



# SPEECH

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## ■ Monetary Policy after the Crisis\*

In the aftermath of the financial crisis of 2008 and 2009 there has been a lively debate about what caused the crisis and how the risks of future crises can be reduced. Some blame loose monetary policy for laying the foundations for the crisis. There is also a lively debate about the future of monetary policy, whether it needs to be modified in the light of the crisis, and what its relation to financial stability should be. Here I will discuss the lessons for monetary policy from the financial crisis, the relation between monetary policy and financial stability, the role of monetary-policy instruments other than the policy rate, and some issues for emerging-markets arising from capital flows and exchange-rate movements. My conclusions are as follows:

The crisis was not caused by monetary policy but by other factors, mainly regulatory and supervisory failures in combination with some special circumstances, such as low real interest rates due to global imbalances and U.S. housing and housing-financing policy. Easy monetary policy in the United States did not cause the crisis.

A lesson from the crisis is that price stability is not enough to achieve financial stability. But, importantly, interest-rate policy is not enough to achieve financial stability. A separate financial-stability policy is needed for financial stability.

Given this, flexible inflation targeting – applied in the right way and using all the information that is relevant for the forecast of inflation and resource utilisation, including the conduct of financial-stability policy when appropriate – remains in my view the best-practice monetary policy before, during, and after the financial crisis. It was financial-stability policy that failed and caused the crisis, and that needs to be improved, not monetary policy.

When setting up a better financial-stability policy, it is important to understand that monetary policy is distinct and different from financial-stability policy. The two policies have different objectives and different suitable instruments. Furthermore, the responsibility for monetary policy and control of the monetary-policy instruments rests with the central bank, but the responsibility for financial-stability policy and control of the financial-stability instruments

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are in most countries shared between several authorities. It is important to conceptually distinguish financial-stability policy from monetary policy and avoid conceptual and practical confusion between the two policies. Confusion risks leading to a poorer outcome for both policies and makes it more difficult to hold the policymakers accountable. Trying to use monetary policy to achieve financial stability leads to poorer outcomes for monetary policy and is an ineffective way to achieve and maintain financial stability.

However, the fact that financial-stability policy and monetary policy are distinct and different does not mean that there is no interaction between them. This interaction needs to be considered. Monetary policy should be conducted taking the conduct of financial-stability policy into account, and vice versa. This is similar to how monetary policy is conducted taking fiscal policy into account, and vice versa. Importantly, under normal conditions, financial stability is handled by financial-stability policy, not by monetary policy. Monetary policy should be the last line of defence for financial stability, not the first.

It follows that financial stability as an objective of *monetary policy* makes little sense, whereas financial stability as an objective for the *central bank* makes sense, *if* the central bank gets control over the financial-stability instruments.

The standard monetary-policy tools are the policy rate and communication. During the crisis when policy rates have been at or close to their zero lower bound, we have seen other more unconventional instruments being used, including Large Scale Asset Purchases (LSAP) by the Federal Reserve. I believe the LSAPs conducted by the Federal Reserve have had substantial beneficial effects on the U.S. economy and that the objections that have been raised against them are not convincing.

Forward guidance about the future policy rate has been used as an unconventional tool in statements by the Bank of Canada, the Bank of Japan, and the Federal Reserve during the crisis. However, forward guidance in the form of published policy-rate forecasts have for several years been a conventional policy instrument for the Reserve Bank of New Zealand, Norges Bank, the Riksbank, and the Czech National Bank. I have long been in favour of the publication of a policy-rate forecast on a regular basis, based on both the existing practical experience of publishing such forecasts and the fact that what matters for the economy and private-sector decisions is not what the policy rate is during the one or few months until the next policy meeting but what the longer interest rates are. These longer rates result from market expectations of future policy rates and term premiums. Publishing a policy-rate path would be the most direct way to affect interest-rate expectations, especially since central banks should have better information about their own intentions than anyone else.

Based on the observation that emerging-market economies have received large capital inflows lately, with risks of bubbles and other negative effects, some observers suggest that the effects on capital flows to other countries should be taken into account when, for instance, the Federal Reserve sets its monetary policy. I do not agree with that conclusion. It seems to me that the problems for the emerging-markets concerned to a large extent depend on the decision of these countries to stabilise their dollar exchange rate or even peg to the dollar. Countries that choose to peg to the dollar will tend to import U.S. expansionary monetary policy into to their own country. This monetary policy may in many cases be too expansionary for the countries concerned, creating an overheated economy with risks for bubbles and other negative

■ consequences. A flexible exchange rate would give the countries the option of conducting an independent monetary policy appropriate for the country in question. If countries nevertheless choose a peg to the dollar, with capital inflows, bubbles, and other negative effects, they are themselves responsible for those effects.

More expansionary monetary policy, for instance, in the U.S. in the form of lower long rates due to LSAPs, tends to depreciate the dollar, all else equal. This does not mean that the U.S. is conducting a beggar-thy-neighbour policy that hurts other countries. A weaker currency is a normal consequence of more expansionary monetary policy in an open economy. Other countries can adjust their policy in response. All countries cannot depreciate their currency against each other, but all countries can conduct more expansionary policy if they prefer, using conventional or unconventional policy tools. This will increase real activity and both exports and imports, which in a situation with underutilised world resources is to the benefit of all. Monetary policy is not a zero-sum game.

### **Flexible inflation targeting still best-practice monetary policy**

My starting point is that the objectives of a good monetary-policy framework are twofold: to stabilise inflation around a low level and resource utilisation around the highest sustainable level. Such a framework is fully consistent with the dual mandate of maximum employment and stable prices of the Federal Reserve, with its mandate-consistent inflation rate, and the flexible inflation targeting of the Riksbank, with its inflation target (Bernanke 2011a, Svensson 2011a). There is no fundamental difference between the monetary-policy frameworks of the Federal Reserve and the Riksbank, although the communications strategies of the two institutions are somewhat different.<sup>1</sup>

The dual mandate and flexible inflation targeting boil down to “forecast targeting” (Woodford 2007, Svensson 2011b), that is, choosing a policy-rate path such that the corresponding forecasts for inflation and resource utilisation “look good” in the sense that they best stabilise inflation around the mandate-consistent/target inflation rate and resource utilisation around its highest sustainable level. Thus, “looking good” implies an efficient trade-off between the stability of inflation and the stability of resource utilisation.<sup>2</sup>

Is the financial crisis a reason to modify this framework of flexible inflation targeting? That depends on the causes of the crisis. As I see it, the financial crisis was caused by factors that had very little to do with monetary policy. These factors were the *macro conditions*, global imbalances that led to low real interest rates and high asset prices and the Great Moderation that led to a systematic underestimation of risk and a substantial expansion of credit; *distorted incentives* in financial markets that led to extreme levels of leverage and risk-taking and a lack of due diligence; *regulatory and supervisory failures*

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<sup>1</sup> For instance, the Federal Reserve’s mandate-consistent inflation rate has to be inferred from the Federal Open Market Committee participants’ longer-term inflation forecasts, whereas the Riksbank has an explicit inflation target; the Federal Reserve’s Greenbook and Bluebook (now replaced by the Tealbook) are published with a five-year lag, whereas the Riksbank publishes an extensive *Monetary Policy Report* or a shorter *Monetary Policy Update* (which also include a policy-rate path) after each policy meeting; and the Federal Reserve’s minutes are non-attributed but attributed transcripts are published with a five-year lag, whereas the Riksbank’s minutes are attributed.

<sup>2</sup> Kohn (2007), Svensson (2011b), and Woodford (2007) explain why forecast targeting is both a better way of conducting policy and a better description of actual policy than following an instrument rule such as the Taylor rule.

■ that underestimated or disregarded the fragility of the financial sector; eventually enormous *information problems* with extremely complex asset-backed securities and huge hidden off-balance-sheet liabilities; and some very *specific circumstances*, such as the U.S. housing policy to support home ownership for low-income households and related sub-prime mortgages contributing to the U.S. housing boom. Importantly, none of these causes had anything to do with monetary policy, except indirectly in that monetary policy may have contributed to the Great Moderation (Bean 2009, Svensson 2010).

So what conclusions can we draw from this about the conduct of monetary policy and any need to modify the framework of flexible inflation targeting? One obvious conclusion is that price stability is not enough to achieve financial stability (Carney 2009, White 2006). Good flexible inflation targeting by itself does not achieve financial stability, if anyone ever thought it did.

Another conclusion is that interest-rate policy is not enough to achieve financial stability. The policy rate is an ineffective instrument for influencing financial stability, and policy rates high enough to have a noticeable effect on credit growth and house prices will have a strong negative effect on inflation and resource utilisation, even in sectors that are not experiencing any speculative activity. The use of the policy rate to prevent an unsustainable boom in house prices and credit growth poses major problems for the timely identification of such an unsustainable development, as well as for the assessment of whether policy-rate adjustment would have any noticeable impact on the unsustainable development, and of whether, in the longer run, the outcome for inflation and resource utilisation would be better.<sup>3</sup>

Thus, it was financial-stability policy that failed, not monetary policy. Monetary policy in the form of flexible inflation targeting – applied in the right way and using all the information that is relevant for the forecast of inflation and resource utilisation, including the conduct of financial-stability policy when appropriate – remains in my view the best-practice monetary policy before, during, and after the financial crisis.

## **Monetary policy and financial-stability policy are different**

This leads me to the more general question of what the relation between monetary policy and financial stability should be. For instance, it is sometimes said that the objectives of monetary policy should be expanded to include financial stability (Eichengreen, Rajan, and Prasad 2011, and Eichengreen et al. 2011). Such suggestions give the impression that monetary policy and financial stability are the same thing. But they are not. It is important to conceptually distinguish financial-stability policy from monetary policy and avoid conceptual and practical confusion between the two policies. Confusion risks leading to a poorer outcome for both policies and makes it more difficult to hold the policymakers accountable. Trying to use monetary policy to achieve financial stability leads to poorer outcomes for monetary policy and is an ineffective way to achieve and maintain financial stability.

Different economic policies, such as fiscal policy, monetary policy, and labour market policy, can be distinguished according to their objectives, the policy

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<sup>3</sup> See Assenmacher-Wesche and Gerlach (2010), Bean (2009), Bean, Paustian, Penalver and Taylor (2010), Bernanke (2010), Dokko, Doyle, Kiley, Kim, Sherlund, Sim, and Van den Heuvel (2009), IMF (2009), and Kohn (2008, 2009).

■ instruments that are suitable for achieving the objectives and the authority or authorities that control the instruments and are responsible for achieving the objectives. From this point of view, it is clear that monetary policy and financial-stability policy are distinct and different, and understanding this is important.

Monetary policy, in the form of flexible inflation targeting, has the objective of stabilising both inflation around the inflation target and resource utilisation around a sustainable level. Under normal circumstances, the suitable instruments are the policy rate and communication, including the publication of forecasts of inflation, the real economy and (by some central banks) the policy rate. In times of crisis, as we have seen during the financial crisis, in particular when the policy rate is at or close to the zero lower bound, other more unconventional instruments can be used. These instruments include fixed-rate lending at longer maturities, asset purchases (quantitative easing) to affect longer interest rates and expectations of future short rates and foreign-exchange intervention to prevent currency appreciation or even to induce currency depreciation. The authority responsible for monetary policy is typically the central bank. In many countries, including all the member states of the EU, the central bank is given exclusive authority over monetary policy by statute and various measures to protect this policy independence are put in place.

Financial-stability policy has the objective of maintaining and promoting financial stability. Financial stability can be defined as a situation in which the financial system can fulfill its main functions of submitting payments, transforming saving into financing and providing risk management with sufficient resilience to disruptions that threaten these functions. The available instruments are, under normal circumstances, supervision, regulation and financial stability reports with analyses and leading indicators that may provide early warnings of stability threats.

In times of crisis, authorities may use instruments such as lending of last resort, variable-rate lending at longer maturities (credit policy, credit easing), government lending guarantees, government capital injections, special resolution regimes for insolvent financial firms, and so forth. The responsible authorities vary across countries, but the powers are typically divided between several authorities. The lender of last resort function is with the central bank, but other instruments are often in the hands of other authorities.

So, financial-stability policy and monetary policy are conceptually distinct, with distinct objectives and distinct suitable instruments. The decision frequency is also different. In monetary policy, decisions are often taken 6-8 times a year. In policy for financial stability, decisions may be taken 1-2 times a year. When it comes to the instruments, the interest rate is a blunt and unsuitable instrument for affecting financial stability and it thus makes little sense to assign the objective of financial stability to *monetary policy*. However, it may make sense to assign the objective of financial stability to the *central bank*, if the central bank is given control of the appropriate supervisory, regulatory and crisis management instruments. Whether giving the central bank such a broad remit would also be the best solution is too complex an issue to address in this context.

The fact that financial-stability policy and monetary policy are distinct and different does not mean that there is no interaction between each policy and the other policy's objectives. Monetary policy affects the real economy and thereby profitability, asset prices and balance sheets. Thereby it affects financial

■ stability. Financial-stability policy directly affects spreads, lending and other aspects of financial conditions as well as the transmission mechanism of monetary policy. This means that monetary policy should normally be conducted taking the conduct of financial-stability policy into account, and financial-stability policy should be conducted taking the conduct of monetary policy into account. This is similar to how monetary policy is conducted taking the conduct of fiscal policy into account, and vice versa. Note that this way of conducting monetary policy and financial-stability policy – in line with a non-cooperative Nash equilibrium rather than a coordinated equilibrium – does not depend on how the authority for financial-stability policy is shared between different institutions. It should be conducted this way regardless of whether the central bank has the sole authority or whether it is shared between several institutions.

Thus, under normal conditions, financial stability is handled by financial-stability policy, not by monetary policy. In a second-best situation, without appropriate supervision and regulation, if the policy rate is the only available tool and there is a trade-off between its effect on the monetary-policy objectives and financial stability, that trade-off should be taken into account. Normally, however, the policy rate is not the only available tool, and much better instruments are available for affecting financial stability. Monetary policy should be the last line of defence of financial stability, not the first line.<sup>4</sup>

In discussions of monetary policy and financial stability, there have been many references to the “risk-taking channel” (Borio and Zhu 2008), according to which leverage and risk in the financial sector increase with lower policy rates. However, the general discussion on and the existing models for policy rates, the risk-taking channel, and so on consistently seem to suffer from confusion between nominal policy rates and the general level of real interest rates. Models such as those of Adrian and Shin (2011) and Diamond and Rajan (2011) include a short real rate but no nominal policy rate and no explicit monetary policy. Furthermore, there is no distinction between the short real rate and the neutral real rate. What monetary policy in the real world can do by setting a short nominal policy rate is only to temporarily make the short real interest rate deviate from the neutral real interest rate, which in turn is beyond the control of monetary policy. The effects that are attributed to monetary policy should only be the effects the *deviation* between the short real rate and the neutral rate, not the effects of the whole *level* of the short real rate, the sum of the deviation and the level of the neutral real rate. The neutral real rate is affected by many things and can be low for many years for several reasons, including global imbalances, fiscal policy, and shocks to aggregate demand and supply. This confusion means that the conclusions from this work for monetary policy are not clear.

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<sup>4</sup> Woodford (2011) sets up a model where the probability of a financial crisis is assumed to be an increasing function of a state-variable that may be identified with leverage. Furthermore, leverage is assumed to be increasing in lagged leverage and the current output gap and is also subject to shocks. From these assumptions obviously follow a case for tighter monetary policy, “leaning against the wind,” in order to, everything else equal, reduce the output gap and thereby leverage and the probability of a financial crisis. However, the introduction in Woodford’s model of financial-stability instruments such as capital requirements, possibly cyclical ones, would allow leverage to be controlled more directly than indirectly and bluntly by the policy rate via the output gap. Monetary policy would be free to focus on stabilising inflation and the output gap and need not lean against the wind. In the realistic case when the state variable affecting the probability of a financial crisis is a vector that includes not only leverage but, for instance, maturity mismatch and liquidity mismatch, it is even more the case that additional financial-stability instruments such as restrictions on maturity and liquidity mismatches are superior to the policy rate in achieving and maintaining financial stability.

## ■ Monetary-policy instruments

The standard monetary-policy instruments are the policy rate and communication, including statements and the publication of forecasts of inflation, the real economy and (by some central banks) the policy rate. During the financial crises, in particular when the policy rate is at or close to the zero lower bound, we have seen other more unconventional instruments being used to implement more expansionary policy, as noted above.

There is a lively debate and a considerable body of research on the effects of the LSAPs undertaken by the Federal Reserve. Estimates based on a number of recent studies, as well as Federal Reserve estimates, suggest that, all else equal, the Federal Reserve's QE2 program launched in November 2010 lowered longer-term interest rates by 10 to 30 basis points. Federal Reserve analysis further indicates that a reduction in longer-term interest rates would be roughly equivalent in terms of the effect on the economy to a 40 to 120 basis points reduction in the federal funds rate (Bernanke 2011b). This is a large reduction in the federal funds rate. In FRB/US simulations discussed by Yellen (2011) and reported by Chung, Laforde, Reifschneider and Williams (2011), QE2 is assumed to lower 10-year yields by about 15 basis points, which reduces the unemployment rate by about 0.3 percentage points and increases core PCE inflation by about 0.2 percentage points. This is a significant effect of QE2 alone, on top of the effects of the previous LSAPs. I believe the Federal Reserve's LSAPs have had a significant positive effect on the U.S. economy and that the objections raised against them are not convincing (Svensson 2011a).

Regarding the increase in the monetary base that follows from the Federal Reserve's asset purchases, the fact that the Federal Reserve can pay interest on reserves means that a large monetary base no longer by itself leads to inflation. In the standard textbook treatment, a large monetary base implies a zero policy rate. But when the Federal Reserve can pay interest on reserves, a large monetary base does not prevent the Federal Reserve from setting the policy rate at any level required to restrict aggregate demand and prevent too high inflation. This means that from a monetary-policy perspective the Federal Reserve can unwind the LSAPs at any pace that it deems appropriate when they are no longer needed.

Forward guidance about the future policy rate in the form of a policy-rate forecast was adopted by the Reserve Bank of New Zealand in 1997, Norges Bank in 2005, the Riksbank in 2007, and the Czech National Bank in 2008. It has become a standard part of monetary-policy communication in these central banks. Forward guidance in the form of statements about the future policy rate was introduced by the Bank of Canada in 2009 and the Bank of Japan in 2010. The Federal Reserve introduced language in the March 2009 statement that it anticipated rates to remain at low levels for an "extended period" and in the August 2011 statement that it anticipated rates would remain low "at least through mid-2013."

I have long been in favour of the publication of a policy-rate forecast on a regular basis (Svensson 2003). This is based on both the existing practical experience of publishing such forecasts and the fact that what matters for the economy and private-sector decisions is not what the policy rate is during the one or few months until the next policy meeting but what the longer interest rates are that result from market expectations of future policy rates and term premiums. These longer interest rates have an impact on the economy through

capital costs, the stock market, the exchange rate, and other asset prices (Blinder 1998, D'Amico, English, López-Salido, and Nelson 2011, Woodford 2005). It would therefore seem that publishing a policy-rate path would be the most direct way to affect interest-rate expectations, especially since central banks should have better information about their own intentions than anyone else. Publication of the central bank's assessment of the future path for the policy rate is thus a separate tool in the monetary policymaker's toolbox. This tool can be particularly useful when the policy rate has reached the effective zero lower bound, and there is a need for even more expansionary policy. Given this, it may seem a mystery why still so few central banks choose to publish a policy-rate path, when an increasing number of central banks are publishing forecasts of inflation and the real economy. I welcome very much that "[t]he FOMC continues to explore ways to further increase transparency about its forecasts and policy plans" (Bernanke 2011a).

### **Global interest rates and emerging-market capital inflows**

Emerging-market economies have been subject to increased inflows of foreign capital over the last few years, and some emerging-market policymakers have expressed concerns about the related risks of bubbles and other negative effects. IMF (2011a) examined international capital flows over the last 30 years and found that net capital flows to emerging markets have been strongly correlated with changes in global financing conditions, rising sharply during periods with relatively low global interest rates.

Based on these and similar observations some observers have conclude that the effects on capital flows to other countries should be taken into account in, for instance, Federal Reserve policy decisions. For example, Eichengreen, Rajan, and Prasad (2011) find that the political authorities in large economies "should let considerations of these external effects play an explicit role in the monetary policy framework. Central banks in these countries should pay more attention to their collective policy stance and its global implications."<sup>5</sup>

I do not agree with that conclusion. The Federal Reserve's mandate concerns U.S. inflation and employment, and the Federal Reserve is not responsible for inflation, real developments, and monetary policy in other countries except as they feed back into the United States. That responsibility should rest with the policy authorities in those countries. Countries that choose to stabilise their dollar exchange rate or even peg to the dollar will tend to import U.S. expansionary monetary policy into to their own country. This monetary policy may in many cases be too expansionary for the countries concerned, creating an overheated economy with risks for bubbles and other negative consequences. A flexible exchange rate would give the countries the option of conducting an independent monetary policy appropriate for the country in question. In particular, they would be able to respond appropriately to changes in interest rates and other variables in the rest of the world. If countries nevertheless choose a peg to the dollar, with capital inflows, bubbles, and other negative effects, they are themselves responsible for those effects.

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<sup>5</sup> Eichengreen, Rajan, and Prasad are members of the Committee on International Economic Policy and Reform, a non-partisan independent group of experts (academics and former government and central bank officials). In its September 2011 report (Eichengreen et al. 2011), the committee suggests that "[m]echanisms should (...) be developed to encourage large-country central banks to internalize the spillover effects of their policies. Specifically, we call for the creation of an International Monetary Policy Committee composed of representatives of major central banks that will report regularly to world leaders on the aggregate consequences of individual central bank policies."



■ Consider the following thought experiment.<sup>6</sup> Let the world consist of two large economies, called the domestic and foreign economy, respectively. Let the domestic economy be an emerging-market economy with flexible inflation targeting, a flexible exchange rate, and free capital flows. Suppose that the domestic economy is initially in an equilibrium with the inflation forecast on the inflation target, the resource-utilisation forecast at a sustainable level, a constant exchange-rate forecast, zero capital flows, and a given policy-rate path consistent with this. Suppose the foreign interest rate falls, due to more expansionary monetary policy in the foreign economy in order to increase demand and activity in the foreign economy. Everything else equal, this has two consequences for the domestic economy. First, due to increased foreign activity, foreign demand for domestic exports increases somewhat. Second, the interest-rate differential between the domestic and foreign interest rates increases. This will trigger an incipient capital inflow into the domestic economy and appreciation of the domestic currency. Suppose the appreciation is so large as to trigger depreciation expectations that balance the increased interest-rate differential. This will again stabilise the capital flow at zero. Everything else equal, the appreciation of the currency is a real appreciation, which is contractionary for the tradable-goods sector. Assume that this contractionary effect dominates over the initial increase in export demand, so the net effect on the tradable-goods sector is contractionary. Demand for, and the output of, nontradable goods may expand somewhat from the appreciation, but assume that the contraction of the tradable-goods sector dominates so the net effect on domestic output is a contraction. The appreciation also leads to lower inflation, through lower prices on imported goods. The resource-utilisation and inflation forecasts will fall below a sustainable level and the inflation target, respectively.

The appropriate monetary-policy response under flexible inflation targeting is to lower the policy rate and the policy-rate path. This will stimulate the economy, moderate the nominal and real appreciation, and shift up the forecasts of inflation and resource utilisation towards the target and a sustainable level, respectively. In the new equilibrium, the currency has appreciated somewhat in real terms, the nominal and real interest rate will be lower, the tradable-goods sector may have contracted somewhat, and the nontradable-goods sector may have expanded somewhat. This is the monetary-policy response that I vote for when this situation arises for Sweden.

Suppose that for some reason the central bank is not willing to accept the nominal and real appreciation of the currency. By lowering the domestic interest rate and the policy-rate path so as to keep the interest-rate differential and its forecast unchanged, the central bank could in principle maintain a fixed exchange rate and zero capital flow. But the lower nominal and real interest-rate paths are expansionary, and the inflation and resource-utilisation forecasts will shift up, above the inflation target and a sustainable level, respectively. The domestic economy is effectively importing the foreign economy's monetary policy, which is too expansionary for the domestic economy. The increased growth and activity and the expectation that the central bank may eventually have to accept an appreciation may then still lead to a capital inflow, even though the interest-rate differential is unchanged. In order to prevent an appreciation, the central bank has to intervene and buy foreign exchange. This leaves more time for capital inflows, and the accumulated capital inflow may

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<sup>6</sup> Ferrero, Gertler, and Svensson (2009) provide a suitable model for such thought experiments, a New Keynesian DSGE model of a world with two large countries and tradable and nontradable goods.

grow. The economy starts becoming overheated, asset prices grow, and bubbles may develop. In order to prevent the situation from becoming more problematic, the central bank may consider what the IMF calls capital-flow management measures (CFMs), including capital controls (residency-based CMFs) (IMF 2011b). The authorities may also consider a fiscal contraction and financial-stability measures to improve the situation.

This is a highly stylized and very simplified thought experiment. Still, I think it conveys an important insight, namely that a substantial part of the problem is due to the central bank's unwillingness to accept the nominal and real appreciation, even though this appreciation is a natural equilibrium response to the lower world interest rate. Are the reasons for that unwillingness so important that they take precedence over the problematic consequences?<sup>7</sup>

More expansionary monetary policy in the U.S., for instance in the form of lower long rates due to LSAPs, tends to depreciate the dollar, all else equal. Does this mean that the U.S. is conducting a beggar-thy-neighbour policy that hurts other countries? I do not see it this way. A weaker currency is a normal consequence of more expansionary policy in an open economy. Each of the countries affected has the option of adjusting its own monetary policy in response. All countries cannot depreciate their currency against each other, but all countries can conduct more expansionary policy if they prefer, with conventional (lower policy rates) or unconventional methods (such as asset purchases). More expansionary monetary policy will increase real activity, world trade, and both exports and imports, which in a situation of underutilised resources is to the benefit of all. Monetary policy is not a zero-sum game.

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<sup>7</sup> The policy response to recent capital inflows to emerging-market economies is further discussed in the IMF staff framework for policy advice on managing capital inflows, IMF (2011b).

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