, with the Federal Open Market Committee (FOMC) providing more timely information about its policy decisions.

This evolution in the direction of greater openness has continued. And, in the last 10 years, there have been numerous changes in the FOMC's communications policies: accelerated release of the minutes, an increase in the frequency and scope of participants' economic projections, and the introduction of postmeeting news conferences, to name a few.

These are all welcome developments, and I expect there will be further changes down the road, as the Committee ***keeps*** trying to improve how it explains its policy decisions to the public. In this spirit, I would like to spend the rest of my time discussing a few of the things that make life interesting for those trying to communicate clearly and effectively about monetary policy.

More specifically, I am going to touch on three factors that strike me as particularly relevant for our efforts in this area: the fact that the market is not a single person, the fact that the Committee is not a single person either, and the delicate interplay between the Committee and the market.

The market is not a single person

This point was very nicely made by Hyun Shin in his remarks at the Federal Reserve Bank of Kansas City's symposium at Jackson Hole last summer. Shin wrote:

> The "market" is not a person. Market prices are outcomes of the interaction of many actors, and not the beliefs of any one actor....But most discussions of

[1] See Marvin Goodfriend (1986), "Monetary Mystique: Secrecy and Central Banking," *Journal of Monetary Economics,* vol. 17 (January), pp. 63–92.

> central bank forward guidance treat the market as if it were an individual that you can sit down and reason with....By doing so, I believe we are in danger of committing a category mistake where we anthropomorphize the "market" as a rational individual with beliefs.[2]

Let me give you a particular example that illustrates the wisdom of Shin's observation. In early May 2013, long-term Treasury yields were in the neighborhood of 1.60 percent. Two months later, shortly after our June 2013 FOMC meeting, they were around 2.70 percent. Clearly, a significant chunk of the move came in response to comments made during this interval by Chairman Bernanke about the future of our asset purchase program. For example, in his June 19 press conference, he said:

> If the incoming data are broadly consistent with this forecast, the Committee currently anticipates that it would be appropriate to moderate the monthly pace of purchases later this year. And if the subsequent data remain broadly aligned with our current expectations for the economy, we would continue to reduce the pace of purchases in measured steps through the first half of next year, ending purchases around midyear.[3]

Perhaps it is not surprising that news about the future course of the asset purchase program would have a strong effect on markets. But here is the striking fact: According to the Survey of Primary Dealers conducted by the New York Fed, there was hardly any change over this period in the expectation of the median respondent as to the ultimate size of the program.[4] Chairman Bernanke's comments may have clarified the FOMC's intentions, but, according to the survey, they did not have any clear directional implications for the total amount of accommodation to be provided via asset purchases. Thus, FOMC communications in this period did not appear to be meaningfully hawkish.

So what gives? One hypothesis is that going into the May-June period, there was a wide divergence of opinion among market participants as to the future of the asset purchase program. In particular, however reasonable the median expectation, there were a number of "QE-infinity" optimists who expected our purchases to go on for a very long time. And, crucially, in asset markets, it is often the beliefs of the most optimistic investors – rather than those of the moderates – that drive prices, as they are the ones most willing to take large positions based on their beliefs. Moreover, this same optimism can motivate them to leverage their positions aggressively.[5]

In this setting, a piece of monetary policy communication that merely "clarifies" things – that is, one that delivers the median market expectation but truncates some of the more extreme possibilities – can have powerful effects. Highly levered optimists are forced to unwind their positions, which then must be absorbed by other investors with lower valuations. This effect is likely to be amplified if the preannouncement period was one with unusually low volatility, as was the case in early May 2013, when the implied volatility on long-tenor swaptions was near historical lows. To the extent that some of the optimists are operating subject to value-

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[2] See Hyun Song Shin (2013), "Commentary on Robert E. Hall, 'The Routes into and out of the Zero Lower Bound,'" speech delivered at "Global Dimensions of Unconventional Monetary Policy," a symposium sponsored by the Federal Reserve Bank of Kansas City, held in Jackson Hole, Wyo., August 22–24, pp. 8–9.

[3] See Board of Governors of the Federal Reserve System (2013), "Transcript of Chairman Bernanke's Press Conference (PDF)," June 19, p. 5.

[4] For example, between the April and July 2013 dealer surveys, the respondents' distributions of the size of the System Open Market Account portfolio at the end of 2014 actually increased somewhat. See the responses to question 10 on the April survey and question 8 on the July survey; the survey results are available on the Federal Reserve Bank of New York's website.

[5] See John Geanakoplos (2009), "The Leverage Cycle," in Daron Acemoglu, Kenneth Rogoff, and Michael Woodford, eds., *NBER Macroeconomics Annual 2009* (Chicago: University of Chicago Press), pp. 1–65.

at-risk constraints, low volatility is likely to induce them to take on more leverage. If volatility rises sharply in the wake of an announcement, this increase will tend to exacerbate the unwind effect.

To be clear, I am not saying that monetary policy communications should have been different during this period. Rather, the point is that in some circumstances there are very real limits to what even the most careful and deliberate communications strategy can do to temper market volatility. This is just the nature of the beast when dealing with speculative markets, and to suggest otherwise – to suggest that, say, "good communication" alone can engineer a completely smooth exit from a period of extraordinary policy accommodation – is to create an unrealistic expectation.

In this spirit, I think the FOMC may face a similar communications challenge as the nature of the forward guidance for the path of short-term interest rates evolves over the next couple of years. The 6.5 percent unemployment threshold that we had until recently was not only quantitative in nature, but it also represented a relatively firm commitment on the part of the Committee. While this kind of commitment was entirely appropriate at the zero lower bound, as policy eventually normalizes, guidance will necessarily take a different form; it will be both more qualitative as well as less deterministic. So, for example, when I fill in my "dot" for 2016 in the Survey of Economic Projections, I think of myself as writing down not a commitment for where the federal funds rate will be at that time, but only my best forecast, and one that is highly uncertain at that.

Chair Yellen made a similar point in her March press conference:

> More generally, you know, the end of 2016 is a long way out. Monetary policy will be geared to evolving conditions in the economy, and the public does need to understand that as those views evolve, the Committee's views on policy will likely evolve with them. And that's a kind of uncertainty that the Committee wouldn't want to eliminate completely from its guidance because we want the policy we put in place to be appropriate to the economic conditions that will prevail years down the road.[6]

I agree completely with this view, and I suspect that many in the market also understand the distinction that is being drawn – that as policy normalizes, forward guidance will be less commitment-like and, hence, a less precise guide to our future actions than it has been in the recent past. But I would not want to presume that everybody is thinking about it the same way; one can imagine that there might again be some optimists who are in this case underestimating the degree of uncertainty about the future path of policy and are placing levered bets accordingly. So we may have some further bumps in the road as this all plays out.

The committee is not a single person

It is common to hear observers talk about the Committee's reaction function, which describes how we will behave in various contingencies. However, even if all of the individual members of the Committee have well-defined and carefully thought-out individual reaction functions – that is, each member knows what his or her policy preference is for any given state of the world – it does not follow that the Committee as a whole has an equally well-defined reaction function.

The reason for this divergence is that when one says that the Committee has a reaction function for how it will behave if contingency X arises, such a statement implies that we have fully litigated this contingency in advance. In other words, we have debated the pros and

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[6] See Board of Governors of the Federal Reserve System (2014), "Transcript of Chair Yellen's Press Conference (PDF)," March 19, pp. 9–10.

cons, we have hashed out our differences, and we have come to an agreement on how to proceed under contingency X. But such litigation is difficult and sometimes costly, as it may, for example, take considerable time or lead to a loss of cohesion on other, more pressing issues. So it may be easier and more efficient to leave our behavior in some important contingencies for future discussions. Think of why people often forgo prenuptial agreements when getting married – it is simply too painful to negotiate over every contingency ahead of time.

This observation is helpful in understanding some of the differences between an open-ended asset purchase program, such as QE3, and its closed-end predecessors. One advantage of going with an open-ended approach is that when we rolled out QE3 in September 2012, we were able to make a forceful statement that we would continue with asset purchases until we observed, as Chairman Bernanke put it in his postmeeting press conference, a "substantial improvement in the outlook for the labor market."[7] We were able to do so even though I suspect that, had we tried to put a number to it, there would have been considerable disagreement among Committee members as to the exact meaning of "substantial improvement." So in this case, leaving the Committee's reaction function incompletely worked out allowed us to move forward with a major policy initiative in a timely manner, which otherwise might have been very difficult.

Of course, the flip side of this reaction-function incompleteness is that it becomes harder for the Committee to precisely communicate its future intentions to the market – in part because these future intentions have not yet been fully fleshed out. Rather, it makes more sense in this case to think of the Committee's reaction function as being something that is not entirely predetermined and that will naturally tend to evolve over time.

The interaction of the committee and the market

Going further, it is important to note that this evolution of the reaction function does not happen in a vacuum, where the Committee deliberates in a cloistered fashion and then simply reports its decisions to the market. All along, the market is making conjectures about how we will behave, and these conjectures in turn can have a powerful influence on the debate itself. This feedback effect has been especially relevant in the case of QE3, because the policy has relied significantly on a signaling channel for some of its effectiveness. That is, QE3 has, in my view, mattered not just because of the direct downward pressure on longer-term interest rates associated with removing a given quantity of duration from the private market, but also because it has buttressed our forward guidance by serving as a credible signal of the Committee's intentions with respect to the future path of the federal funds rate.

Of course, if the Committee is using asset purchases to signal its policy intentions, then the information content of purchase decisions depends importantly on what the public *expects* it to do. For example, if it is early 2013 and the market has somehow arrived at the belief that the Committee will continue buying assets at an $85 billion per month clip so long as monthly payroll growth does not exceed 200,000 jobs per month for three months in a row, then even a small cut down to $80 billion per month is likely to elicit a powerful market reaction – not because the $5 billion cut is consequential in and of itself, but because of the message it sends about the Committee's policy leanings more generally. But then you can see the feedback loop that arises: The more strongly the market becomes attached to this belief – even if it was initially somewhat arbitrary – the more wary the Committee must be of making an unexpected change, and this wariness further reinforces the market's initial belief. In this sense, the Committee's reaction function for the appropriate quantity of asset purchases

[7] See Board of Governors of the Federal Reserve System (2012), "Transcript of Chairman Bernanke's Press Conference (PDF)," September 13, p. 3.

under the QE3 program is not only evolving over time, it is coevolving along with the market's beliefs.

In part for this reason, I believe we are currently in a very good position with respect to the market's expectations for our asset purchases going forward. Market participants now appear to almost uniformly expect that, barring a material change in the outlook for the economy, the Committee is likely to continue tapering our purchases in further measured steps over the remainder of this year. With these expectations in place, the execution of the taper itself becomes much easier, as we no longer have to worry about a step-down at each meeting sending a potentially misleading message about our intentions with respect to the future path of the federal funds rate.[8]

The case of QE3 illustrates the point that the Committee's reaction function is shaped by market expectations and vice versa. But I suspect that the point has more general applicability. Consider the well-known phenomenon of "gradualism" in monetary policy, whereby changes to the policy rate during an easing or tightening cycle tend to come in a series of small and relatively predictable steps. This phenomenon is reflected in the fact that the Committee's behavior in normal times can be approximately described by an "inertial" version of a Taylor rule – one in which, in addition to putting weight on inflation and unemployment, the Committee also behaves *as if* it has an aversion to making sudden large changes in the federal funds rate.

However, such a reduced-form description of the Committee's behavior does not answer the question of why this kind of inertia might be optimal. Why *should* the Committee act as if it is averse to making sharp changes in the funds rate? At one level, the answer is clear: This behavior is in the service of our mandate, and nothing more. For if we were to make an unexpectedly abrupt adjustment at any time, it would likely have a large effect on long-term rates and credit conditions more generally, which in turn might compromise our ability to reach our goals for employment and inflation – for example, a large bond-market move of this sort might nip a nascent recovery in the bud, which is why it is to be avoided.

Digging deeper, though, it is important to recognize that part of the reason that the bond market would react so strongly to a sharp change in the short-term policy rate is that we have settled into a self-sustaining equilibrium in which the Fed tends to act gradually, and the market has come to expect that gradualism. In other words, the market has learned that a given increase in the federal funds rate at the beginning of a tightening cycle is typically followed by many more moves in the same direction, so there is naturally a multiplier effect on long-term rates of a given change in short-term rates. And that multiplier depends on the expected degree of gradualism: The more inertia there is in Fed policy, the more significant is any small move, and hence the larger is the multiplier. Thus, an expectation of gradualism on the part of the market makes it all the more important for the Fed to adjust the policy rate gradually, thereby fulfilling the market's beliefs.

This line of reasoning can be thought of as a piece of positive economics – that is, it may shed some light on why the world is as it is. But what, if any, are its normative implications? On the one hand, as I have emphasized, a gradualist approach to monetary policy is likely to be the best way for us to deliver on our mandate at any point in time, taking as given the market's expectations for Fed behavior. As such, it would probably not make sense, in the short run, for the Committee to deviate from this approach – with an unprepared market, the result might well be an undesirable degree of market turbulence, with attendant negative effects on the real economy.

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[8] However, any deviation from the pattern of measured steps that the Committee has been taking would now likely be seen as a highly informative signal, which is something that the Committee would need to take into account in responding to changes in the outlook.

On the other hand, there is clearly a time-consistency problem lurking here; the world we are in need not be the best of all possible worlds. In particular, it is interesting to think about an alternative long-run equilibrium in which the Fed has somehow developed a reputation for worrying less about the immediate bond-market effect of its actions and is known to react more aggressively to changes in economic conditions.[9] In this alternative equilibrium, the market would expect the Fed to behave in a less gradualist fashion, so any given move in the funds rate would have a smaller multiplier effect on long rates. Thus, it is possible that in this alternative world, market volatility would be no higher than it is in our world, but the Fed would nevertheless be able to adjust policy more nimbly when it needed to.

Of course, even if this alternative world is a better place, it may be difficult as an institutional matter to get from here to there. And I do not have any particularly helpful insights on how one would make the transition. Nevertheless, I do think there is a useful message to be borne in mind when thinking about communications strategy more generally. There is always a temptation for the central bank to speak in a whisper, because anything that gets said reverberates so loudly in markets. But the softer it talks, the more the market leans in to hear better and, thus, the more the whisper gets amplified. So efforts to overly manage the market volatility associated with our communications may ultimately be self-defeating. As we evaluate our own performance in the communications department, it is probably better for us to focus on how legitimately transparent we have succeeded in being, as opposed to how much or how little our various announcements have moved markets.

[9] There is a close connection between this time-consistency problem and the well-known one that central banks face in trading off inflation and unemployment. With respect to the latter, Kenneth Rogoff has argued that one can achieve a better outcome with a "conservative" central banker who places a higher weight on controlling inflation than does society as a whole. In the current context, the analogy would be that one may be able to achieve a better outcome with a central banker who places a lower weight on the intermediate objective of not roiling the bond market. See Kenneth Rogoff (1985), "The Optimal Degree of Commitment to an Intermediate Monetary Target," *Quarterly Journal of Economics*, vol. 100 (November), pp. 1169–89.