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**Research Report**

## Monetary policy on the way out of the crisis

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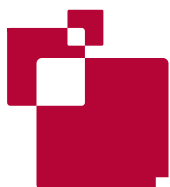
# MONETARY POLICY ON THE WAY OUT OF THE CRISIS

JÜRGEN VON HAGEN

## Highlights

- The European economy and the economy of the euro area in particular are gradually coming out of the worst recession for 50 years. Recovery is weak but banking systems and financial markets have regained stability, though underlying weaknesses in bank balance sheets persist in several countries.
- The tentative recovery in the euro area suggests that both monetary and fiscal policy can be normalised soon. For monetary policy, this would imply a return to higher interest rates and growth rates of the monetary aggregates in line with price stability over the medium term. But, a simultaneous monetary and fiscal contraction risks killing off the recovery. Avoiding this requires coordination of monetary and fiscal policy.
- Delaying fiscal consolidation would result in even greater debt burdens, whereas monetary policy can be adjusted to unforeseen developments. The risk of adverse macroeconomic developments, therefore, seems considerably less if fiscal policy exits from crisis mode first.
- This may make central banks uncomfortable. Governments and the ECB should take into account each others' policies. The ECB must be very clear on its interest rate policies.

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# MONETARY POLICY ON THE WAY OUT OF THE CRISIS

JÜRGEN VON HAGEN, DECEMBER 2009

## THE END OF THE CRISIS IS NIGH

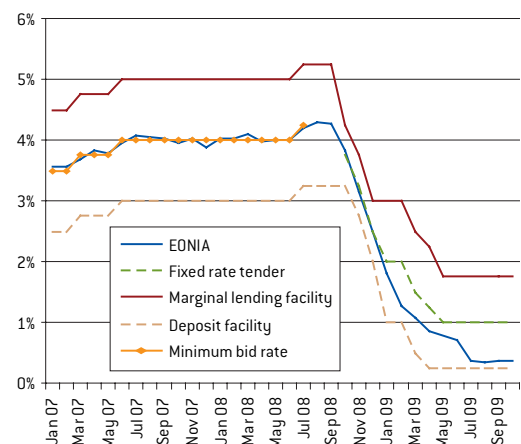
More than two years after the beginning, in August 2007, of the largest financial crisis Europe and the US have experienced since the late 1920s and just over one year after this crisis, on 15 September 2008, culminated in the collapse of Lehman Brothers that almost shattered the global financial system, the European economy and the economy of the euro area in particular are gradually coming out of the recession that stands out as the worst in the past 50 years. France, Germany, and Italy, the three largest economies of the euro area have posted stronger than expected real GDP growth rates in the last two quarters, indicating that the recovery is under way. Nevertheless, the recovery is still weak in the euro area and it is not yet there in the UK. Banking systems and financial markets more generally have regained stability, but the underlying weaknesses in bank balance sheets persist in several countries.

## MONETARY POLICY IN THE CRISIS

The immediate response of monetary policy in Europe and the US has been an unprecedented provision of liquidity to the financial institutions by the central banks. Back in August 2007, the ECB's immediate reaction to the emergence of market strains was to provide ample liquidity. After the Lehman collapse policy rates, which had been edging up despite the increasing tensions in global financial markets until the Fall of 2008 were quickly reduced from 4.25 percent in July 2008 to two percent in January and one percent in May 2009, where it continues to stand currently. Furthermore the ECB's return to the fixed-rate

tender procedure with full allotment in October 2008 transformed the interest rate on the Bank's main refinancing operations from a mid-point to an effective ceiling for euro-area money market rates (EONIA), as shown by Figure 1.

Figure 1: Evolution of ECB Policy Rates and Money Market Rates (in percent)



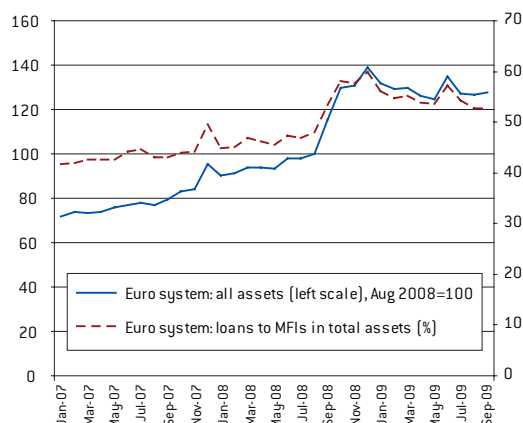
Source: ECB

This rapid decline in interest rates was accompanied by a large expansion of the Eurosystem's balance sheet. Figure 2 shows that it expanded by 39 percent between August and December 2008. After another peak in June 2009, it has gradually come down, but still stands at 28 percent above the August 2008 level. Figure 2 also shows that this rapid expansion was mainly driven by an increase in loans for monetary and financial institutions (MFIs) in the euro area, the share of which in total assets rose from 48 percent in August 2008 to 60 percent in December 2008. Note that other central banks, such as the US Fed, the Bank of England and the Swedish

*'The rapid decline in interest rates after the Lehman collapse was accompanied by a large expansion of the Eurosystem's balance sheet, mainly driven by an increase in loans for monetary and financial institutions in the euro area.'*

Riksbank, engineered even larger expansions (von Hagen *et al*, 2009).

**Figure 2: Expansion of the balance sheet of the Euro system**



Source: ECB

The resulting increase in the supply of central bank money in the euro area and elsewhere has left many observers worried about the risks of rising inflation and further asset market bubbles it might cause. Clearly, a monetary policy of near-zero interest rates leaves almost no further room for standard stimulus policies and is not sustainable for a long time without creating new economic instabilities. Looking forward, instead, the question now is how much of the monetary expansion will have to be undone in the coming months. While postponing a return to a more normal monetary policy risks the building up of a significant inflation potential, a premature return risks choking off the economic recovery before it gains strength and, through higher refinancing costs for banks, squeezing profit margins that are needed to rebuild a sufficient capital base in the banking sector.

During the crisis, some central banks also turned to so-called unconventional policy measures including measures of so-called qualitative and quantitative easing:

- Unconventional policy measures refer mainly to finding new channels to provide banks and even nonbanks with liquidity, when banks are

unable to perform their normal role of suppliers of credit. They did not aim at substituting traditional action through the setting of policy interest rates. Rather, they were intended to would support and substitute for the normal operation of interbank markets after these markets had contracted severely following the collapse of Lehman Brothers.

- Qualitative easing refers to lowering the standards of quality the central bank demands for collateral banks provide when borrowing from it.
- Quantitative easing refers to the purchase of assets by the central bank with the aim of affecting their price. These can be either Treasury securities or corporate bonds or other types of securities. In a way, quantitative easing amounts to a greater emphasis on the development of monetary aggregates in the conduct of monetary policy, which may become necessary when nominal interest rates approach the lower bound of zero. It has not played a role in the euro area so far.

The ECB implemented two unconventional measures during the crisis. First, it lowered the standards for collateral required in monetary policy operations in October 2008, thus increasing the amount of securities banks have available for obtaining central bank money from the Eurosystem. Second, it launched a programme for outright purchases of “covered” bonds in May 2009. Covered bonds are bonds eligible for ECB monetary policy operations, issued by entities in the euro area, denominated in euros and held and settled in the euro area (ECB, 2009). The most significant aspect of this programme is that it allows the Eurosystem to buy bonds in the primary market and thus extend direct credit to national governments. Although the quantity of covered bonds purchased under this programme has remained limited and the programme is set to expire in 2010, it does mark a serious deviation from the principle, laid down in the EU Treaty, that the Eurosystem does not lend directly to the governments and, if taken as a precedent in the

future, it could lead to an erosion of the central bank's independence from the governments.

In addition to these measures, the Eurosystem also implemented three unusual ones. First, Repo operations since October 2008 have taken the form of fixed-rate full allotment operations giving the banks all central bank money they bid for and the ECB more power to set market rates. Repo operations also occurred with much greater frequency than before: 25 main refinancing operations were conducted between October 15, 2008, and November 4, 2009, compared to 19 between June 28, 2000, and July 9, 2008. Second, the Eurosystem has offered Repo operations with maturities of a year the first time in June 2009, giving banks greater assurance that policy rates would be low for a considerable period of time. Third, the ECB has used swap agreements with partner central banks to provide liquidity in foreign currencies, ie, US dollars and Swiss francs, to avoid tensions in foreign exchange markets. These operations are unusual in the sense of deviating from pre-crisis normal practices of the ECB, but not unconventional as they merely changed the terms of practices adopted before.

As we will argue in more detail below, these measures did not cause an extraordinary expansion of money in the euro area. Since they remain limited in quantitative terms, they do not pose important constraints on monetary policy in the near future in the sense that the ECB would risk losing control of the money supply.

What is important when thinking about exit strategies from the current crisis mode of monetary policy is to realise that policies to control aggregate liquidity and unconventional or unusual measures to provide banks with liquidity through new channels are essentially separable. The ECB can in fact engage in the latter *at any level of interest rates*. As a consequence, these actions can be thought of mutually independent and the central bank can exit from either one while continuing the other one.

Meanwhile, faced with serious instabilities in the

banking systems and the prospect of an economic depression, governments in Europe and the US took action to support the banking systems and stimulate aggregate demand through large-scale fiscal expansions. Although the final outcomes in terms of public debt is not clear yet and depends on how sustainable the recovery of the banking sector is, the resulting increase in public debt levels will burden fiscal policy for years to come. Stabilising the debt and deficit ratios will be the first priority of fiscal policy in Europe and the US in the next five to six years, leaving fiscal policy with little room to support aggregate demand.

### MONETARY DEVELOPMENTS DURING THE CRISIS

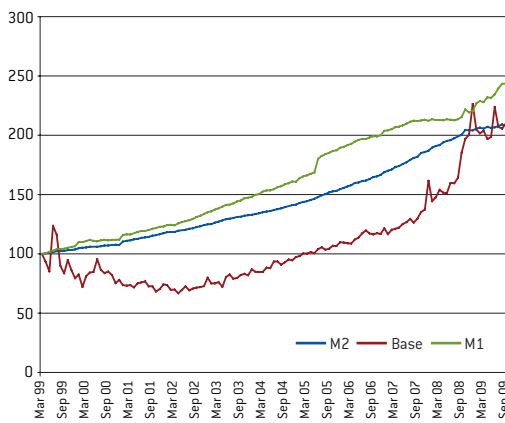
While monetary policy in normal times is conventionally assessed on the basis of short-term interest rates, interest rates miss important aspects of monetary developments during crisis times. To get a full picture of the situation, it is important to look at monetary and credit aggregates as well. This is what we do in this section.

Figure 3 shows the development of two monetary aggregates, narrow money (M1) and broad money (M2) together with the stock of central bank money, or the monetary base in the euro area over the past decade. For all three, we set the March 1999 values equal to 100. The two money stocks show rather steady trends right up to the September 2008 crisis. In contrast, monetary base growth already accelerated during 2007. Following the collapse of Lehman Brothers in September 2008, the ECB's monetary base increased by about 38 percent until the end of December 2008. It fell by about 13 percent until the end of April 2009 and then rose again to peak in June 2009. At the end of September 2009, it stood at 28 percent above its value in August 2008. Overall, this expansion of the monetary base is much less dramatic than those in the US and the UK. As shown by figure 3, the supply of broad money has remained largely unaffected by the crisis; in fact, its growth has decelerated. In contrast, the money stock M1 began to accelerate as a result of the crisis. If one believes that, over

*'How is it possible that the monetary base expands by so much, while the money supplies remain unaffected? The answer is in the development of the money multipliers, which indicate how much money the banking industry creates out of each euro supplied by the ECB.'*

the medium term, inflationary pressures result from excessive broad money growth, the data do not indicate the building up of an inflationary potential for the euro area.

**Figure 3: Money stocks and monetary base, euro area, March 99-Sept 09 (March 99=100)**

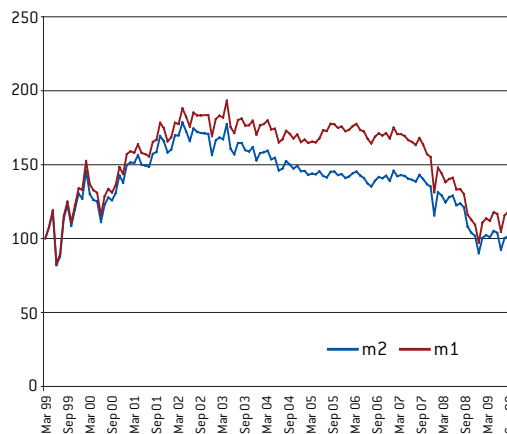


Source: ECB

How is it possible that the monetary base expands by so much, while the money supplies remain unaffected? The answer is in the development of the money multipliers, which indicate how much money the banking industry creates out of each euro supplied by the ECB. Figure 4 shows the development of the M1 and M2 multipliers (m1 and m2, respectively) for the same time period. Both started to decline already as the financial crisis got on its way in August 2007. In the months following September 2008, they contracted more strongly and quickly. Thus, the M2 multiplier fell by about 30 percent between late August and late December 2008. The implication is that the broad money stock would have declined significantly had the ECB not compensated this development by expanding the monetary base. Both multipliers increased slightly in early 2009 and seem to have levelled off since then. Thus, the financial crisis triggered a process of financial disintermediation reflected in the

decline of the multipliers. If the multipliers stay at their new levels for a while, a contraction of the monetary base would cause the money supplies to fall with negative consequences for the economic recovery.

**Figure 4: Money multipliers, euro area, March 1999-September 2009 (March 1999=100)**

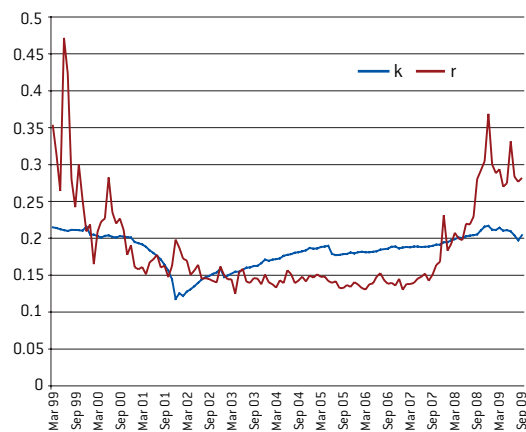


Source: ECB

Figure 5 (overleaf) provides additional information about this process. It shows the cash coefficient in the euro area, ie the ratio of currency held outside the banking system relative to demand deposits, and the reserve coefficient, ie, the amount of reserves monetary and financial institutions in the euro area hold with the Eurosystem (including vault cash) relative to demand deposits. Increases in these coefficients cause the money multipliers to fall. The cash coefficient indicates how much cash nonbanks wish to hold relative to checkable deposits. In a crisis, this coefficient may increase as people will withdraw their money from the banks. The figure suggests that this has not been a major problem in the current crisis. The reserve coefficient indicates how much central bank money banks wish to hold against demand deposits. Since the main alternative for doing so is lending central bank money to other banks, an increase in this

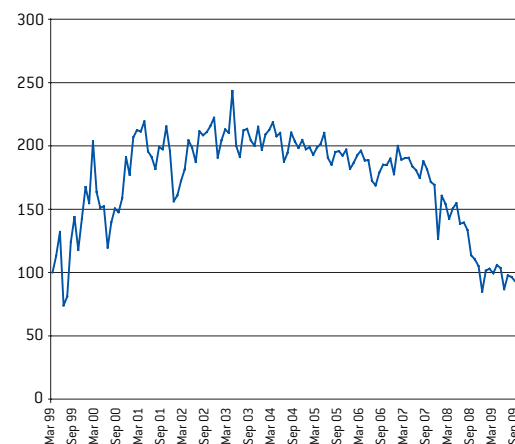
coefficient signals disturbances in the interbank market. The huge increase in the reserve coefficient shows that this was at the heart of the crisis. This is also indicated by Figure 6, which shows the ratio of interbank loans in the euro area to demand deposits. This ratio, which had increased over most of the last decade, began to fall during 2007 and contracted strongly after September 2008. It indicates a strong decline in the willingness of banks to lend to other banks and, thus, in the trust banks had in the financial stability of other banks. As the data show, it is too early to tell at this point, whether this ratio has found a new steady-state level.

**Figure 5: Cash and reserves coefficient, euro area, March 1999-September 2009**



Source: ECB

**Figure 6: Interbank lending, euro area, March 1999-September 2009 (March 1999=100)**

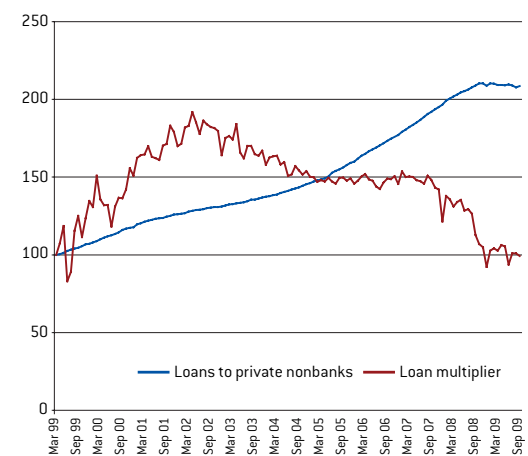


Source: ECB

1. In the UK, the process of disintermediation was reinforced by an increase in the cash coefficient. This can be attributed to the less effective deposit insurance in the UK before the crisis, which caused people worried about their banks to run on them.

Finally, Figure 7 shows the volume of bank loans to nonbanks in the euro area and the corresponding loan multiplier, the ratio of the stock of loans to the monetary base. This multiplier indicates how much credit banks create out of a euro of central bank money. Similar to the broad money multiplier, it has declined since the beginning of the crisis in 2007 and particularly strongly after September 2008, and may have levelled off in the last few months. As the figure indicates, the supply of loans banks have extended to nonbanks in the euro area has remained flat since October 2008. Stagnating credit is not unusual in times of recession, and a comparison of figures 3 and 7 shows that credit would actually have contracted without the expansion of the monetary base implemented by the ECB.

**Figure 7: Bank lending, euro area, March 1999-September 2009 (March 1999=100)**



Source: ECB

The picture for the Euro area emerging from these figures is markedly different from that in the US and the UK (von Hagen, 2009), where both the contraction of the money and loan multipliers and the expansion of the monetary base have been much stronger, although the nature of the problem, the collapse of interbank markets, is the same<sup>1</sup>. Judging from this perspective, the financial crisis seems to have affected the banking sector in the euro area much less than in the two other countries. This indicates that the ECB's much more moderate reaction in terms of interest rates

and balance sheet expansion was indeed justified. Looking forward, the differences in the extent and dynamics of the crisis suggest that there is little scope of and need for international coordination of exit strategies between the ECB, the Fed, and the Bank of England.

### THE MONETARY EXIT STRATEGY

An important implication of the monetary developments reviewed in the previous section is that, although we have witnessed an enormous expansion of the Eurosystem's balance sheet and central bank money supply, there is no commensurate building up of an inflationary potential in the euro area on the horizon. Due to the decline in financial intermediation during the crisis, the expansion of the monetary base has not been passed through to the monetary aggregates. This may change eventually, when interbank markets resume their normal level of activity, but it is unclear at this point when and how fast this will happen. The ECB should keep an eye on monetary developments and interbank activities and watch their developments carefully.

The recent recovery of economic growth in the euro area suggests that both monetary and fiscal policy can return to more normal policies in the near future. For monetary policy in particular this would imply a return to higher interest rates and growth rates of the monetary aggregates in line with price stability over the medium term. The main difficulty at the current moment is that a simultaneous monetary and fiscal contraction might kill off the recovery before it has acquired full force. Avoiding this requires some coordination of monetary and fiscal policy and, first of all, a choice of which of the two will return to normal, first (von Hagen, Pisani-Ferry and von Weizsäcker 2009).

Two considerations arise. First, the long-term consequences of holding off a return of fiscal

policy to normal seem much larger than the long-term consequences of letting fiscal policy exit from crisis mode first and delaying the exit of monetary policy for a while. The reason is that delaying the necessary fiscal consolidation would result in even larger debt burdens and, consequently larger needs to raise taxes or cut expenditures in order to service these debts. This, in turn, could prevent the euro area economy from returning to normal potential output growth rates for a longer time. Second, monetary policy can be adjusted with greater speed and flexibility to any unforeseen developments on the way out of the crisis, such as an unexpected increase in inflation. The risk of adverse macroeconomic developments, therefore, seems considerably less if fiscal policy exits from crisis mode first and monetary policy second.

If fiscal policy is given priority, monetary policy should remain geared at price stability and would normalise once justified by expected price developments<sup>2</sup>. Against the background of weak public demand and possibly weak global demand, however, this may be a rather long process. Policy interest rates may have to remain low for an extended period and, depending on how fast financial intermediation resumes, unconventional initiatives may have to remain part of the central bankers' toolkit.

From the point of view of central banks, this is a rather uncomfortable perspective for two reasons. First, they also have an understandable appetite for a return to normality, not least because they fear that being unconventional for too long might undermine the public commitment to price stability. Second, they may rightly fear that a low interest rate environment would soon recreate the conditions that contributed to the financial excesses of the early 2000s. Already, signs have emerged pointing in this direction. They call for a swift and thorough implementation of the regulatory reforms prepared at G20 level and by the

2. In this process of normalisation, central banks should continue their past practice of focusing on second round effects of increases in world market prices of raw materials and agricultural produce if and when they arise as the global economy starts to pick up again.

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*'There has been an enormous expansion of the Eurosystem's balance sheet and central bank money supply, but no commensurate build up of an inflationary potential in the euro area.'*



global regulatory agencies (notably the FSB and the BCBS) and for speeding up the creation of the European Systemic Risk Board and preparation for a fully worked-out macroprudential policy framework. Macroprudential oversight was initially regarded as a medium-term objective destined to prevent future crises after the memory of this one faded away. It may be needed earlier.

In the past, the ECB has objected to any form of ex-ante coordination between monetary and fiscal policy, fearing that it could undermine its independence and its mandate for price stability.

We do not recommend here, however, that the ECB should engage in coordinated, macro economic fine-tuning together with the fiscal authorities. At this point, coordinating the exit strategies requires that the governments and the ECB inform each other clearly about their intended policies and that one takes into account the plans of the other. In particular, the ECB should be very clear about its views of the situation and explain to the governments the conditions under which it would hold interest rates low and the conditions under which it would think that higher interest rates would be more appropriate.

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