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Global Economics View

Forward Guidance:

More than Old Wine in New Bottles and Cheap Talk?

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With thanks to
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- Based on the recent experience in Canada, the US, the euro area and the UK, the best approach to signaling longer-term monetary policy intentions, in an operational manner, typically has three components.
  - First, commit to the regular publication and updating of: forecasts of the target variables, of any additional nominal or real thresholds, knockouts or triggers that define the central bank's reaction function for each of its instruments, and of the instruments themselves. Do this for longer horizons that the currently common 1, 2 or 3 years.
  - Second, reach an agreement that, at most, one member of the monetary policy making committee—presumably its chair—speaks or writes publicly about the likely future paths of the policy instruments (i.e., rates or QE). Silence is golden.
  - Third, give the central bank skin in the game by requiring it to issue or purchase material amounts of financial instruments on which it will lose money if interest rates depart from the forward guidance-consistent levels – financial hostage instruments. If possible, link the pay of the monetary policy makers at least in part to the performance of these instruments.

See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

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Introduction

Forward guidance has three problems:

'Forward guidance' had a poor start in life. It was born as a pleonasm – afflicted with a severe case of redundancy. 'Guidance' would have sufficed, as all guidance relates to the future and is therefore inevitably forward. Perhaps some idiosyncratic historians call their subject 'backward guidance', and maybe the odd tourist has signed up for instantaneous or simultaneous guidance around some ancient site, but we doubt it. Redundancy as a rhetorical device tends to be used when it is deemed desirable to inflate the importance of someone or something beyond what is fundamentally warranted. Our view is that this also is the case with forward guidance.

Is it a change in policy or a change in communication about policy?

Building upon this poor start, forward guidance as a monetary policy enhancement tool has run into three problems. The first was lack of clarity as to whether forward guidance represented a change in policy (or in the policy rule) in addition to a change in the manner of communication about an unchanged policy. If a change in policy was involved, was this due to a change in the objectives or targets of monetary policy, a change in the monetary policy makers' views about the exogenous environment, or a change in their views on the nature of the monetary policy transmission mechanism?

It can be a cacophony of often contradictory statements

The second problem (not unrelated to the first) was the cacophony of confused, confusing and often contradictory statements about forward guidance, both its nature and its content, by members of some of the monetary policy making committees like the FOMC of the Fed in the US and the Governing Council of the ECB in the euro area. The Bank of England has not yet succumbed to this second problem, but they are the most recent member of the forward guidance. This communication problem can be avoided in the future if more monetary policy makers were to practice the art of silence.

It is mostly cheap talk.

The third problem is that, as implemented thus far it is not clear why anyone should pay much attention to forward guidance as it is, in our view, mostly 'cheap talk'. This note considers what can be salvaged and how. It complements the analysis by William Lee (2013) of forward guidance and large-scale asset purchases in the US, by digging somewhat deeper into the use of policy (rule) announcements or policy instrument forecasts as instruments of monetary policy.

The Fed, BoE, BoJ and ECB all appear to have modified their objectives.

With regards to the question if the adoption of forward guidance by the Fed, the ECB, and the Bank of England, represented a change in policy objectives or a new communication strategy, we believe that for all three a change in policy objectives was involved. The adoption of forward guidance by the Fed and the Bank of England was, we believe, at least in part motivated by a desire to change the targets of monetary policy (at the initiative of these central banks themselves, but with the tacit support of their political masters) in a more inflation-tolerant direction. According to our interpretation of the Fed's forward guidance, the Fed has de facto raised the inflation target from 2.0% per annum to 2.5 percent.[1] The Bank of England, which notionally still has a mandate that is lexicographic with price stability in pole position, has *de facto* adopted a dual mandate that treats inflation and the output gap or unemployment symmetrically – a form of flexible inflation targeting. Persistent deviations of inflation from its target level are tolerated if bringing inflation back to the target more quickly would cause material damage to the real economy. The phrasing is symmetric – the relaxation of the price stability mandate is supposed to apply to undershooting of the inflation target as well as to overshooting.

[1] This is despite the assertion in the Press Release of September 18, 2013 (following the September FOMC meeting) that "When the Committee decides to begin to remove policy accommodation, it will take a balanced approach consistent with its longer-run goals of maximum employment and inflation of 2 percent." http://www.federalreserve.gov/newsevents/press/monetary/20130918a.htm

De facto, however, only the overshooting side of the coin is likely to be relevant in the foreseeable future.

All but the ECB appear to have become more relaxed about inflation.

At the same time that the Fed and the Bank of England appear to have weakened their commitment to price stability, the ECB appears to have strengthened it. Headline and core inflation are well below the target level (but close to 2 percent per annum in the medium term). Even the ECB's own rather optimistic real GDP growth forecasts (1.0 percent for 2014) don't imply any closing of the output gap. Domestic disinflationary pressures are therefore likely to persist or intensify. Imported inflation is not a threat: most economists' central projections see commodity prices falling in the next few years as global growth is increasingly driven by regions with less commodity-intensive consumption, investment and production. Yet the ECB has not cut its official policy rate (the refi rate remains at 50 bps) and unlike all other central banks, the balance sheet of the Eurosystem is contracting rapidly. This is consistent with the view that the ECB takes undershooting of the inflation target less seriously than overshooting of the inflation target – at least as long as there is no risk of deflation (persistent negative inflation). This asymmetry in the ECB's pursuit of its inflation target (or rather the inflation rate deemed consistent with price stability in the medium term) shows up as a greater readiness to raise rates when inflation is above target than when it is below target by the same amount.

The *prima facie* surprising strength of the euro can probably be attributed in no small degree to this divergence in the monetary policy target revisions between the ECB on the one hand, and on the other hand the Fed, the Bank of England (and the Bank of Japan which, without as yet attempting forward guidance, raised its inflation target from 1.00 percent to 2.00 percent per annum

Expectations and monetary policy

Few things are less important than the next monetary policy action

Few economic policy decisions are less intrinsically important for the real economy and for financial markets than the next interest rate decision of the Fed or any other central bank. At best the target for some short-term, risk-free nominal interest rate (say the unsecured overnight interbank rate) is announced for a period not much longer than a month. Because the Fed and most other monetary policy making bodies can schedule extra rate setting meetings between the regular scheduled meetings at any time and as many times as they want, the current decision on the official policy rate (OPR) sets the short risk-free nominal interest rate for no more than a very short time interval into the future. Nothing much depends on the value set for the Federal Funds target rate for just over a month, unless the current rate decision has implications for the anticipated future path of the OPR. Likewise, decisions on the size and composition of the balance sheet of the central bank, such as Large Scale Asset Purchases (LSAPs), Quantitative and/or Qualitative Easing, Credit Easing, Enhanced Credit Support, sterilized or non-sterilized foreign exchange market interventions, the sterilization of monetary base increases, changes in collateral policy or whatever, are of very limited economic and financial significance if they are expected to be reversed soon or at the drop of a hat.

It is the impact of the next decision on anticipated future policy actions that drives markets and the real economy

Economists and market participants have known for a long time (yes, even before the application of rational expectations to monetary economics) that it is the entire past, current and future, state-contingent path of official policy rates and central bank decisions on the size and composition of its financial assets and liabilities that matter for economic and financial activity. That is why communicating longer-run intentions and signaling likely if contingent future policy responses to verifiable contingencies have been a key element of central bank policy design and implementation. Communication can take many forms.

There are many ways of signaling future policy intentions

Clarity about goals and objectives is not the same as pointing to the law or Protocol giving the central bank its official marching orders. There are many ways of signaling future policy intentions. Statements and press conferences following policy setting meetings of the monetary policy making body is one. Publishing the minutes or the transcripts of policy setting meetings is another. Even the ECB has, at last, seen the light in this regard and is considering publishing minutes, possibly with attributed statements and even with the individual votes – should the Governing Council ever decide to have formal votes on monetary policy matters. Speeches, interviews, the publication of forecasts for inflation, growth, unemployment or the path of the official policy rate or the publication of the economic models the central bank uses internally to guide its decisions are other means of communicating with the markets and the wider public.

Constructive ambiguity is a perverse form of forward guidance.

Communication of the central bank with the markets has not always meant making future decisions, or the verifiable drivers of future decisions, as clear and transparent as possible. Many central bankers in the past and a few today are advocates of 'constructive ambiguity' – intentionally keeping the markets guessing though the deliberate use of ambiguous language.[2] Alan Greenspan was a master of this art. This can be rationalized as optimal from the point of view of the central bank if the interaction between the central bank and the markets is viewed as a non-cooperative game where it may be individually rational (although not necessarily socially optimal) for a player to deliberately add noise to the signal he sends to the other players.

Explicit central bank forecasts of the future path of short-term rates started in New Zealand

The practice of accompanying a monetary policy decision by the publication of an explicit path for a short-run nominal rate of interest rate stretching several years into the future was pioneered by the Reserve Bank of New Zealand in June 1997 and first implemented in 1998 (the forecast is for the 90 day rate). Norway's Norges Bank followed in 2005. Sweden's Sveriges Riksbank in 2007 pioneered the publication of a frequency distribution for the future official policy rate which now covers a three year horizon. Iceland's Sedlabanki Islands started publishing interest rate projections in 2007 and the Czech National Bank in 2008. At the Bank of Canada, the Fed, the Bank of England and many other central banks, forward guidance, not through explicit interest rate forecasts and until quite recently not using the 'forward guidance' label, has been used to steer anticipations of future central bank actions by market participants and other economic agents in the direction desired by the central banks in question. The main tool was attempting to provide greater clarity about what drives these future policy actions – the central bank's objectives, view of the exogenous economic environment and view of the monetary transmission mechanism. Forward guidance, in the sense of trying to steer market expectations of future central bank instruments towards the levels or values the central bank deems appropriate and intends, given the current information available to the central bank, to implement, is as old as central banking. The sudden focus on forward guidance, especially since the Fed adopted it in late 2012 reminds one of Moliere's Bourgeois Gentilhomme discovering that he has been speaking prose for more than forty years without knowing it.

[2] According to Wikipedia, "Constructive ambiguity is a term generally credited to Henry Kissinger, said to be the foremost exponent of the negotiating tactic it designates. It refers to the deliberate use of ambiguous language on a sensitive issue in order to advance some political purpose". http://en.wikipedia.org/wiki/Constructive_ambiguity

Forward guidance as a means to stimulate activity is less powerful at the ZLB than above the ZLB – but more important.

Forward guidance is neither more nor less relevant at the zero lower bound (ZLB), or rather the effective lower bound (ELB) defined by the existence of a safe and highly liquid security – currency - with a zero nominal interest rate, than it is when the short nominal interest rate is well above the zero lower bound. Inevitably, when the ELB becomes a binding constraint on the official policy rate, which cannot be set so far below zero as to make arbitrage into currency profitable, the policy reaction function of the central bank for the official policy rate becomes asymmetric. You can only go up or stay constant, you cannot go down. So the usual Taylor rule, which calls for a higher (lower) policy rate when inflation is above (below) target and when output is above (below) capacity, is truncated at the ELB. At the ELB, interest rate policy is more expansionary the longer the OPR is expected to remain at the ELB. Changes in the size and composition of the central bank's balance sheet remain in principle symmetric instruments at the ELB. Reserve requirements can be zero, but not negative. Haircuts on collateral in repos also cannot become negative. None of this makes forward guidance any more effective at the ELB than away from the ELB. It may be more important, because if the intent is to stimulate activity through the OPR, only forward guidance of the 'zero for longer' variety can make a difference.

Away from the ELB, at an official policy rate in period *t* of $i_t^* > 0$, the effectiveness of expansionary policy through forward guidance about the future path of the interest rate is inevitably greater than at the lower bound. After all, above the ELB the policy maker can promise *constant or lower* for longer ($0 \le i_k^* \le i_t^*, k = t+1,...,t+N,\ N \ge 1$); at the ELB all they can promise is constant (at zero) for longer ($0 = i_k^* = i_t^*, k = t+1,...,t+N,\ N \ge 1$). Away from the ELB, forward guidance can therefore be more expansionary, and more dangerous as regards the risk of overheating and excessive inflation, than at the ELB.

Communication, commitment and credibility: theory and recent practice

Forward guidance can be used for the official policy rate, the size and composition of the balance sheet, reserve requirements, the remuneration of excess reserves, collateral policy or any other policy instrument of the central bank. For simplicity, we restrict ourselves to the OPR in most of what follows.

Consider market participants and other economic agents whose actions are influenced by what they expect the central bank to do in the future, such as households, workers and non-financial corporates. Forward guidance would be redundant if they knew the objectives of the monetary policy makers and their decision making procedures, if they also knew both the monetary policy makers' views or models of the exogenous environment within which monetary policy is conducted and the monetary policy maker's views or models of the monetary transmission mechanism, *and* if they themselves had comprehensive views/models of the exogenous monetary policy environment and of the monetary transmission mechanism (views/models that need not be the same as the views/models of the monetary policy makers). With unlimited computational capacity anyone who wanted to could make an optimal, probably state-contingent, forecast of all future monetary policy actions. That, however, is not the world we live in.

Forward guidance conveys the decision rules or reaction functions of the central bank or the likely future policy actions they imply.

Instead, forward guidance provides the public with the decision rule or rules governing current and future actions of the central bank – the central bank's reaction function showing how the policy instruments of the central bank are driven by the state of the economy. A Taylor rule specifying the official policy rate as an increasing function of the output gap and the deviation of inflation from its target value would be an example.

Forward guidance can take the form of a time-contingent forecast of future values of the policy instruments or a state-contingent rule.

Optimal policy rules tend to be time-inconsistent and therefore not credible in the absence of a commitment technology

A typical forward guidance statement would be to state publicly that the OPR will not be raised until or unless *X* happens. *X* is a vector or list of verifiable events, the state vector. In the simplest case, *X* is a date in the future. This can be called 'time-contingent', date-contingent or calendar-contingent forward guidance.

In a world with forward-looking private agents, the optimal time-contingent rules like the "'lower for longer" rule advocated for instance by Woodford (2012) will typically be time inconsistent. William Lee (2013) makes this point eloquently. The same holds for optimal state-contingent or conditional rules. In a world with sequential decision making, even in the absence of news about the state of the word, the optimal policy action for the next period will typically not be the continuation of the optimal policy sequence determined this period. As an example, consider a world (unlike ours) in which inflation is too high for comfort and the monetary policy maker wants to bring it down. Current inflation depends inversely, through a slightly fancy Phillips curve, on the deviation of the unemployment rate from the natural rate of unemployment. Current inflation also depends on past inflation and on anticipated future inflation. It is easily shown that in such a world, current inflation ultimately depends, through the anticipated future inflation channel, on the entire anticipated future path of the unemployment rate. In this Taylor-type world (see Taylor (1980) and Buiter (1985)), the central bank can, if it can credibly commit itself today to interest hikes in the future, create expectations of higher future unemployment. This will lower expected future inflation and thus also bring lower inflation today. Assume that the markets buy the promise of a future restrictive monetary policy leading to a future recession. Inflation has been beaten without any actual unemployment cost having been incurred -yet. Then the future date arrives at which the policy maker has to raise rates and create a recession to validate the beliefs that brought down inflation. What monetary authority would create an unnecessary (or rather no longer necessary) recession simply to maintain its credibility? Not too many. Knowing that, markets will anticipate that rates will not be raised in the future and that no future recession will be generated by restrictive policy. Inflation remains at its excessive level. The problem of time inconsistency of optimal policies or plans in a world with forward-looking agents also occurs if the optimal rule is a conditional or contingent rule. To get out of this bind, some way to make reneging on a commitment costly has to be found. We shall consider one particular kind of commitment device in the last section.

The problem that, because of the time inconsistency of optimal policies it is very difficult to commit oneself credibly to an optimal policy, applies in spades when policy is made by a Committee whose membership varies over time. Certainly, no FOMC can make commitments that are binding on yet to be appointed future members.

Mark Carney, one of the early surfers of the current forward guidance wave, appeared to many observers to use time-contingent forward guidance in 2009, when he was Governor of the Bank of Canada, by issuing a statement widely interpreted as a promise or commitment not to raise interest rates for at least a year. However, the Canadian economy recovered so quickly, that Carney had to raise rates earlier than expected. Of course, the Commitment by the Bank of Canada had not been unconditional, and the conditionality had not been hidden in the small print either. The press release on April 21, 2009 by the Bank of Canada was headlined: *"Bank of Canada lowers overnight rate target by 1/4 percentage point to 1/4 per cent and, conditional on the inflation outlook, commits to hold current policy rate until the end of the second quarter of 2010".*[3]

[3] http://www.bankofcanada.ca/2009/04/publications/press-releases/fad-press-release-2009-04-21/

The lesson that many market participants don't listen carefully or check the small print and the footnotes but hear and read what they want or hope to hear and read is an important one for those contemplating using forward guidance.

Time contingent-forward guidance ("no rate increase for the next 5 years") is only credible when viewed as a point forecast of policy actions driven by a conditional rule.

Clearly, time-contingent forward guidance is not credible unless it is recognized as no more than the projection on the time axis of a state-contingent decision rule. It is not an immutable commitment to or promise of a given sequence of interest rates. There will always be circumstances, unforeseen contingencies, both known and unknown unknowns, under which a previously unanticipated interest rate or other monetary policy decision by the central bank is the only action that makes sense. Flexibility, the ability to respond to news, is not the same as opportunistic behavior, lack of commitment or being a flip-flopper: *"When the facts change, I change my mind. What do you do, sir?"* a quote often attributed to John Maynard Keynes is a pretty good line. This means that the only kind of *commitment* (as opposed to forecast or projection) that can be taken seriously is a conditional, or state-contingent commitment: the forward guidance rule (the OPR will not be raised until or unless *X* happens) now has *X* turning into a list of economic variables, such as thresholds, knockouts or trigger values for unemployment, inflation, inflation expectations, the output gap, financial conditions or whatever else the central bank responds to in its rate-setting decisions. Credibility further requires that the contingencies that could lead to central bank to act in a way that is different from its unconditional central projection, be observable. The markets and the public at large must be able to verify whether the central bank acted according to the conditional rule or instead either acted opportunistically or indeed deceitfully, or made a 'fat finger' error.

The economic variables that the policy instrument responds to can be different from the variable(s) targeted by the central bank.

The state-contingent decision rule of the central bank may include drivers of the official policy rate (or other monetary instruments) that are different from the target variable(s) the central bank intrinsically cares about. For instance, the ECB's macroeconomic stability objective is lexicographic in price stability. It can pursue growth, employment or whatever else the Treaty on European Union mentions as the objectives of the European Union, but only subject to, or, as the Treaty puts it, *without prejudice to*, its price stability mandate. Price stability is not the only macroeconomic policy objective, but it comes first.[4] This is different from the triple macroeconomic stability mandate of the Fed, which assigns the goals of maximum employment, stable prices, and moderate long-term interest rates. The Fed's triple mandate is almost universally misrepresented as a dual mandate involving just maximum employment and stable prices. In addition to the single, dual or triple macroeconomic stability mandate, all central banks also have a financial stability mandate.

That the ECB has a single macroeconomic stability objective – price stability – does not mean that the reaction function of the ECB should only respond to deviations of actual inflation (or predicted future inflation) from its target value. If inflation is driven by the output gap, as many New Keynesian models have it, even a hard-core inflation targeter could legitimately move the OPR in response to changes in the output gap. The vector of state variables that the optimal interest rate responds to can contain variables that the monetary policy maker does not intrinsically care

[4] From Protocol (No 4) On the Statute of the European System of Central Banks and of the European Central Bank, Chapter II, Objectives and Tasks of the ESCB, Article 2, Objectives: "In accordance with Article 127(1) and Article 282(2) of the Treaty on the Functioning of the European Union, the primary objective of the ESCB shall be to maintain price stability. Without prejudice to the objective of price stability, it shall support the general economic policies in the Union with a view to contributing to the achievement of the objectives of the Union as laid down in Article 3 of the Treaty on European Union. The ESCB shall act in accordance with the principle of an open market economy with free competition, favoring an efficient allocation of resources, and in compliance with the principles set out in Article 119 of the Treaty on the Functioning of the European Union.

about and it may not even include the current or lagged values of the target variable. A policy maker who cares only about inflation will still respond to the level of or change in the output gap or unemployment rate if the output gap or the unemployment rate influence or cause inflation. They should in fact respond to any variable that helps predict future inflation, even if the variable in question does not 'cause' inflation.

Not everyone understands this - vide - the reluctance of the ECB to specify real thresholds for its interest rate rule.

The list of economic or other variables that the official policy rate and other monetary policy instruments respond to in order to achieve the objective(s) of monetary policy may include variables other than those targeted by the central bank. This in no way implies a violation of the central bank's mandate, something that appears to be lost on some but fortunately not all members of the ECB's Governing Council. Unsurprisingly its President, Mario Draghi gets it right. At the August 1, 2013 press conference following the Governing Council meeting, In response to the question "…, did you discuss tying the forward guidance to a quantitative threshold or trigger, or is this a discussion that you might want to have in the future?", he said the following: "…no we did not discuss that. However, our formulation of forward guidance is in line with our strategic framework, which is anchored in our assessment of the medium-term outlook for inflation, or price stability. And this outlook depends on economic activity and on money and credit developments. So this is our strategic framework, within which we can say that medium-term inflationary expectations remain firmly anchored. Within this framework, we did not discuss the introduction of thresholds or quantitative benchmarks."5 This sound like a reaction function with three or possibly four arguments or thresholds: medium-term inflation expectations, some real variable like the output gap or the unemployment rate (to capture economic activity), the growth rate of a (broad) monetary aggregate and the growth rate of bank credit.[6]

The President of the German Bundesbank, Jens Weidmann, also starts off promisingly in an interview with Handelsblatt on 26 August 2013.[7]

Question: The ECB, with your vote, recently promised in its forward guidance that interest rates would remain at present or lower levels "for an extended period of time". Can you be more specific?
Weidmann: The forward guidance is deliberately formulated in this way because it depends on certain conditions being met and is not a promise. The expectation it expresses that interest rates will not be raised for an extended period is based on

[5] In Introductory statement to the press conference (with Q&A), 1 August 2013, ECB http://www.ecb.europa.eu/press/pressconf/2013/html/is130801.en.html. Later in the same press conference, Draghi also said (quoting the post-meeting statement he had just read out): "…expectation of interest rates "continues to be based on an unchanged overall subdued outlook for inflation extending into the medium term" – so that is one thing one should look at – "given the broad-based weakness in the economy and subdued monetary dynamics". I think you have all the parameters in your hands to judge the length of time and especially to judge when the language on forward guidance might be changed. Admittedly, these parameters are not specified in quantitative terms as thresholds, because, as I said before, our strategic framework is different, and it is rooted in the assessment of the medium-term outlook of inflation. But they are expressed in qualitative terms."

[6] Federal Reserve Act, Section 2A. Monetary policy objectives.

"The Board of Governors of the Federal Reserve System and the Federal Open Market Committee shall maintain long run growth of the monetary and credit aggregates commensurate with the economy's long run potential to increase production, so as to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates. " [12 USC 225a. As added by act of November 16, 1977 (91 Stat. 1387) and amended by acts of October 27, 1978 (92 Stat. 1897); Aug. 23, 1988 (102 Stat. 1375); and Dec. 27, 2000 (114 Stat. 3028).]

[7] "The crisis is not over", interview with Jens Weidmann, President of the Deutsche Bundesbank – Handelsblatt 26 August 2013, http://www.bundesbank.de/Redaktion/EN/Interviews/2013_08_26_weidmann_handelsblatt.html .

our tried and tested monetary policy strategy and our forecast for economic development. If new data comes to light that changes the outlook for price stability, monetary policy will be adapted accordingly.

A little later in the interview, Weidmann rather spoils the promising start:

Question: The Fed is less secretive and has promised to keep interest rates low until unemployment falls to 6.5 percent. Would something like this be possible for the ECB?
Weidmann: Unemployment is not a suitable threshold value for forward guidance in the euro area, partly because – unlike the Fed – the ECB's sole mandate is to maintain price stability. Qualifying our objective of price stability by introducing additional thresholds for unemployment could jeopardize our ability to fulfill our mandate. There must be no doubt that price stability is our firm objective.

The notion that introducing a threshold for unemployment in the central bank's reaction function would jeopardize the ECB's ability to pursue its price stability mandate is a logical nonsense. What you respond to and what you target are quite distinct things, logically and practically.

The Fed's forward guidance for the policy rate is state-contingent and mostly quantitative. Its forward guidance for QE is fuzzy.

The Fed's most explicit attempt at forward guidance for the target range for the federal funds rate was explicitly state-contingent, specifying three thresholds, two numerical, one qualitative, that would have to be crossed before the Fed would raise interest rates. From the Fed's own Current FAQ's we cite the following description of its state-contingent rule:[8]

"Following their December 2012 meeting, Federal Reserve policymakers indicated that they anticipated that a target range for the federal funds rate of 0 to 1/4 percent will be appropriate at least as long as

- **the unemployment rate remains above 6-1/2 percent,**
- **inflation between one and two years ahead is projected to be no more than 1/2 percentage point above the Committee's 2 percent longer-run goal, and**
- **longer-term inflation expectations continue to be well anchored**.

Policymakers said they viewed these thresholds as consistent with their earlier date-based guidance, which stated that they anticipated exceptionally low levels for the federal funds rate were likely to be warranted at least through mid-2015."

Note that in the last sentence of this quote, the Fed makes a projection of its decision rule onto the time axis. The Fed must believe or expect that by mid-2015 the unemployment rate will not be at 6.5 percent or lower, that their own inflation projection at that time for inflation one to two years ahead will not be above 2.5 percent and that longer-term inflation expectations will, in the view of the voting FOMC members in mid-2015, remain well-anchored. Further state-contingent forward guidance was also provided for the tapering of QE. The Fed's forward guidance for QE – its tapering strategy – has been purely qualitative, however, and not very informative.

Of course one can believe the decision rule (the three thresholds in the case of the Fed) to be correct, without taking much notice of the Fed's forecast that these

[8] See "How does forward guidance about the Federal Reserve's target for the federal funds rate support the economic recovery?" *Current FAQs, Informing the public about the Federal Reserve*, http://www.federalreserve.gov/faqs/money_19277.htm

thresholds are not expected to be breached by the middle of 2015. How much weight one attaches to the Fed's own estimated exit date from the zero rate policy depends on how good one believes the FOMC and the Fed's staff to be at forecasting inflation, unemployment and long-term inflation expectations. Their forecasting track record on real GDP growth has been consistently over-optimistic since the recovery started, another reason why the forward guidance offered by the Fed doesn't move mountains.

The UK adopted the US approach to forward guidance for interest rates, with an extra knockout clause for financial stability added. Asset purchases are supposedly driven by the same considerations

In the UK, Mark Carney, in his new incarnation as Governor of the Bank of England, introduced state-contingent forward guidance in the UK for Bank Rate and QE. After its meeting on August 1, 2013, the MPC announced it intended not to raise Bank Rate from its current level of 0.5%, that it intended to reinvest the cash flows associated with all maturing gilts held in the Asset Purchase Facility and to stood ready to undertake further asset purchases if conditions warranted it at least until the Labour Force Survey headline measure of the unemployment rate has fallen to a threshold of 7%, subject to the following condition: the guidance linking Bank Rate and asset sales to the unemployment threshold would cease to hold if any of the following three 'knockouts' were breached:

- **in the MPC's view, it is more likely than not, that CPI inflation 18 to 24 months ahead will be 0.5 percentage points or more above the 2% target;**
- **medium-term inflation expectations no longer remain sufficiently well anchored;**
- **the Financial Policy Committee (FPC) judges that the stance of monetary policy poses a significant threat to financial stability that cannot be contained by the substantial range of mitigating policy actions available to the FPC and the regulatory authorities.**
- **There is no presumption that breaching any of these knockouts would lead to an immediate increase in Bank Rate or sale of assets.**[9]

On July 4th 2013, the ECB started a public discussion among the members of the Governing Council about the meaning of 'an extended period of time'.

The ECB has been making forward guidance statements about interest rates of the "no higher for longer" variety since July 2013. "Looking ahead, our monetary policy stance will remain accommodative for as long as necessary. The Governing Council expects the key ECB interest rates to remain at present or lower levels for an extended period of time."[10] In the September 5 Press Conference following the rate setting meeting of the Governing Council, President Draghi described this as qualitative forward guidance, a qualitative clarification of the ECB's reaction function, distinguishing it from the quantitative variety, with precise state conditions.[11]

Decision making by committee vs. communicating by committee

Decision making by committee can be a good thing.

Decision making by committee makes sense for monetary policy, provided the policy making body is of a suitable size, neither too small to bring a diverse range of human capital to the table, nor too large to be a serious forum for discussion and

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[9] Bank of England, News Release - Bank of England provides explicit guidance regarding the future conduct of monetary policy, http://www.bankofengland.co.uk/publications/Pages/news/2013/096.aspx

[10] Introductory statement to the press conference (with Q&A), Mario Draghi, President of the ECB, Vitor Constancy, Vice-President of the ECB, Frankfurt am Main, 4 July 2013, http://www.ecb.europa.eu/press/pressconf/2013/html/is130704.en.html

[11] Introductory statement to the press conference (with Q&A), Mario Draghi, President of the ECB, Frankfurt am Main, 5 September 2013 http://www.ecb.europa.eu/press/pressconf/2013/html/is130905.en.html

argument. Seven to nine members would probably be optimal from the perspective of maximizing the odds on reaching the best decision (see Sibert (2003, 2006), Sibert and Mihow (2006).

Communication with the public by committee is usually a disaster.

For communicating policy to the markets and to the public at large, one voice or no voice is best. More than one cook definitely spoils the broth.

We saw this in a spectacular fashion for the Fed, since May 22, 2013, the day Chairman Bernanke introduced a tentative time table for tapering QE, and for the ECB following President Draghi's first attempt at forward guidance on July 4, 2013.

The Bank of England's communication of its forward guidance has been much less chaotic than that of the Fed and the ECB, but as the most recent convert to the forward guidance cult, it of course has had fewer opportunities to make a mess of things. The Bank of England forward guidance on forward guidance on July 4, 2013 and its subsequent elaboration on August 7[12], 2013 appear to have been mostly ineffective, as the markets obviously did not believe that the business cycle in the UK lags as much behind the business cycle in the US as Governor Carney appears to believe.

The Fed's communication performance as regards forward guidance for the policy rate and QE has been poor.

In the US, Chairman Bernanke's attempts at explaining forward guidance as regards the tapering of QE and the future path of the OPR were not helped by President Obama's hint during an interview on PBS that aired on June 17, 2013, that Bernanke would not want to stay on as Chairman when his second term expires that the end of January 2013.[13] This effectively turned Bernanke into something of a lame duck as regards his ability to lean on other Board members (and other FOMC members) and make them march in step. [14] Even after the latest FOMC meeting on September 17-18, 2013, fundamental disagreements were voiced by St Louis Fed President James Bullard and NY Fed President Bill Dudley. Bullard wanted a small taper to start in October 2013.[15] Dudley asserted that the US economy still needs "very accommodative" policy.[16] Just before the September 2013 FOMC meeting, Kansas City Fed President Ester L. George had called for tapering to start, with a cut in Fed purchases to $70bn per month, down from the current level of $85bn.[17]Around the same time, Minneapolis Fed President Narayana Kocherlakota argued that "*the FOMC's own forecasts suggest that it should be providing more stimulus to the economy, not less.*"[18]

The explanation of the tapering *volte face* was unconvincing

Such a cacophony of conflicting voices is bound to leave the markets in a state of confusion, emasculating forward guidance completely. The recent rationalization by the Fed of its decision to delay the start of tapering for QE beyond September 2013 added to the confusion. Not only did the statement refer to economic growth and job creation not being sufficiently robust, it also mentioned as grounds for deferring tapering the risks associated with upcoming fiscal debates (i.e. the Continuing

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[12] See http://www.bankofengland.co.uk/monetarypolicy/Pages/forwardguidance.aspx

[13] http://rt.com/usa/obama-bernanke-fed-term-887/

[14] Chairman Ben S. Bernanke, *The Economic Outlook,* Before the Joint Economic Committee, U.S. Congress, Washington, D.C. May 22, 2013, http://www.federalreserve.gov/newsevents/testimony/bernanke20130522a.htm

[15] Wall Street Journal, Monday September 2013, "Fed's Bullard: Small Taper Possible in October", http://blogs.wsj.com/economics/2013/09/20/feds-bullard-small-taper-possible-in-october/

[16] Fast FT: "Fed's Dudley calls for "very accommodative "policy, September 23, 2013.

[17] See George, Ester L. "The Federal Reserve and the Path of Monetary Policy", 09/06/2103, http://www.kansascityfed.org/publicat/speeches/2013-George-Omaha-BusinessLeaders-09-06.pdf .

[18] Kocherlakota Narayana, Opening Remarks, Town Hall, 4 September 2013, http://www.minneapolisfed.org/news_events/pres/kocherlakota_speech_lacrosse_09-04-2013.pdf

Resolution, the federal debt ceiling and the sequestrations).[19] This only makes sense if these future fiscal kerfuffles depress domestic demand today, both private consumption and capital formation, by raising the degree of uncertainty about future fiscal prospects. Higher precautionary saving and lower investment because of a greater option value of waiting – postponing investment – could indeed be a consequence of higher private sector risk perceptions driven by fiscal uncertainty. But as regards the undoubtedly negative effect on economic activity if a federal government shutdown, a failure to raise the debt ceiling or the imposition of larger-than-expected sequestration-driven cuts in federal spending were to actually occur, these can be addressed with more expansionary monetary policy measures as and when they happen. There is no need to anticipate these possible negative future outcomes by having a more expansionary monetary policy now.

In the UK, as noted earlier, the introduction of forward guidance has been rather more orderly thus far. External MPC member Martin Weale voted against the Bank's new forward guidance policy at the August 2013 meeting, because of a disagreement about the inflation knockout clause.[20] Charlie Bean, the Deputy Governor for Monetary Policy put the case for and the limits to forward guidance quite clearly: "This guidance is intended primarily to clarify our reaction function and thus make policy more effective, rather than to inject additional stimulus by pre-committing to a time-inconsistent 'lower for longer' policy path in the manner of Woodford (2012). While such a time-inconsistent policy may be desirable in theory, in an individualistic committee like ours, with a regular turnover of members, it is not possible to implement a mechanism that would credibly bind future members in the manner required."[21]

The Euro Tower was more like the Tower of Babel when the ECB attempted forward guidance.

The ECB has had public disagreements about the meaning and substance of forward guidance even among the Board members. Following President Mario Draghi's statement on July 4th 2013, that the Governing Council expected "interest rates to remain at present or lower levels for an extended period of time", Executive Board member Joerg Asmussen helpfully provided a lower bound to the duration of 'an extend period of time : "it is not six months, it is not 12, it goes beyond,…". He was promptly whistled back by an official clarification from the ECB stating that no exact length for how long rates will remain low was given. Executive Board member Benoit Coeure told Bloomberg News on July 11 that the ECB will reassess its pledge every month, while President Mario Draghi stated on August 1, that that "forward guidance is valid until further notice,".

The conclusion that 'silence is golden' is inescapable. At most one person should explain and clarify policy.

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[19] " … federal fiscal policy continues to be an important restraint on growth and a source of downside risk." And "Finally, the extent of the effects of restrictive fiscal policies remains unclear, and upcoming fiscal debates may involve additional risks to financial markets and to the broader economy. In light of these uncertainties, the Committee decided to await more evidence that the recovery's progress will be sustained before adjusting the pace of asset purchases." Chairman Bernanke's Press Conference, September 18, 2013. http://www.federalreserve.gov/mediacenter/files/FOMCpresconf20130918.pdf

[20] MINUTES OF THE MONETARY POLICY COMMITTEE MEETING 31 JULY AND 1 AUGUST 2013, http://www.bankofengland.co.uk/publications/minutes/Documents/mpc/pdf/2013/mpc1308.pdf

[21] **Charlie Bean, Global** Aspects of Unconventional Monetary Policies, Panel Remarks given at the Federal Reserve Bank of Kansas City Economic Policy Symposium, Jackson Hole, Wyoming, 24 August 2013. http://www.bankofengland.co.uk/publications/Documents/speeches/2013/speech674.pdf

Why Forward Guidance is (effectively) cheap talk)

Forward guidance is mostly cheap talk, and therefore likely to be ignored, because the cost to the policy maker of departing from the forward guidance is minimal.

A statement committing a player to a future course of action or a forecast/prediction (conditional or unconditional) of the future actions of a player has significance or value only if there are costs associated with breaking the commitment or getting the forecast wrong. In game theory, a signal has to be costly for it to have any chance of influencing the behavior of the other players. If a signal is costless, it is cheap talk and should be ignored.

What are the costs to the Fed of getting its (unconditional) predicted path of the future policy rate wrong? If the forecast error is due to unexpected developments (news), this 'honest error' at most damages the reputation as a forecaster of the FOMC members (or the Board Staff, depending on who does the forecast). Because few FOMC members are likely to contemplate post-Fed careers based on their professional skills as forecasters, these costs are *de minimis*. If there have been no unexpected developments in the economic environment within which the Fed operates, a failure to follow the rate sequence of the forecast must be due to either a change in the objectives of the Fed or a change in its views on how the wider economy and the monetary transmission mechanism work, or a deliberate desire to mislead the markets and other private agents by surprising them – as in "teaching the markets a lesson", which was a fairly common *modus operandi* in the days of active foreign exchange market intervention. Especially the last of these three possible drivers of forecast errors would be likely to impair the ability of the monetary authority to use forward guidance in the future in an effective manner.

For there to be costs associated with issuing forward guidance and then not following through with it, the markets have to be able to verify (ex-post) whether the forward guidance was accurate. It is therefore essential that forward guidance be clear and transparent. The Fed's persistent communication problems since May 22, 2013, and the disastrous first attempt by the ECB at forward guidance through the statement that "…interest rates to remain at present or lower levels for an extended period of time" and the cacophony of conflicting interpretations that followed it, show how difficult this can be. It should not be too difficult to communicate the direction and timing of future policy changes just through published forecasts, without any need for anyone to say anything at all.

If it could extend its forecast horizon for inflation to, 5 years, the ECB could, if it showed predicted inflation consistently below the target make a clear statement that it does not expect to raise rates for, at least, 3 years.

The ECB could, for instance, extend its forecast horizon for inflation to, say, four of five years from the current two years or less. If it projects actual inflation staying below the target for this extended forecast horizon, this would make it very clear that the ECB, with its singleton macroeconomic stability mandate, does not expect it will have to raise rates for a time interval at least equal to the forecast horizon minus the length of the transmission lag between monetary policy actions and the inflation rate. It is not a promise, not a commitment, but a point prediction – a forecast. The forecast does the talking. This approach could be extended to forecast a "fan chart" consisting of a sequence of probability density functions for future inflation. A lot can be conveyed using just the first three moments (mean, variance and skewness) of the distribution of future policy rates.

Communication without multiple heads talking can be clear. It does not solve the cheap talk problem. Forecasts are cheap also.

The Fed and the Bank of England likewise can give 'speechless forward guidance', simply by making predictions (point or density function), for a future period of suitable length of the thresholds or knock-out variables (unemployment and inflation – predicting expected inflation could be added if there is a view that this would be different from predicting inflation, but in the UK, predicting when the FPC of the Bank of England will ring the alarm bell is probably a bridge too far). A forecast that for the next 2 or 3 years, say, inflation is not expected to rise above its tolerance level and unemployment is not expected to fall below its threshold value would

convey effectively all the information the denizens of the FOMC and the Governing Council of the ECB have tried to convey ineffectively through speeches and Q&A. As regards forward guidance, a picture is indeed likely to be worth a thousand words.

Even though clarity and verifiability make forward guidance potentially useful, the absence of serious costs to deviating from the guidance remains a problem. Forward guidance may not be gratis talk, but it remains pretty cheap talk. Is there a way for the markets and other private economic agents to pay more attention to it?

Towards Forward Guidance that is not just cheap talk

Imposing penalties on policy makers for not implementing the forward-guidance-consistent policy sequence would not be practical.

One very direct way of ensuring that forward guidance is not just cheap talk is to impose fines or financial penalties (deductions from the salary) on the members of the policy making committee if they fail to implement the forward-guidance – implied policy for reasons other than forecast error. It should be clear that this would be extremely difficult to do. Who will determine whether a deviation from the forward-guidance consistent value of the OPR is due to a forecast error or to some other factor? What if there is a legitimate reason other than forecast error from deviation from the forward-guidance consistent OPR sequence? The Fed is a creature of Congress. If Congress were to change the mandate of the Fed by amending the Federal Reserve Act, the Fed would have no choice but to alter its forward guidance.

Forecast errors themselves not necessarily random or independent of the prior actions and efforts of the rate setting body. Forecast errors relative to an honest and efficient forecast – one that benefited from the best efforts of all members of the policy making committee – should of course not be penalized. Forecast errors due in part to the forecast itself being presented to mislead the markets and the public, or forecast errors caused by carelessness, sloppiness or insufficient effort ought, in principle, to be penalized. But who will decompose the forecast errors into these three components, and how? Regrettably, the informational basis for making efficient forward guidance incentive compatible by making certain deviations from the forward guidance consistent policy rate path directly pay-off relevant to the policy makers through fines or penalties is completely inadequate.

Having demonstrable 'skin in the (forward guidance) game' by accompanying a 'no rate increase is anticipated for 2 years' statement with the issuance of a two-year maturity fixed rate repo at the current level of the Federal Funds target rate might convince markets.

Markets are invariably impressed when a monetary policy maker puts his money where his mouth is. They are often even more impressed when the mouth is left out altogether, and the policy maker, just through his actions, demonstrates that he has skin in the game. This may be one reason why foreign exchange market interventions are often an effective signal – even though in efficient financial markets they should have no effect on anything that matters, that a monetary authority that buys foreign exchange reserves to weaken its own currency will suffer a loss if the domestic currency appreciates instead, makes it a costly and therefore potentially powerful signal.

Rather than risking the tax payers' wealth through the issuance of long-term fixed rate repos at a very low rate of interest, members of the monetary policy making committee could have (part of) their remuneration linked to the performance of these fixed rate loans.

. By putting itself in a position where a falsification of its future policy rates forecast would be financially costly, the Fed or any other central bank would gain credibility. Fortunately this is easily done in the case of a forecast that the official rate will not be higher than their current level for at least *N* periods. The simplest way for the Fed to put its money where its mouth is when it forecasts, say, no Federal Funds target rate increase from the current level of between zero and 25 bps is for it to make a fixed rate loan at, say 37.5bps (the mid-point of the current Federal Funds target rate range, 12.5 bps, plus 25 bps for good luck) with a maturity of at least two years. Operationally, this could be a collateralized loan or a repurchase agreement (repo) by the Fed at a fixed rate and with a maturity of no less than two years.[22]

[22] A repo is the sale of a security with the agreement to buy it back at a set price at a specific later date. It is security lending. A reverse repo is the purchase of a security with the agreement to sell it

Should unexpected events happen, or should the Fed change its mind about its targets or about the transmission mechanism of monetary policy, and should the official policy rate rise during the two year period, the Fed will take a financial loss. This financial loss is ultimately a loss to the US federal tax payer or to the beneficiaries of US federal spending. The Fed is assumed to care and view this as a cost to itself and to the monetary policy makers. This feature of the long-maturity fixed rate repo proposal is clearly less attractive than imposing financial penalties or fines directly on the members of the monetary policy making body. There are, however, no impossible informational demands placed on some external arbiter of the degree of compliance, and excusable non-compliance, with the forward guidance consistent rate policy. One could perhaps combine the two schemes by linking the pay of the members of the monetary policy making body to the value of these long-term fixed rate repos (or some of the other financial instruments considered below). Hedging this exposure by shorting the repos or through the use of derivatives would of course have to be forbidden.

QE can perform a similar role. Indeed we attribute most of the limited impact of QE in orderly markets to the fact that it forces the central bank to put its money where its mouth is.

A similar credibility enhancement could be achieved if the central bank were to engage in QE, say by purchasing Treasuries of the appropriate maturities, but only if it bought them not at market rates but at a rate implied by and consistent with its forward guidance. Clearly, the central bank would only find a willing seller if it pays a price for the Treasury bills equal to or greater than the market price (with a yield equal to or lower than the market yield), but as we are contemplating ways of stimulating the economy by lowering rates, this is not an issue. In orderly financial markets, QE through purchases of the most liquid, lowest credit risk financial instruments in the world, US Treasuries, will have minimal effect on anything real or nominal that matters, but the signal provided by QE at below-market yields would be potentially powerful.

As regards the loss to the tax payer, if the repo is done through the Fed purchasing a fixed rate Treasury bill with a remaining maturity of two years from a counterparty and committing to sell it back two years from now at a price implying an 37.5 bps fixed interest rate, the loss to the Fed (the creditor) from an increase in rates above the 37.5 bps level would be balanced by an equivalent gain to the Treasury (the debtor). As the Treasury is the beneficial owner of the Fed (it receives all the profits made by the Fed), the accounts of the Treasury and the Fed should be consolidated, with all Treasury debt held by the Fed netted out against the corresponding Treasury liabilities. The same netting exercise should be performed for all intra-Fed/Treasury assets and liabilities, like the U.S. Treasury, General Account, a liability of the Fed and an asset of the Treasury.

One problem with this proposal is that the Federal Reserve may only enter into repurchase agreements for up to 65 business days, but the typical maturity is between one and 14 days.[23] There is no technical reason, however, why the Fed could not engage in much longer maturity fixed rate repos. In 2011 and 2012, the ECB initiated long-term refinancing operations (LTROs) with maturities of three

back at a set price at a specific later date. It is security borrowing. For the party selling the security (the borrower) the agreement is a repo. For the party buying the security (the lender) it is a reverse repo. The Federal Reserve employs a naming convention for these transactions based on the perspective of its counterparties, the primary dealers. So in a Fed repo the Fed is the lender (buyer of the security) and the dealer the borrower (seller of the security). The dealers receive cash while the Federal Reserve receives the collateral. So repos are an asset of the Fed. Reverse repos are a liability of the Fed. Just to confuse matters, the ECB's naming convention is based on its own perspective. So its reverse repos are recorded as collateralised loans on the asset side of the balance sheet and repos are recorded as collateralised deposits on the liability side of the ECB balance sheet. The Bank of England follows the same convention as the Fed, and so does the Bank of Japan.

[23] http://www.federalreserve.gov/monetarypolicy/bst_fedsbalancesheet.htm

years. The ECB sometimes refers to these as VLTROs (very long term refinancing operations). There is no reason why 5 or 10 year fixed rate repos (HLTROs or humongously long term refinancing operations) should not be feasible. In June 2012 the Bank of England activated its Extended Collateral Term Repo (ECTR) facility, offering liquidity against a wide range of collateral at a minimum bid rate of 25 bps over Bank Rate (which currently stands at 0.50%). The maturity of the ECTR is just six months, but there is no technical reason why this could not be extended to a year or several years. As early as 2008 it did repos with 3, 6, 9 and 12 month maturities.

The ECB has already done 3-year VLTROs; Why not 5- or 7-year HLTROs?

Clearly, taking an open position that will result in a loss if the predicted future path of the official policy rate does not materialize makes forward guidance into something more than cheap talk. And the range of financial instruments that can be used to put the monetary authority's money where its forward guidance is can be extended in many directions beyond the long-term fixed rate repo discussed thus far.

A wide range of financial derivatives (interest rate futures, interest rate call options or, away from the ZLB, straddles) can also be used to make forward guidance more than cheap talk.

Going beyond the date of the first rate increase and trying to signal the central bank's intent and expectation as regards the path of future policy rates after the first rate increase can be done by very long-term fixed rate repos. If the Fed believes the yield on 10 year Treasuries overstates the speed of future policy rate increases, it could offer a 10-year fixed rate repo at a rate below the 10-year Treasury rate. If it believes the 3-year to 5-year maturity Treasury bill rate stretch of the yield curve is too high, the central bank can sell a call option, giving the purchaser the right, in 3 years' time, to borrow from the Fed (against suitable collateral) for 2 years at a suitable fixed rate, below today's implied 2-year rate three years from now. The Treasuries futures markets could also be used to achieve the desired exposure to future deviations of the sequence of official policy rates from the forward guidance-consistent official policy rate sequence. Other options can be used to give the central bank skin in the game when the official policy rate is sufficiently far above the ELB. If the central bank wanted to be aggressive and open itself up to (potentially unlimited) losses, it could writing an interest rate straddle (selling both a call option and a put option on some risk-free security, say a 3-year Treasury bill, with the same strike price and expiration date). The strike price would be the price corresponding to the central bank's view of what the 3-year rate ought to be/will be. If the price of the Treasury bill rises by above the strike price by more than the premium of the straddle (if the interest rate falls sufficiently far below the forward guidance-consistent level) the call option is exercised and the central bank loses money. It also loses money if the price falls below the strike price by more than the premium (if the interest rate .rises sufficiently far above the forward guidance-consistent level) and the put option is exercised. The Fed only makes money if the interest rate is close to the forward guidance-consistent level.

To achieve the desired effect of the central bank putting its money where its forward guidance is, the amounts of these exposure-seeking financial transactions should be non-trivial, but also not so large as to monopolize the market in question. When the central bank engages in long-term fixed-rate repos at the forward-guidance consistent interest rate, or in similar operations through financial options, it amounts to the central bank giving hostages to the markets. If individual policy makers' pay could be made to depend appropriately on the behavior of these financial instruments, a further step towards turning forward guidance into more than cheap talk would have been taken.

Conclusion

The standard academic putdown of a scholarly paper goes as follows: "There is much in this paper that is new and much that is right. Unfortunately what's right is not new and what's new is not right." The same can be said about forward

guidance. Attempts by central bankers to use verbal or written statements to influence the views of market participants and other economic agents about the likely future course of the instruments of monetary policy are as old as monetary policy and central banking. Forward guidance, whether in the form of a point forecast or fan chart forecast of a future sequence of policy rates, or in the form of a commitment to act according to a contingent or conditional policy rule, with nominal and/or real thresholds, triggers, knockouts or tolerance levels, does not meaningfully enhance the monetary policy arsenal beyond what was available before the start of the modern era of central banking in New Zealand in 1989 (when formal inflation targeting was pioneered) and 1997 (the debut of published interest rate projections).

The recent experience of the Fed and the ECB shows the shortcomings of communication by committee. There is also a prevailing sense in both the US and the euro area that if markets are confused and uncertain, it is necessary to address them more frequently and at greater length. We note that past ineffective attempts at communication may well account for much of the market's confusion and uncertainty.

The best approach to signaling longer-term policy intentions in an operational manner typically has three components. First, commit to the regular publication and updating of longer-term forecasts of the target variables, of any additional nominal or real thresholds, knockouts or triggers that define the central bank's reaction function for each of its instruments, and of the instruments themselves. Second, reach an agreement that at most one member of the monetary policy making committee, presumably its chair, speaks or writes publicly about the likely future paths of the policy instruments – rates, QE, or whatever. The other members can of course still discourse in public about the principles of monetary policy and the history of central banking. Third, give the central bank skin in the game by requiring it to issue or purchase material amounts of financial instruments on which it will lose money if interest rates depart from the forward guidance-consistent levels – financial hostage instruments. If possible, link the pay of the monetary policy makers at least in part to the performance of these instruments.

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Appendix A-1

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