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"Fedspeak": Does It Matter How Central Bankers Explain Themselves?

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There have been many notable changes in the policies of the Fed and other central banks in response to the global financial crisis and its continuing aftermath, and few would disagree that the importance of these institutions for both the US and the world economy has become more evident as a result. Tonight I want to talk about only one of the notable changes in Fed policy, though it is one that I suspect will come to be seen as a change of historic significance for the institution. This is the increase in recent years in the degree to which the Fed ***openly discusses*** its policy deliberations and the bases for its decisions.

Like other central banks, the Fed has not historically been a notably open institution. Its operations tended to be shrouded in mystery. The 1970s brought demands for increased accountability, most notably the Humphrey-Hawkins Act of 1978, requiring the Fed Chairman to testify twice a year before a joint committee of Congress. Even so, public statements by Fed officials were often cryptic, and Fed Chairman Alan Greenspan was famous for the opacity of his pronouncements. In a 2007 speech to executives, after having stepped down as Chairman of the Federal Open Market Committee (or FOMC), Greenspan was quoted in the press as having explained that "opaque answers to straightforward questions were part of the job, because he couldn't say 'no comment' and he didn't want markets to overreact." "What tends to happen is your syntax collapses," Greenspan said. "All of a sudden, you are mumbling. It often works. I created a new language which we now call Fedspeak. Unless you are expert at it, you can't tell that I didn't say anything."[1]

The Fed's approach to communication has changed notably in recent years --- beginning, I should say, under Greenspan himself, but even more decisively under the leadership of his successor, Ben Bernanke. In 1994, the Fed began to make public the existence of its periodically adjusted operating target for the federal funds rate --- something that had previously been a topic of conjecture in the financial press, but never confirmed by the Fed itself --- and to release a statement to the press immediately following each meeting of the FOMC at which the target was changed, revealing the new target. Beginning in 2000, the FOMC adopted the practice of issuing a press release after each meeting, whether the target was changed or not; and in recent years, the language of these post-meeting statements has been closely scrutinized in the press, with careful attention to changes in individual

[1] Greenspan's remarks are discussed in Amy Farber, "Historical Echoes: Fedspeak as a Second Language," *Liberty Street Economics* blog, Federal Reserve Bank of New York, April 19, 2013. [Online at http://libertystreeteconomics.newyorkfed.org/]

words, quite apart from what is announced about the current funds rate target. In 2004, the FOMC speeded up the public release of the minutes of its meetings, which now appear with only a three-week delay; these now get considerable attention as indications of Fed thinking, appearing as they do well before the next meeting of the Committee. In 2007, the FOMC began also to release a "Survey of Economic Projections" of the Committee members four times a year, accompanying the minutes of four of their meetings and providing further explanation of the thinking behind the discussion at the meeting. And in 2011, Chairman Bernanke adopted the further practice of holding a press conference four times per year, immediately following every other meeting of the FOMC, at which he explains the decision that has been made in greater detail.

Even more notable has been the FOMC's increased willingness to talk not only about the decisions about interest-rate policy that it has already taken, but about likely ***future*** policy as well. Since the economic crisis in the fall of 2008, FOMC post-meeting statements have included increasingly explicit statements about the likely ***future*** path of interest rates. In December 2008, the Committee announced not only that it had lowered its federal funds rate target to a band between zero and one-fourth of a percent, but also that this level of the target was expected to be maintained ***"for some time."*** In March of the following year, the target band was left unchanged, but the language strengthened, to indicate that the low federal funds rate was expected to continue ***"for an extended period."*** In the summer of 2011, the language was made still stronger, and also much more explicit, stating that "the Committee currently anticipates that economic conditions … are likely to warrant exceptionally low levels of the federal funds rate ***at least through mid-2013."*** In January 2012, the language was changed to ***"at least through late 2014"*** --- by which point the FOMC was thus making statements about policy nearly three years into the future. Last September, the date was moved even later, to ***"mid-2015."*** In December, the reference to an explicit date was replaced by a statement that the Committee "anticipates that this exceptionally low range for the federal funds rate will be appropriate ***at least as long as the unemployment rate remains above 6-1/2 percent,"*** and certain conditions relating to inflation were satisfied as well. In addition to this use of post-meeting statements to talk about likely future policy, in 2012 the FOMC began including in each release of the "Survey of Economic Projections" information about the range of forecasts of the individual Committee members for the future level of the federal funds rate, at horizons as far as three years in the future.

Why this sudden increase in the extent to which the Fed ***talks*** about its policy decisions? And should we expect this to lead to ***better policy?*** One can easily think of reasons why increased public discussion of decisions might even ***reduce*** the accuracy of the decisions made, rather than increasing it. For example, an expectation that decisions will have to be justified in a particular public forum might result in the decisions being made in a more mechanical way, through application of a narrower set of criteria than the same decisionmaker would be able to take into account if able to simply announce a judgment without having to justify it.

This is most obviously an issue in the case of discussion in ***advance*** of the way in which one ***intends*** to make decisions in the future. If one waits until a decision has to be made, and considers it afresh at that time, one will almost certainly be able to take account of fine details of the specific circumstances in which one acts, in a way that would not be possible if one must announce the decision

in advance, or even if one must announce in advance the precise criteria on the basis of which the decision will be made. It might then seem obvious that the prudent course for a policymaker should be to never pre-judge any decision a day sooner than is necessary, and to avoid speaking about future policy decisions altogether.

Moreover, one might think that the disadvantages of speaking in advance about future policy decisions would be ***greatest*** in periods of particular ***uncertainty*** about how the economy might evolve. One might then feel that our circumstances over the past few years --- in which policymakers, at the Fed and elsewhere, have been repeatedly surprised by unexpected events, and have had repeatedly to adjust their policies in ways that they would not have anticipated even a few months earlier --- are the last ones in which one would expect policymakers to choose to speak more about the future, and indeed to extend the length of the future horizon over which they are willing to make pronouncements about future policy.

But I don't believe that the view that it is always best to speak as little as possible about future decisions is a correct conclusion, in many areas of public policy, and certainly not in the case of monetary policy. Nor do I believe that it is actually perverse on the part of the Fed to have begun speaking more about future policy precisely in an uncertain situation like the one that we face at present.

The move to increased speech would indeed be puzzling, if all that mattered about Fed decisions was the effect on the economy of Fed ***actions,*** independently of how those actions are ***understood*** by anyone in the economy, and independently of the degree to which they can be ***anticipated*** by people outside the Fed. But this is not the case. The effects of monetary policy do not follow ***mechanically*** from market transactions in which the Fed engages, independently of how its actions are ***understood***. Because of this, the Fed's ***explanations*** of its decisions, and indeed the indications that it gives about its likely ***future*** decisions before they are made, can be an important dimension of policy, with significant consequences for the economic ***effects*** of Fed policy.

The fact that it often matters, not simply which decision is reached, but which ***principle*** can be understood to have dictated one's decision, can be observed in many spheres of life. The late Harvard philosopher Robert Nozick, in his essay "How to Do Things with Principles,"[2] discusses various possible functions that principled decisionmaking may serve. He distinguishes four categories of possible functions, that he calls ***intellectual, interpersonal, intrapersonal*** and ***personal*** functions.

By an ***intellectual*** function, Nozick means that one may follow a principle because one expects more reliably to reach correct conclusions when one is guided by it. Principles of this sort may well be relevant to public policy decisions; there may be useful "rules of thumb" that can help a policymaker to reach good decisions more quickly or reliably. But this kind of case for a principle does not imply that

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[2]Robert Nozick, *The Nature of Rationality,* Princeton: Princeton University Press, 1993, chap. 1.

there is anything important about being able to ***explain*** the decision that is taken in terms of the principle, and so principles of this kind are not really relevant to the present discussion.

By a ***personal*** function, Nozick means that acting in conformity with a principle can be a way in which a person defines her identity. This is surely relevant to the possibility of public policy decisions being made on the basis of principles; if a central banker is to make policy decisions consistently in conformity with some set of principles, this is likely to be ***psychologicall****y* possible only because of the personal meaning to the banker of seeing himself as a person who acts in a principled way. But such an observation tells us nothing about which principles, if any, it is desirable for a central banker to appeal to in monetary policy deliberations. If one knew, on other grounds, that certain principles were desirable, one might wish to select as central bankers people who appear to be committed to these principles for personal reasons --- hence Harvard economist Kenneth Rogoff's argument for the appointment of "conservative" central bankers --- but the mere existence of potential appointees with personal commitments of particular kinds does not tell us which kind would make good central bankers.

The other two classes of functions are instead more relevant to the present discussion. By an ***interpersonal*** function of a principle, Nozick means that a commitment to act in accordance with a principle can allow others to *rely* upon our behaving in a certain way, which can be of importance to them in making decisions of their own, the rewards to which will depend on our future behavior. By an ***intrapersona****l* function, he means that a person himself may have an interest in preventing himself from giving in to temptation, though he may expect that he would do so in the absence of commitment to a principle of conduct; this could result from ***time inconsistency*** of the preferences that are used to judge now that one wishes not to give in later, but that later would lead one to wish to give in.

Both of these latter functions are relevant in the case of ***monetary policy*** decisions.[3] A central bank should indeed wish to make it possible for people to ***rely upon*** its behaving in a certain way, or more generally, for them to be able to rely upon economic outcomes that will depend at least partly on central-bank decisions. For example, people's willingness to accept payments in a national currency --- and even more, to contract for future payments in units of that currency, or to hold financial assets that promise future payments in those units --- will depend on their degree of confidence about the future value of the currency. Uncertainty about the rate at which a currency may lose value over time will distort contracts and portfolio choices, and in environments in which uncertainty is too extreme, as during hyperinflations, many types of contracts and financial instruments simply cease to exist, with significant consequences for the efficiency of commercial transactions.

Of course, it may seem in this case that what matters is that prices actually remain stable in terms of the national currency, and not what the central bank ***says*** about this. But what actually matters for the possibility of transactions using a currency is what people ***expect*** about the stability of the currency's value; the actual stability of prices matters, but it matters mainly because of its effects on ***perceptions*** of the likelihood that prices will ***continue*** to be stable. The truly important thing is for the

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[3] Many of the points made below are developed in greater detail in Michael Woodford, "Central-Bank Communication and Policy Effectiveness," in *The Greenspan Era: Lessons for the Future,* Kansas City: Federal Reserve Bank of Kansas City, 2005.

central bank to maintain ***confidence*** about the currency's ***future*** value; and this depends not so much on what the central bank does as upon what is ***understood*** about what it will do in various circumstances and what can happen as a result.

Another reason that people's expectations about future monetary policy matter has to do with the channel through which central-bank decisions affect the economy as a whole. Under the approach to monetary policy that was standard before the financial crisis, transactions between the Fed and the small number of financial institutions with which it had direct dealings, undertaken to implement the policy decisions of the Federal Open Market Committee, only had a direct influence on a single financial variable, the ***federal funds rate*** --- the interest rate in an interbank market for overnight lending of reserves held at the Fed. Daily interventions to control the level of the federal funds rate only mattered to the economy to the extent that control of the funds rate influenced other aspects of financial conditions, that are more directly relevant to decisions throughout the economy. And these broader financial effects depended mainly, not upon the current ***level*** of the federal funds rate in itself, but upon the ***expected future path*** of the funds rate anticipated by traders in the bond market and currency markets; for it is not just the interest rate at which it is currently possible to lend or borrow overnight that should determine the price that traders are willing to pay for longer-term bonds or for foreign currencies, but rather the level of short-term interest rates that are anticipated over coming months and even years.

More recently, the Fed has increased the degree to which it directly purchases longer-term assets, with a view to exerting more direct influence over longer-term interest rates. But even in this case, the future path of the funds rate expected by market participants is crucial. For if the Fed tries to shift longer-term bond yields through purchases of such bonds, in a way that is not consistent with the valuations implied by market expectations of the future path of short-term interest rates, traders will have a motive to trade in a way that largely offsets the trades of the Fed, so that large purchases will be required to have even a tiny effect. Moreover, the ability of the Fed to influence longer-term bond prices apart from the expected path of short-term interest rates depends not merely on the Fed's current willingness to hold such bonds on its own balance sheet, but on the extent to which it is expected to continue to support the market by holding them in the future as well. Hence also under the new regime, longer-term bond prices depend not just on the Fed's current actions, but on market expectations about its actions over coming months and years. This means that the aspects of financial conditions that matter most to households and firms --- the ability of households to obtain or refinance mortgages, the ability of companies to issue debt --- depend on market ***anticipations*** of ***future*** Fed policy more than they do on actual current transactions of the Fed.

Of course, to say that what people ***understand*** about how policy is conducted matters does not necessarily imply that it is important for policymakers to ***talk*** about what they do. One might suppose that it should suffice that good policy be ***delivered,*** without any need for ***explanations.*** Surely the primary basis for confidence that the US dollar will not rapidly lose value is the simple fact that US inflation has been quite low and highly stable for nearly thirty years. And while the main effects of Fed policy decisions have depended on changes in market anticipations of the future path of policy, rather than direct effects of immediate actions, it is nonetheless true that in the past, those changes in

expectations after an FOMC meeting mainly occurred as a result of inferences that market participants could make on the basis of past behavior, rather than explicit statements about intentions regarding future policy. For example, the first modest increase in the federal funds rate target after a period in which the target had been falling or held steady would typically be interpreted as likely the beginning of a "tightening cycle," so that market participants would immediately expect not merely that the higher level of the funds rate would persist beyond the next meeting of the FOMC, but that further increases were likely to be coming. This would allow even small changes in the funds rate target, if not already anticipated by the markets before the meeting, to have a substantial effect on longer-term yields and other asset prices, and hence on the economy more broadly. And the existence of such expectational effects required only that there be a relatively ***predictable pattern*** in the FOMC's decisionmaking --- an evident disinclination to quickly reverse changes in the funds rate target once they had been made, and an associated preference for achieving large movements in the target through a sequence of smaller steps rather than all at once --- and not that there be any explicit ***commitment*** to such behavior.

Nonetheless, given that people's ***understanding*** of the patterns in Fed behavior is a crucial element in the ***effects*** of the policy, there should at least at some times be benefits from ***explicit statements*** about the rationale for policy. In the absence of explanations by the Fed itself, misunderstandings of the Fed's policy intentions may easily develop, and this should not be left to chance, since uncertainty about how policy will be ***interpreted*** implies uncertainty about the ***effects*** of the policy. Explicit explanations of policy are most likely to be needed in ***unusual*** circumstances, or when a central bank intends to act in ways that could ***not*** easily be predicted from its previous behavior.

Hence it is not surprising that communication by the Fed and other central banks has increased precisely in a period when unprecedented policy actions are being taken, and past rules of thumb are no longer of obvious relevance. On the one hand, this is a period in which central bankers themselves must recognize that a great deal of new thinking has been necessary, and that they have done many things that they would not have thought possible only a short time earlier. This obviously makes it harder for them to make confident predictions about their future decisions than would have been the case in periods when policy decisions were more routine. But it is exactly in such a period that ***communication is important,*** because central bankers cannot assume that their intentions will be understood without their having to comment on them, simply on the basis of the behavior that they have already demonstrated. While they will be aware that they cannot know exactly what situation they will face in the coming year or how they will think about it, they will nonetheless ***know a great deal more about likely future policy*** than people outside their institutions. Hence the ***value*** of speaking will be greatest exactly when doing so is most difficult.

Nozick's fourth potential function of principled decisionmaking --- what he calls an ***intrapersonal*** function --- is to help a decisionmaker avoid making ***time inconsistent*** decisions. This issue is also of clear relevance to monetary policy. A commitment to make monetary policy decisions on the basis of pre-announced principles can be a way of avoiding well-known pitfalls of a ***purely sequential*** approach to policymaking, in which each decision is treated as a separate problem, and is made only at the time

that it needs to be made and in the way that seems to achieve the best outcome on that particular occasion.[4]

It might seem that a sequential approach to decisionmaking, with no prior constraints on how each individual decision is to be made, should be ***strictly superior*** to a more principled approach, on the ground that it allows the largest number of considerations relevant to the specific choice situation to be taken into account in each case. But such an approach has an important flaw, that follows from what I have just said about the importance for the effects of policy of what people ***anticipate*** about monetary policy decisions and their effects, before those decisions are made. In a sequential approach to policy, in which each decision is treated as completely independent of the other decisions in the sequence, the decisionmaker will neglect the consequences for ***expectations*** of any ***systematic pattern*** in the decisions that are made --- for one is in each instance choosing only the decision in the individual instance, and not choosing to ***follow a systematic pattern;*** and at the time that the decision is made about the individual instance, expectations about ***what would be done in that instance*** have already been formed, and can no longer be changed by the decision that is actually made. Nonetheless, taken as a group, the decisions made on different occasions will justify particular expectations about the general pattern of behavior; and these expectations will have significant consequences for the effects of policy. Yet since the consequences of the pattern of behavior for expectations are not taken into account in making decisions, under the sequential approach, the overall pattern of behavior will almost certainly ***not*** be the one that best achieves the policymaker's ***own objectives***.

Talking in advance about the way in which decisions will be made is a way of overcoming this problem, since a decisionmaker who ***decides in advance*** how to make a decision, and ***makes those intentions public,*** should think about the consequences of the announced intention for ***expectations***, in addition to the more direct consequences of the actions that one anticipates choosing under the announced criterion. Of course, expectations should only change as a result of an announcement about future policy to the extent that the announcement provides a reason to believe that future conduct of the decisionmaker will be different. But the existence of an explicit prior statement of intention should have an influence on subsequent decisions; in particular, it will make it much more likely that the decisionmaker will recall the desirability of having been able to be expected at an earlier time to behave in a certain way, than if no such advance statement had been made.

These considerations relating to the logical structure of reasoning about the consequences of monetary policy decisions apply quite generally, and so one can make a case in general for the desirability of a principled approach to decisionmaking in this area. But such considerations are of particularly evident importance in a situation of the kind that we have been in since late 2008. When

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[4] The classic discussion of these pitfalls is Finn E. Kydland and Edward C. Prescott, "Rules Rather than Discretion: The Inconsistency of Optimal Plans," *Journal of Political Economy* 85: 473-491 (1977). This critique need not, however, imply abandoning efforts at stabilization policy altogether, as Kydland and Prescott might be taken to suggest. On the conduct of stabilization policy in a way that avoids the problem raised here, see for example Michael Woodford, "Pitfalls of Forward-Looking Monetary Policy," *American Economic Review* 90(2): 100-104 (2000), and *Interest and Prices: Foundations of a Theory of Monetary Policy,* Princeton: Princeton University Press, 2003, chap. 1.

the US financial system seized up following the failure of Lehman Brothers in the fall of 2008, the Fed rapidly cut its target for the federal funds rate, and by December the target had been reduced to a band from zero to one-quarter of a percent --- essentially the lowest it could be taken, given the Fed's inability to push the federal funds rate below the rate of zero that institutions can earn by holding currency. Yet even with the funds rate at its lower bound, aggregate spending in the US economy remained insufficient: unemployment soared, while inflation remained below the Fed's target of two percent per year. And the situation has remained the same for the past four and half years: unemployment still well above what most economists believe to be the long-run sustainable rate, with inflation still contained and even somewhat lower than desired, though the federal funds rate remains essentially at zero.

In a situation with both undesirably high unemployment and inflation below the Fed's long-run target, the FOMC would normally seek to stimulate additional spending by cutting its target for the federal funds rate. But this standard remedy is unavailable when the funds rate is already at its lower bound. Hence the situation is one in which seeking to influence expectations about ***future policy*** becomes especially valuable. I have mentioned that longer-term asset prices, and hence spending decisions, depend not solely on the current level of short-term interest rates, but on the ***expected future path*** of short-term interest rates, extending years into the future. This means that lowering expectations about the ***future*** level of short-term interest rates can be a substitute for a further ***immediate*** cut in short-term interest rates, in terms of the effects on current asset prices and spending.[5]

An expectation that monetary policy will be looser in the future should stimulate additional spending now through other channels as well, quite apart from any effect on long-term interest rates or asset prices. If the Fed is expected to choose a looser policy later --- that is, to keep interest rates low for a longer time --- this should cause some combination of higher economic activity and real incomes later or higher inflation later. Either anticipated effect provides a reason for increased spending now. If households anticipate higher income later owing to looser monetary policy, that anticipation should reduce the amount that they feel they need to save for the future, or increase their willingness to take on debt, and so encourage current spending. If firms anticipate greater demand for their products later owing to looser monetary policy, that anticipation should encourage investment spending now to increase their capacity to serve that higher demand. And on the other hand, if the looser future monetary policy is expected to lead to higher inflation, an expectation of higher inflation while nominal interest rates are not expected to rise implies a lower ***real*** return on savings, and a correspondingly lower real cost of borrowing. This again should provide a disincentive to saving, and make borrowing more attractive, thus encouraging current spending.

So through any of several possible channels, signaling that the Fed will maintain lower interest rates in the future than people had already been expecting should tend to increase current spending,

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[5] This argument was first advanced in Gauti B. Eggertsson and Michael Woodford, "The Zero Bound on Interest Rates and Optimal Monetary Policy," *Brookings Papers on Economic Activity* 2003(1), pp. 139-211. See Michael Woodford, "Methods of Policy Accommodation at the Interest-Rate Lower Bound," in *The Changing Policy Landscape,* Kansas City: Federal Reserve Bank of Kansas City, 2012, for further discussion of this idea and alternative approaches to its practical application.

and so give firms a reason to increase production and employment. But when the federal funds rate is already at zero, the Fed cannot signal that interest rates will be lower in the future in the way most common used in the past, which is to say, by immediately cutting them and allowing people to infer that they may be cut even further in coming months. Moreover, people cannot be expected to already understand that a situation like the present one will lead to a prolonged period of lower interest rates later as a substitute for deeper interest-rate cuts early on, simply from observing this pattern of behavior in the past; because a situation like the present one has not been previously encountered, at least not in the last seventy years, and so the Fed has not had an opportunity to establish a well-understood approach to dealing with situations of this kind simply by demonstrating it. It thus becomes especially important in such circumstances for a central bank to ***talk*** about how policy will be conducted differently as a result of the current unusual circumstances.

The ***time-consistency*** issue is also a particular problem in a situation like the current one. In order to stimulate demand while it remains insufficient for full utilization of the economy's productive capacity but further immediate interest-rate cuts are impossible, it is necessary to make people believe that ***future*** interest rates will be lower. But at the later date at which this becomes a relevant choice, because the zero lower bound no longer prevents the Fed's usual targets from being achieved, why should there be any reason for the FOMC to choose any ***lower*** interest rates than the ones appropriate to the situation that prevails then? The anticipation ***now*** of different behavior later would have benefits ***now;*** but there would be no reason for these benefits to be taken into account when making the decision ***later ---*** unless, that is, an explicit ***commitment*** about later policy has been made at the earlier time.

Do statements about future policy of the kind that the Fed has begun to make actually change anyone's expectations? There is a fair amount of evidence that the Fed's "forward guidance" has influenced expectations, at least of those professionals whose opinions have the greatest effect on financial markets. This can be seen from the way indicators of market expectations about the future path of the federal funds rate, such as federal funds futures prices, change over a narrow time window around the time of public release of an FOMC statement. Not only do expectations of the future federal funds rate change over horizons much farther into the future than the next meeting, but they do so in ways that cannot be accounted for by the news about the current funds rate target alone --- which has, in fact, not changed in any of the post-meeting statements since December 2008. Movements of longer-term bond yields over the same time window suggest that these changes in expectations about the path of the funds rate also have consequences, as one would expect, for longer-term interest rates.[6]

Granting that "forward guidance" by central banks can influence market expectations, what form should it take? For example, must it take the form of a statement about future policy ***intentions,*** or does it suffice for the central bank to offer a ***forecast*** of its likely future decisions, given the future conditions that can be anticipated at present? While the FOMC statement in August 2011 indicating that

[6] Evidence on this point is reviewed in greater detail in Michael Woodford, "Methods of Policy Accommodation," cited above.

interest rates were likely to remain near zero "at least through mid-2013" might have seemed to express an intention or even a promise --- and was widely described as such in the press --- the actual form of the statement was couched only as a forecast: "The Committee ***currently anticipates*** that ***economic conditions ... are likely to warrant*** exceptionally low levels of the federal funds rate at least through mid-2013." Thus the statement indicates only what is currently anticipated: a forecast that might turn out later to have been incorrect. Moreover, the forecast about future policy is clearly based on a forecast of future ***economic conditions*** that would ***warrant*** those policy decisions; there is no declared intention to keep the funds rate low if the anticipated conditions turn out not to be realized. The FOMC's other method of indicating its thinking about future policy, the inclusion of information about Committee members' forecasts of the future level of the federal funds rate in the Survey of Economic Projections released four times a year, is even more obviously a collection of ***forecasts;*** and in this case, the fact that the forecasts are merely those of individual committee members, rather than those of the Committee as a whole, makes it even clearer that the forecasts cannot be regarded as representing a ***decision*** about future policy that has already been made.

The FOMC's preference for the more cautious approach of merely offering a forecast is not difficult to understand; because it was explicitly conditional upon what could be anticipated at the time, it did not expose them to the risk of having rashly made a decision before knowing the circumstances in which they would be acting. But is a mere ***forecast*** about future policy an effective way of stimulating aggregate demand? There are reasons to doubt it.

In order for a central-bank forecast of future interest rates to change market expectations, it must either reveal new information about likely ***future conditions,*** or new information about the central bank's future ***policy reaction function***. But convincing people that interest rates will remain low for longer than they had previously expected, either because the economic recovery will be ***slower*** than previously expected, or because ***deflation*** is coming, and not because of any change in the central bank's reaction function, should have a ***contractionary,*** rather than an expansionary effect on aggregate demand. This is surely not the aim of forward guidance at the zero lower bound. Hence, in order to be effective, the announcement must communicate a different view of the bank's ***future reaction function*** ***---*** that is, of the conditions under which policy will or will not be tightened in the future.

But if this is the goal, a mere ***forecast*** of future interest rates is not likely to be the most effective way to change expectations about future policy. If a central bank intends to conduct policy later in a way that is different from what people in the markets already expect, then it should communicate that ***intention,*** by talking directly about ***how future policy decisions will be made.***

Does this mean that it would have made more sense for the FOMC to have declared a ***definite intention*** to keep the federal funds rate near zero until "mid-2013"? No, for while I believe that an ***explicit commitment*** to looser future policy would have been desirable, a commitment to a ***specific date*** for the first increase in the federal funds rate would not have been a desirable form of commitment. It would be reckless for a central bank to actually ***bind itself*** not to consider raising rates before a date two years in the future, regardless of what may occur in the interim, for many things can happen in two years.

The problem with the ***date-based approach*** to forward guidance is that it assumes that the only thing about which decisions can be made, and hence the only thing about which it is possible to speak, is the ***action*** to be taken on ***a specific occasion.*** Even if one seeks to speak in advance about future policy, it is assumed that one can only speak about the specific actions that will be taken on particular dates. But as I have argued, what really needs to be explained is ***how future decisions will be made.*** This is something that can be discussed, without pretending to be able already to say which specific decision will be made on a given date --- it simply involves a different ***level of description*** of future policy.

Rather than announcing far in advance a ***date*** for the first increase in the federal funds rate, a better approach is to specify the ***economic conditions*** that must be reached in order for it to be appropriate to raise the target.[7] Such a statement should allow market participants to form judgments about the ***likely length of time*** for which low interest rates should continue; but it will imply that the actual "liftoff" date will depend on future outcomes, as it should.

The FOMC's change in communication strategy last fall, replacing date-based forward guidance with a specification of ***numerical thresholds*** for the unemployment rate and inflation expectations as determinants of the time at which the Committee would consider raising the federal funds rate, has therefore been a step in the right direction. A description of these economic criteria can more reasonably be interpreted as a statement about the Committee's ***intended decision rule,*** rather than its forecast of future economic conditions, than was true of their previous discussions of expected dates; and to the extent that the announced criteria involve a deeper desired reduction in unemployment or a more relaxed ceiling for inflation expectations than would previously have been understood, the announcement could be taken to indicate an intention to ***shift the Committee's reaction function*** in a way that makes future policy more expansionary than it would otherwise have been expected to be. The Committee has also taken pains to state, beginning in the statement released after its meeting last September, that it "expects that a highly accommodative stance of monetary policy will remain appropriate for ***a considerable time after the economic recovery strengthens."*** This clearly indicated a change in the Committee's reaction function: it did not intend to raise the funds rate as quickly, in response to an incipient recovery, as it would have been expected to under its previous pattern of behavior. It also indicated that the movement farther into the future of the Committee's estimate of the date before which the funds rate would not be raised --- from "late 2014" to "mid-2015" --- should not be interpreted as a postponement of the date by which the economy was expected to strengthen, for the Committee intended to keep rates low even "after the … recovery strengthens."

But even this formulation of the Fed's forward guidance is far from ideal. One problem with the new formulation is that ***two*** numerical criteria are stated --- a goal for the unemployment rate, on the

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[7] Eggertsson and Woodford, "The Zero Bound on Interest Rates," cited above, show how this can be done through commitment to a target level for an "output-gap-adjusted price level"; the proposal below of a target path for the level of nominal GDP is a simpler version of the Eggertsson-Woodford policy (shown to be optimal in the context of their specific economic model). On the usefulness more generally of specifying a quantitative "target criterion" that should determine future policy decisions, see *Interest and Prices*, cited above, chap. 7; and Michael Woodford, "The Case for Forecast Targeting as a Monetary Policy Strategy," *Journal of Economic Perspectives*, Fall 2007, pp. 3-24.

one hand, and a ceiling for expected inflation, on the other --- for a ***single*** decision, whether it is time to begin to raise the federal funds rate. This allows considerable ambiguity to remain about what will be done if, as is surely possible, the inflation ceiling is reached while unemployment remains well above 6.5 percent. The new formulation also has the disadvantage that the announced thresholds appear to represent both a break with ***past*** policy targets, and a different approach to policy than the one that the FOMC would like the public to expect that it will follow in the ***future*** as well, once the transition from the current anomalous period has been completed. Such an approach runs the risk of allowing considerable uncertainty about future policy, and hence about future macroeconomic outcomes, if the Fed feels free to choose new macroeconomic targets on short notice and without ever committing itself to them for more than a short period of time.

The FOMC itself seems to be aware of this problem, and to have made an effort to assure the public that the new policy does not involve disregard of its past policy targets, by only promising to maintain the low federal funds rate if "inflation between one and two years ahead is projected to be no more than a half percentage point above ***the Committee's 2 percent longer-run goal,*** and longer-term inflation expectations continue to be well anchored." But this assurance that the Committee's inflation target remains unchanged, and will still constrain the degree to which it will pursue expansionary policy even under current circumstances, is not obviously consistent with its simultaneous effort to signal a ***shift*** in its policy reaction function.

This internal tension in the FOMC's statements about future policy results, in my view, from a failure to attempt an ***explanation*** of its policy intentions at a ***higher level***.[8] It has moved from a mere discussion of the interest-rate decisions that are anticipated for particular future dates to a description of ***economic criteria*** that should ***determine*** future interest-rate decisions; but it presents these as decisions about how to decide on certain specific, ***carefully delimited*** occasions, outside the context of any more generally applicable approach to interest-rate policy. The description of the criteria that should determine policy remains at a level of specificity such that an appearance of continuity with either past policy or intended future policy is possible only if the quantitative thresholds that tell whether a zero federal funds rate remains appropriate are ***themselves the same*** as they have previously been or should be expected to be farther in the future --- though this undercuts the possibility of using "forward guidance" to signal a temporary period of more expansionary future policy to mitigate the effects of the currently binding lower bound on interest rates.

An alternative approach, that I believe would be desirable, would instead explain the adoption of more expansionary policy targets for the immediate future as ***following from more general principles,*** when applied to the current, relatively unusual situation. In particular, it would be desirable to link the shift in the Fed's reaction function explicitly to the ***size of the departure*** of the path of the

[8] For more on the different possible levels of description of monetary policy, see Michael Woodford, "Principled Policymaking in an Uncertain World," in R. Frydman and E.S. Phelps, eds., *Rethinking Expectations: The Way Forward for Macroeconomics,* Princeton: Princeton University Press, 2013.

economy from previous policy targets, and the length of time for which nonstandard policy will be appropriate to the ***time that it takes to correct that deviation.***

One way that this might have been done would have been to characterize the Fed's policy in normal times as seeking to use its control of the federal funds rate to keep ***nominal GDP on a steady growth path,*** at a rate chosen to imply an average inflation rate --- averaging over a sufficient number of years --- equal to the Fed's announced long-run inflation target of two percent per year. Such an approach would be an example of a monetary policy commitment that should ensure that over the medium run, inflation will be near the Fed's declared target rate with a high degree of confidence. At the same time, it would imply that inflation is not the sole determinant of policy in the short run; it would supply a more precise meaning to the FOMC's declared intention to follow a "balanced approach" that takes account of both inflation and real economic growth in the short run. While the FOMC has made no explicit reference to a target path for nominal GDP in the past, such a characterization would not be too different from its actual behavior prior to 2008.

One could then explain that the fact that nominal GDP has been allowed, since 2008, to fall ***far below its previous trend*** --- on the order of 10 to 15 percentage points below, depending how one identifies that trend --- will require a different approach to policy for the next few years. Specifically, the FOMC might commit itself to maintain as great a degree of policy accommodation as possible, until nominal GDP can be brought ***back to the target path***, from which it ideally would never have deviated.[9] Given how far we currently are below the previous trend line, and how slowly, if at all, the gap is being closed, such a commitment would imply that interest rates would most likely remain near zero for another couple of years, or even longer. It would, however, define the time until interest rates should begin to be normalized in terms of ***economic outcomes***, rather than a calendar date.

Moreover, unlike the thresholds announced by the FOMC beginning in their December 2012 statement, it would announce a ***single criterion*** to determine the duration of accommodative policy, and thus make the Fed's policy intentions less ambiguous. And while such a commitment would clearly indicate an intention ***not to follow the FOMC's normal policy reaction function*** over the near term, owing to the need for a period of higher-than-normal nominal GDP growth to reach the target path again, it would communicate this in a way that should not create doubts about whether ***sustained inflation*** may be unleashed by policies that appear to throw restraint to the wind. For the existence of a target path for the ***absolute level*** of nominal GDP, and one that has ***not been raised*** as a result of the crisis, would imply that nominal growth should be capped. And the pursuit of such a temporary policy would remain perfectly consistent with a stated intention to pursue a subsequent approach to policy --- namely, once again keeping nominal GDP near the target path --- that should deliver an average inflation rate near the two percent target in the longer run.

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[9] This proposal is further discussed in Michael Woodford, "Methods of Policy Accommodation," cited above; "Inflation Targeting: Fix It, Don't Scrap It," in L.Reichlin and R. Baldwin, eds., *Is Inflation Targeting Dead? Central Banking After the Crisis,* London: Centre for Economic Policy Research, 2013; and in "Monetary Policy Targets After the Crisis," presented at the conference "Rethinking Macro Policy II," International Monetary Fund, April 2013.

Whether the FOMC's approach to communication will develop further in this direction is hard to say. But I suspect that ***forward guidance*** --- explicit discussion of intentions with regard to the future conduct of policy --- will remain an important part of their policy strategy, even after the conclusion of the current, historically anomalous period. The reasons for explanations of the bases for policy decisions to matter for the effects of policy are fundamental, as I have explained, and not a feature only of our current unusual situation. The FOMC has moved slowly and rather cautiously in beginning to use this additional tool, but once it has had some experience with it, it is likely to feel more comfortable using it even in more normal times. Hence the communication dimension of policy is likely to be one that the FOMC will routinely have to consider, going forward.

The caution with which the FOMC has moved toward the adoption of more explicit forward guidance as a policy tool does not solely reflect conservatism on the part of that institution, or of the kind of people who are selected to serve on it. Economists have also probably contributed to the neglect by central banks of the potential gains from effective communication policy. Economic analysis typically assumes that people understand the world ***as it actually is,*** and that they rationally respond to the incentives presented by their environment. Hence we often suppose, when analyzing the effects of possible policies, that all that can matter is how governmental actions change the incentives that people ***truly face*** to behave in one way or another; the issue of how the policies are ***explained*** or ***understood*** is taken to be irrelevant.

I think that in taking this view, we miss something important. It is not simply that we miss an opportunity to more accurately predict what the actual effects of changes in policy will be in particular instances. We also miss out on an opportunity to use economic analysis to improve public policy, though in a different way than the one that we are most familiar with. For if the ***explanations*** that public agencies like the Federal Reserve offer for their policies also matter, then there is a role for economic analysis to play, not simply in helping policymakers to ***predict the effects*** of particular policy actions, but also in helping them to craft ***coherent explanations*** of the principles that should guide their decisions. This is a different conception of the way that economic analysis can contribute to public policy, but not a lesser one, and it is a challenge to which I hope that we as a profession will be able to rise.