Kiel **Policy Brief**

Can forward guidance be ambiguous yet effective?

Danvee Floro and Mewael F. Tesfaselassie

No. 65 | October 2013

Institut für Weltwirtschaft Kiel
Kiel Institute for the World Economy
ISSN 2195–7525

Can forward guidance be ambiguous yet effective?

Danvee Floro
University of Kiel and Kiel Institute for the World Economy
Mewael F. Tesfaselassie
Kiel Institute for the World Economy

"A problem with the current BOJ policy…is its vagueness."
Ben Bernanke, January 2000

1. Introduction*

Since the intensification of the global financial crisis in late 2008, major central banks have switched to unconventional monetary policy (UMP) so as to support their economies. The Federal Reserve (Fed) resorted to forward guidance (FG) in December 2008 (initially, the Fed adopted implicit FG but later switched to time-based and then to threshold-based FG.[1] Moreover, FG was complemented with a few rounds of bond buying programs, the so-called quantitative easing (QE), with the recent one being open-ended. The Bank of Japan (BOJ), which pioneered UMP in the late 1990s, reintroduced FG in 2009, committing to maintain its policy rate virtually at zero until its price stability goal is "in sight," and QE (purchasing government and corporate bonds). In July 2013, the European Central Bank (ECB) introduced implicit FG after relying mainly on what it calls Long Term Refinancing Operations (LTROs) for banks, and has made little use of QE. Similarly, after relying mainly on QE for some time, the Bank of England (BOE) adopted threshold-based FG in August 2013.

In this policy brief, we discuss conceptual and practical issues surrounding the effectiveness of FG and the separation of FG from QE. The discussion is motivated by two recent developments:

- The first is the Fed's announcement of its intentions to taper its bond purchases, a move which unsettled financial markets across the world and forced the Fed to clarify its policy intentions. The rise in market interest rates internationally might have influenced the ECB to deploy its own FG.

* We thank Henning Klodt, Nils Jannsen and Maik Wolters for helpful comments.

[1] Time-based FG states a time horizon over which the current federal funds rate (the Fed's main policy instrument) is expected to be maintained while threshold-based FG states the conditions that should be met before a lift-off of the federal funds rate can be considered. Implicit FG is a more cautious version of time-based FG, as it uses an implicit language (for e.g., "for an extended period" or "for some time."). See for instance the BOE (2013) for a more detailed discussion of implicit and explicit FG.

- The second is the timid market reaction to the BOE's announcement of its FG. Actually, both gilts (i.e., bonds issued by UK government) and interest rate futures rose following the announcement, thus challenging the very intent of FG.

We make the following observations: First, FG as is currently practiced by most central banks is a watered-down version of that proposed in academic research, in a sense that it is being vaguely formulated and communicated. This observation applies to the varieties of FG—implicit or explicit (time-based or threshold-based)—as the issue is more fundamental than these varieties of FG. Perhaps paradoxically, it is the commitment to price stability that is likely to weaken the effectiveness of forward guidance. Finally, one reason why the federal funds futures rose following the Fed's signal to taper asset purchases despite the Fed making no changes to its FG, might be because both tools are tailored towards the labor market, so that plans to taper asset purchases may signal that a rate hike is coming sooner than previously expected.

2. Two recent challenges to UMP

Two recent events have challenged UMP. The first event concerns the Fed while the second concerns the BOE.[2] Following the Federal Open Market Committee (FOMC) meeting in 19 June 2013, Fed Chairman Bernanke discussed possible future plans to reduce the pace of asset purchases.[3] His statement about the tapering off of asset purchases was followed by sharp increases in bond yields and declines in stock markets (see charts 1 and 2).

The rise in bond yields did not seem to worry the Fed at the time.[4] The Fed was concerned by the reaction of the futures market for the U.S. federal funds rate—the Fed's conventional policy instrument. Despite the fact that the Fed made no changes to its FG on short-term interest rates, movements in interest rate futures pointed to expectations that the federal funds rate is likely to rise from its current level of 0–0.25 percent sooner than previously expected.[5] This can be seen from chart 3, which compares the May and June

[2] While we focus mainly on these two events, we believe that they have broader implications and are relevant to other central banks that have adopted some form of FG and/or QE.

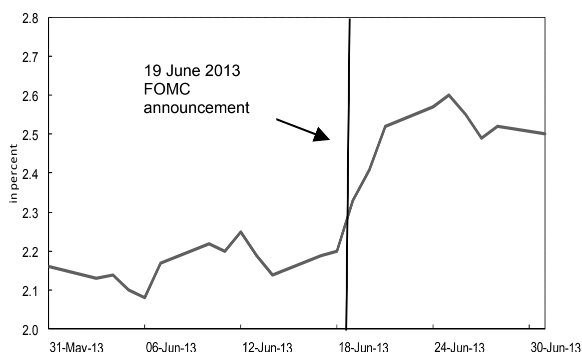
[3] The first signal of the Fed's tapering intention came at least as early as 22 May 2013, when Bernanke testified on the economic outlook before the U.S. Congress Joint Economic Committee. He raised the possibility that the Fed "could in the next few meetings ... take a step down in [its] pace of purchases." See Bernanke (2013a).

[4] For instance the rise in mortgage rates came at a time when house prices were increasing. The fact that bond yields rose is consistent with empirical evidence. For instance Gagnon et al. (2011), who show evidence that statements made by the Fed indicating larger asset purchases than had previously been announced were associated with lower bond yields, and statements indicating smaller asset purchases with increased bond yields.

[5] In the minutes of the June 2013 FOMC meeting, it was emphasized that "any decision on the asset purchase program is conceptually separate from any decision concerning the policy rate". In particular, the FOMC's decision to "taper off" asset purchases does not change the nature of the Committee's

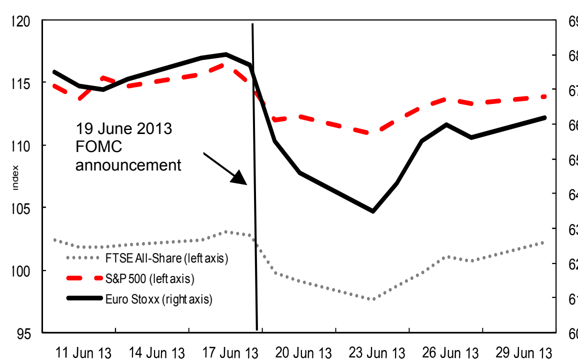
2013 federal funds futures paths. The Fed reacted immediately to these developments, making statements so as to assure markets that its FG policy is unaffected by its tapering plans.[6]

Chart 1:
10-yr U.S. nominal bond yields



Source: **U.S. Federal Reserve.**

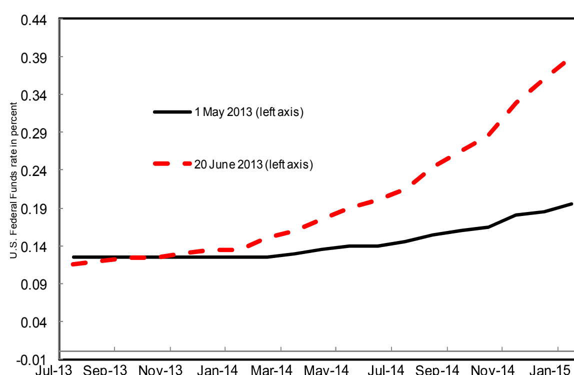
Chart 2:
Selected International Stock Market Indices



Source: **Bank of England.**

There are, at least, two possible explanations. First, the separation of forward guidance on the short-term interest rate from asset purchases is not clearly delineated. Clarification by the Fed might help in this regard, but the difficulty is that, since asset purchases and FG are both threshold-based (depending on the outlook for the labor market), tapering asset purchases may signal that a rate hike is coming sooner than previously expected. Second, markets may doubt that the Fed would keep interest rate unchanged in the face of improved outlook for the economy.

Chart 3:
U.S. Federal Funds Target Rate Futures



Source: **Bloomberg.**

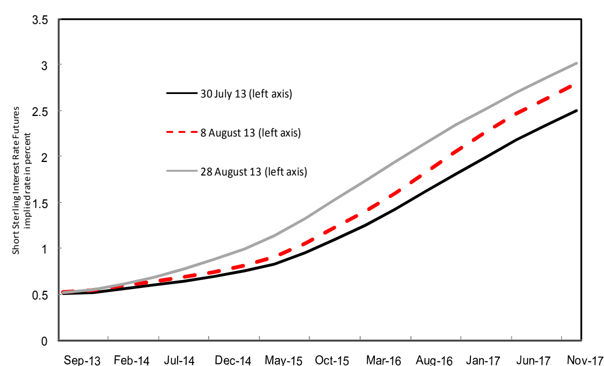
---

commitment to keep the policy rate near the zero lower bound. See U.S. Federal Reserve minutes of the 19 June 2013 meeting.

[6] In a speech on 28 June, Jeremy Stein, a member of the Fed's Board of Governors, clarified that "…nothing we have said suggests a change in our reaction function for the path of the short-term policy rate, and my sense is that our sharpened guidance on the duration of the asset purchase program also leaves us close to where market expectations…were beforehand". Moreover, when asked in an interview to comment about the market reaction following the 19 June announcement, Bernanke stated that "…the overall message is accommodation. There is some prospective gradual and possible change in the mix of instruments. But that shouldn't be confused with the overall thrust of policy, which is highly accommodative." See also Bernanke (2013b).

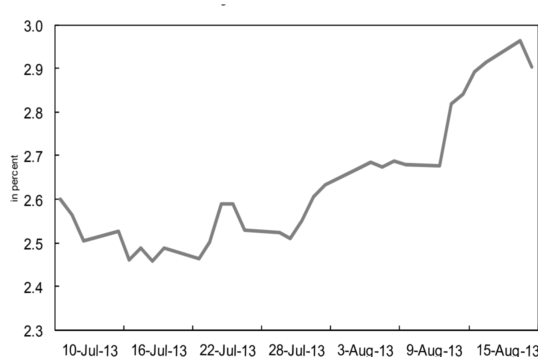
When the BOE unveiled its FG on 7 August 2013 with the aim of “reducing uncertainty” regarding the future path of policy, market reaction looked perverse. Following the announcement, the three-month short-sterling interest rate futures rose, indicating that the first hike in the policy rate is expected to come sooner than was expected before the announcement (see chart 4) and sooner than the BOE’s own forecast of around mid-2016. Moreover, nominal government bond yields also rose (see chart 5). In his first speech as BOE Governor, Mark Carney, on 28 August 2013, re-assured markets that “… [the BOE’s] forward guidance provides…certainty that interest rates will not rise too soon…What matters is that rates won’t go up until jobs and incomes are really growing…”.[7] Nevertheless, as chart 4 shows, the short-sterling futures curve even steepened further on this date. On the one hand, these moves reflect higher expect inflation in the near future, which then triggers the central bank to act sooner given the knockout clauses in the FG.[8] On the other hand, it shows a divergence of views, as the markets expect unemployment to fall to 7 percent faster than predicted by the BOE.

Chart 4:
Short Sterling Interest Rate Futures



Source: **Bloomberg.**

Chart 5:
10-yr U.K. Nominal Bond Yields



Source: **Bank of England.**

A possible explanation involves two elements:

(1) Markets expect a faster recovery than is anticipated by BOE and;
(2) Markets expect the BOE to act by raising future policy rates.

In principle, it is not necessarily true that (2) follows from (1). The fact that futures markets expect otherwise, however, undermines the BOE’s FG to the extent that the Bank disagrees with the markets. The divergence of views on the state of the economy inherent in (1) is probably a bit easier to tackle, by clarifying assumptions behind the BOE’s forecasts for the economy. More challenging is the misalignment between market expectations and policy

[7] See Carney (2013b).

[8] In the August 2013 Inflation Report, the BOE revised upwards its output growth projections (compared to the previous May 2013 Report) in the face of above target inflation for quite some time.

intentions inherent in (2). As in the case of the Fed, markets may doubt that the BOE would keep interest rate unchanged in the face of improved outlook and rising inflation.

3. Forward Guidance in theory and practice

In theory, FG is effective in affecting market expectations if it is perceived as a commitment, for instance, to keep policy accommodative beyond that prescribed by past rule (to the extent that the rule fits well past central bank behavior). In other words, FG is effective to the extent that it convinces markets to expect an accommodative monetary policy for “longer than warranted” (Eggertsson and Woodford, 2003).[9] While in theory it looks straightforward, FG faces two main challenges. The first is that promising to keep policy accommodative for longer than warranted runs the risk that markets interpret it as compromising price stability (tantamount to raising the inflation target) and thus sounds irresponsible (Praet, 2013). The second is that markets may suspect that once the economy recovers, the central bank will renege on its promise and tighten policy earlier than previously announced (in other words, the promise is time inconsistent and thus not credible). This is certainly the case to the extent that monetary policy is conducted under unfettered discretion.

So how does FG look like in practice? In practice, FG has turned out to be more of a forecast, an expression of belief or intention (and less of a commitment) about future policy. For instance, in August 2003, the Fed, responding to a potentially deflationary scenario, said it “believes policy accommodation could be maintained for a considerable period”.[10] It then signaled its intention to exit the long policy pause by stating that its accommodative stance “can be removed at a pace that is likely to be measured”.[11] In December 2008, the Fed reintroduced its FG as the financial crisis deepened and the policy rate approached the zero lower bound. The policy language, however, mimicked that of 2003. The Fed stated that it “anticipates that weak economic conditions are likely to warrant exceptionally low levels of the federal funds rate for some time.”[12]

In March 2009, the language "some time" was changed to "an extended period." The Fed in August 2011 adopted time-based forward guidance, using the language "at least through mid-2013", which was altered to "at least through late 2014" in January 2012, and to "at least

[9] See also Woodford (2012) for a recent discussion of the issue. It is worth pointing out that the academic profession is divided over the role of FG. Some argue forward guidance may even be potentially counterproductive, as the promise to maintain low short-term rates for longer time could make markets think that policy makers have a negative outlook on the state of the economy (see, e.g., Del Negro et al. 2012).

[10] U.S. Federal Reserve, press release, 12 August 2003.

[11] U.S. Federal Reserve, press release, 4 May 2004.

[12] U.S. Federal Reserve press statement, 16 December 2008.

through mid-2015" in September 2012.[13] This time-based guidance was eventually changed into a threshold-based forward guidance in December 2012, with the Fed releasing statements such as "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 a half percentage point above the Committee's 2 percent longer-run goal, and longer-term inflation expectations continue to be well anchored".[14] Despite these changes in the FG language, there is no commitment to keep accommodative policy in place for longer than warranted in the sense of Eggertsson and Woodford (2003), especially in light of weak economic conditions that underlie the FG. Moreover, Bernanke's remark that the Fed "could consider, if conditions called for it…to modify the language … in some way that indicates that [it] expects to keep the target for the federal funds rate low for *longer than markets expect*,"[15] indicates otherwise.

The ECB and BOE have recently introduced FG into their toolkits. The timing coincides with the recent market turmoil following the Fed's intention to taper its bond purchases. In a recent commentary, Peter Praet, a member of the ECB Governing Council, says that "…starting in May and with increased intensity in the month of June, we perceived that expectations regarding the stance of monetary policy and its evolution had become somehow detached from our assessment of the state of the economy and our monetary policy inclinations, given that assessment…This called for a clarification of our assessment and a more precise description of our strategy."[16] Likewise, as minutes of the August meeting of the BOE's monetary policy committee show, most members considered the rise in short-term interest rates since May 2013, "greater than could be reconciled with the improvement in the economic outlook."[17]

In July 2013, the ECB introduced the implicit language that it "expects" the policy rate "to remain at present or lower levels for an extended period of time."[18] This is very similar to the March 2009 FG language of the Fed and it shows that the ECB is following a cautious approach to FG than the Fed, as the later has switched to more explicit FG.

Similar to the current Fed practice, the BOE adopted a threshold-based FG, saying that it "intends" not to raise the policy rate from its current level of 0.5 percent "at least

[13] U.S. Federal Reserve press releases, 9 August 2011, 25 January 2012 and 13 September 2012, respectively.

[14] U.S. Federal Reserve press release, 12 December 2012.

[15] See Bernanke (2010b).

[16] See Praet (2013).

[17] See the BOE's Minutes of the Monetary Policy Committee Meeting held on 31 July and 1 August 2013.

[18] Introductory statement to the press conference following the ECB's Governing Council meeting of 4 July 2013.

until…unemployment [rate] has fallen to a threshold of 7 percent, subject to…conditions….”[19] We note that the conditional nature of the guidance leaves room for uncertainty about future policy.

Unlike other central banks, the BOJ’s FG has an element of commitment, as it promises to maintain its zero interest rate policy (ZIRP) until its price stability goal is “in sight.”[20] Moreover, by raising the inflation target from 1 to 2 percent in January 2013, monetary policy has effectively become more accommodative. The effect is similar to a commitment to keep accommodative policy in place for longer than warranted in the sense of Eggertsson and Woodford (2003), given the old inflation target. The difference is that the higher inflation target is aimed at raising long-term inflation expectations.

To summarize, regardless of whether FG is implicit, time-based or threshold-based, the distinction between making a commitment versus providing a forecast regarding future policy is fundamental. As yet, the BOJ’s FG seems very close to what theory suggests for its effectiveness. This is perhaps not surprising given Japan’s experience with intermittent deflation and weak growth for more than two decades. For other central banks, BOJ-style bold commitment is not yet in the cards.[21] They have chosen to walk the fine line between their commitment to price stability and their desire to influence market expectations without making promises.

4. Quantitative Easing

Unlike FG, QE aims at exerting direct downward pressure on long-term interest rates to the extent that a central bank intervenes in bond markets. In the U.S. the first two rounds of QE (QE1 and QE2) were meant to help improve financial conditions—in particular to lower the term premium on longer term assets, such as Treasury bonds and Mortgage-Backed Securities (MBS). They were both closed-ended so that the termination was not news. Then in December 2012, the Fed switched to an open-ended asset purchases (QE3), in the sense of reducing the pace of or ending purchases ($85 billion of Treasury bonds and MBS per month) conditional on substantial improvement in the labor market.[22]

It is instructive to note that the reference to the labor market makes QE3 resemble FG, as improvement in the labor market has become the driving factor for ending both tools,

[19] Governor Mark Carney’s opening remarks at a press conference on Inflation Report, on 7 August 2013. Interestingly, the BOE threshold-based FG can be translated into a date-based FG, as the bank expects the unemployment to stay above 7 percent until the third quarter of 2016.

[20] The first time the BOJ made such a promise was in early 1999, when it committed to maintain its ZIRP until “deflationary concerns” were “dispelled,” a policy stance which was lifted in August 2000 but was reintroduced in March 2001 with a new inflation-threshold because of renewed weaknesses in the economy. See also Shirakawa (2001) and Ugai (2007).

[21] See for instance, Bernanke (2010a) for an argument against raising the inflation target.

[22] U.S. Federal Reserve, press release, 12 December 2012.

although there is a quantitative unemployment threshold in the case of FG. As remarked above, the resemblance of QE3 and FG was probably the reason behind the reaction of the federal funds futures to the Fed's tapering off announcement in June 2013.

Conceptually, tapering asset purchases may lead to higher bond yields without necessarily bringing forward the expected date for the first rate hike. Roughly speaking, a higher yield on, say the 10-year bond, only implies that the yield on a short term security is expected to be higher on average over that horizon.[23] It is perceivable that short term rates may stay constant for some time (consistent with the Fed's FG) before they start rising. However, financial markets seemed to disagree with this scenario. A possible solution would be for the Fed to target the interest rates on Treasury bonds with remaining time to maturity equal to the time horizon implicit in the FG.

Before introducing FG in August 2013, the BOE undertook a series of closed-ended asset purchases, mostly gilts, since lowering its policy rate to 0.5 percent in March 2009. Unlike the Fed, it has so far not undertaken any open-ended QE. However, its FG includes the statement "…until the unemployment threshold [of 7 percent] is reached…the MPC intends not to reduce the stock of asset purchases."[24] As with the Fed, the BOE will be faced with communication challenges of separating FG from QE when economic conditions warrant communication of changes in the stance of monetary policy.

5. Concluding remarks

The financial crisis has rendered conventional monetary policy (of major central banks) powerless. Unconventional monetary policy, in the form of forward guidance and quantitative easing, has taken center stage. Recent moves in financial markets have challenged the notion that forward guidance can be separated from the unwinding of quantitative easing and also shown that forward guidance can have perverse effects on market expectations. Nonetheless, forward guidance, as is currently formulated in practice, may be ineffective in managing market expectations not because central banks are powerless,[25] but because they are too cautious, resulting in ambiguity in policy communication. Vagueness in communication is manifested by the insertion of conditionality and/or by the expression of intent, belief

[23] For instance Bauer and Rudebusch (2013) show evidence of a predominant "signaling channel" of asset purchase announcements on bond yields, indicating that the Fed affected long-term rates by altering market expectations of the future path of monetary policy. See also Krishnamurthy and Vissing-Jorgensen (2011).

[24] The MPC also indicated in their report that it intends to reinvest cashflows associated with all maturing gilts held in the Asset Purchase Facility. See the BOE's "Monetary policy trade-offs and forward guidance", August 2013.

[25] The recent moves by the Fed on tapering its open-ended asset purchases and the resulting financial market reaction across the world is a testimony.

etc., to maintain accommodative policy on a certain course. Setting aside whether caution is warranted or not, the fact is that such vagueness is driven mainly by central banks' unwavering commitment to price stability, a commitment which is credible owing to their hard-won reputation. Financial markets are aware of this commitment. Saying that, the remark in January 2000 by Ben Bernanke that "far from being powerless, the Bank of Japan could achieve a great deal if it were willing to abandon its excessive caution," is still relevant now, as it was back then.

References

Bauer, M., and G. Rudebusch (2013).The Signaling Channel for Federal Reserve Bond Purchases. Working Paper Series 2011-21. Federal Reserve Bank of San Francisco.

Bernanke, B. (2000). Japanese Monetary Policy: A Case of Self-Induced Paralysis? Princeton University, presentation at the ASSA meetings. Boston, MA, 9 January.

Bernanke , B. (2010a). The Economic Outlook and Monetary Policy. Speech at the Federal Reserve Bank of Kansas City Economic Symposium. Jackson Hole, Wyoming, 27 August. Available at <http://www.bis.org/review/r100830a.pdf>.

Bernanke, B. (2010b). Revisiting Monetary Policy in a Low-Inflation Environment. Speech at a conference on Monetary Policy Objectives and Tools in a Low-Inflation Environment. Boston, MA, 15 October, available at <http://www.federalreserve.gov/newsevents/speech/bernanke20101015a.pdf>.

Bernanke, B. (2013a). The Economic Outlook. Testimony before the Joint Economic Committee, U.S. Congress. Washington D.C., 22 May. Available at <http://www.federalreserve.gov/newsevents/testimony/bernanke20130522a.htm>.

Bernanke, B., (2013b). Transcript of the interview with NBER President James Poterba during the NBER Annual Conference "The First 100 Years of the Federal Reserve: The Policy Record, Lessons Learned, and Prospects for the Future". Available at <http://blogs.wsj.com/economics/2013/07/11/bernanke-talks-a-conversation-at-the-nber/>.

BOE (Bank of England) (2013). Monetary Policy Trade-offs and Forward Guidance. Inflation Report, August. London.

BOE (Bank of England) (2013) Monetary Policy Trade-offs and Forward Guidance. Annex, August. Available at <http://www.bankofengland.co.uk/monetarypolicy/Pages/forwardguidance.aspx>.

Carney, M. (2013a). Opening remarks. Bank of England Inflation Report press conference, 7 August. Available at <http://www.bankofengland.co.uk/publications/Documents/inflationreport/2013/irspnote070813.pdf>.

Carney, M. (2013b). Crossing the Threshold to Recovery. Speech given at the Nottinghamshire Chamber of Commerce and the Institute of Directors at the East Midlands Conference Centre, 28 August. Available at <http://www.bankofengland.co.uk/publications/Documents/speeches/2013/speech675.pdf>.

Del Negro, M., M. Giannoni and C. Patterson (2012). The Forward Guidance Puzzle. Staff Reports 574. Federal Reserve Bank of New York.

Dudley, M. (2013). Lessons at the Zero Lower Bound-the Japanese and US experience. Remarks at the Japan Society, 21 May. Available at <http://www.newyorkfed.org/newsevents/speeches/2013/dud130521.html>.

Eggertsson, G., and M. Woodford (2003).The Zero Bound on Interest Rates and Optimal Monetary Policy. *Brookings Papers on Economic Activity* 34 (1): 139–233.

ECB (European Central Bank) (2013). Introductory Statement to the Press Conference Following the ECB's Governing Council meeting, 4 July. Available at <http://www.ecb.europa.eu/press/pressconf/2013/html/is130704.en.html>.

Gagnon, J., M. Raskin, J. Remache and B. Sack (2011). The Financial Market Effects of the Federal Reserve's Large-Scale Asset Purchases. *International Journal of Central Banking* 7 (1): 3–43.

Krishnamurthy, A., and A. Vissing-Jorgensen (2011). The Effects of Quantitative Easing on Interest Rates: Channels and Implications for Policy. *Brookings Papers on Economic Activity* 2 (Fall): 215–265.

Praet, P. (2013). Forward Guidance and the ECB. VOX blog. Available at <http://www.voxeu.org/article/forward-guidance-and-ecb>.

Shirakawa, M. (2001). Monetary Policy Under the Zero Interest Rate Constraint and Balance Sheet Adjustment. Mimeo.

Stein, J. (2013). Comment on Monetary Policy. Speech at the C. Peter McColough Series on International Economics. Council on Foreign Relations, New York, NY, 28 June. Available at <http://www.federalreserve.gov/newsevents/speech/stein20130628a.htm>.

Ugai, H. (2007). Effects of the quantitative easing policy. A survey of empirical analysis. *BOJ Monetary and Economic Studies* 25 (1): 1–48.

Woodford, M. (2012). Methods of Policy Accommodation at the Interest Rate Lower Bound. Mimeo, Columbia University.

Imprint

Publisher:	Kiel Institute for the World Economy Hindenburgufer 66 D–24105 Kiel	
	Phone	+49 (431) 8814–1
	Fax	+49 (431) 8814–500

Editorial team: Margitta Führmann
Helga Huss
Prof. Dr. Henning Klodt (responsible for content, pursuant to § 6 MDStV)
Dieter Stribny

The Kiel Institute for the World Economy is a foundation under public law of the State of Schleswig-Holstein, having legal capacity.

Value Added Tax Identification Number:	DE 251899169
Authorised Representative:	Prof. Dennis Snower, Ph.D. (President)
Responsible Supervisory Authority:	Schleswig-Holstein Ministry for Education and Science

© 2013 The Kiel Institute for the World Economy. All rights reserved.

http://www.ifw-kiel.de/wirtschaftspolitik/politikberatung/kiel-policy-brief