

R O M E

Research On Money in the Economy

No. 10-06 – April 2010

Financial Crisis, Global Liquidity and Monetary Exit Strategies

Ansgar Belke

ROME Discussion Paper Series

"Research on Money in the Economy" (ROME) is a private non-profit-oriented research network of and for economists, who generally are interested in monetary economics and especially are interested in the interdependences between the financial sector and the real economy. Further information is available on www.rome-net.org.

ISSN 1865-7052

Research On Money in the Economy

Discussion Paper Series
ISSN 1865-7052

No 2010-06, April 2010

Financial Crisis, Global Liquidity and Monetary Exit Strategies

Ansgar Belke

Prof. Dr. Ansgar Belke
University of Duisburg-Essen
Department of Economics
Universitaetsstr. 12
D-45117 Essen
e-mail: ansgar.belke@uni-due.de

and

Deutsches Institut für Wirtschaftsforschung (DIW)
Mohrenstraße 58
D-10117 Berlin

and

Institute for the Study of Labor (IZA) Bonn
Schaumburg-Lippe-Str. 5 – 9
D-53113 Bonn

The discussion paper represent the author's personal opinions and do not necessarily reflect the views of DIW Berlin and the Institute for the Study of Labor (IZA) Bonn.

NOTE: Working papers in the "Research On Money in the Economy" Discussion Paper Series are preliminary materials circulated to stimulate discussion and critical comment. The analysis and conclusions set forth are those of the author(s) and do not indicate concurrence by other members of the research network ROME. Any reproduction, publication and reprint in the form of a different publication, whether printed or produced electronically, in whole or in part, is permitted only with the explicit written authorisation of the author(s). References in publications to ROME Discussion Papers (other than an acknowledgment that the writer has had access to unpublished material) should be cleared with the author(s) to protect the tentative character of these papers. As a general rule, ROME Discussion Papers are not translated and are usually only available in the original language used by the contributor(s).

ROME Discussion Papers are published in PDF format at www.rome-net.org/publications/ .

Please direct any enquiries to the current ROME coordinator

Prof. Dr. Albrecht F. Michler,

Heinrich-Heine-University of Duesseldorf, Department of Economics, Universitaetsstr. 1,
Build. 23.32.01.63, D-40225 Duesseldorf, Germany

Tel.: ++49(0)-211-81-15372

Fax: ++49(0)-211-81-10434

E-mail: helpdesk@rome-net.org
michler@uni-duesseldorf.de

Abstract

We develop a roadmap of how the ECB should further reduce the volume of money (money supply) and roll back credit easing in order to prevent inflation. The exits should be step-by-step rather than one-off. Communicating about the exit strategy must be an integral part of the exit strategy. Price stability should take precedence in all decisions. Due to vagabonding global liquidity, there is a strong case for globally coordinating monetary exit strategies. Given unsurmountable practical problems of coordinating exit with asymmetric country interests, however, the ECB should go ahead – perhaps joint with some Far Eastern economies. Coordination of monetary and fiscal exit would undermine ECB independence and is also technically out of reach within the euro area.

JEL-Classification: E52, E58, F42, E63

Keywords: Exit strategies, international policy coordination and transmission, open market operations, unorthodox monetary policy

Acknowledgements: Briefing paper prepared for presentation at the Committee on Economic and Monetary Affairs of the European Parliament for the quarterly dialogue with the President of the European Central Bank, Brussels, November 2009. I am grateful for valuable comments to Leszek Balcerowicz, Christian Dreger, Horst Gischer, Daniel Gros, Arttu Makipaa and Joachim Starbatty.

Corresponding authors:

Professor Dr. Ansgar Belke, University of Duisburg-Essen, Department of Economics, 45177 Essen, DIW Berlin and IZA Bonn
phone: +49 (0)201/183-2277, fax: +49 (0)201/183-4181,
e-mail: ansgar.belke@uni-due.de

1. INTRODUCTION

Policymakers from the G-20 nations and their market-based critics are sometimes missing the point about "exit strategies." The G-20 is right to announce that there should be no premature exits from macroeconomic stimulus and to reassure that monetary tightening will be technically manageable. Yet it is overlooking the more complex challenges that economic policy must confront as a result of the emergency measures undertaken since mid-2007 (Eichengreen 2009, Posen 2009a). However, this report concludes that international policy coordination of monetary and fiscal exit might be desirable but is unfortunately not attainable.

Some claim that the exit strategy needs a wider remit and greater international coordination. There are three dimensions to what potentially has to be done - monetary, fiscal, and financial. That is: monetary ease must return to normal interest rate policy (the main focus of this report), discretionary fiscal stimulus must shift to putting government budgets on a sustainable path and banks' guarantees and state-ownership stakes must be withdrawn (Borio and Disyatat 2009, Posen 2009a).

First, there is a challenge of sequencing, given the interaction among exit measures. Should fiscal or monetary tightening come first? Would withdrawal of current extraordinary liquidity and deposit guarantees accelerate or offset monetary tightening? Here, some already offer some guidance based on past experience. Credible commitments to medium-term fiscal consolidation should theoretically precede monetary tightening to pre-empt so-called "Volcker-Reagan policy mismatches" which tend to drive up interest rates (Posen 2009a).

Second, in principle there is a pressing need for international coordination of macro policies exits. Most governments and central banks will probably find their exit from the financial crisis in a timely and consistent way. But there is one specific co-ordination failure that is both extremely destructive but highly probable: a disconnected monetary and fiscal response between the US and Europe (Cottarelli and Viñals 2009, Munchau 2009).

Unorthodox monetary policy in the euro area - What has been done so far?

The ECB has lowered interest rates, reflecting rapid and deep cuts between the autumn of 2008 and the spring of 2009, and has implemented *five "non-standard" unorthodox monetary policy (UMP) measures* to enhance credit support, taking into account the major role played by banks in funding the euro area economy (Borio and Disyatat 2009):

1. Full accommodation of banks' liquidity needs at fixed rates by switching the refi operations to *fixed rate tender with full allotments* (i.e., unlimited liquidity).
2. Expansion of the list of assets eligible as collateral by *extending the collateral pool* down to BBB-.
3. Lengthening of the maturities of the refinancing operations and offering supplementary *long-term refi operations* (LTROs) at 3-, 6- and 12-month maturities.
4. *Providing liquidity in foreign currencies*, notably the US dollar and sometimes the CHF, to address the need of euro area banks to fund their dollar assets.
5. Launching of a direct *covered bonds purchase programme* to support financial markets. *Purchasing covered bonds*.

These non-standard measures, referred to by the ECB as enhanced credit support, have been intended to boost liquidity in the financial system and support credit flows to the non-financial sector over and above the interest rate reductions. In other words: in addition to the interest rate decision, a range of unconventional measures will need to be unwound. In the following sections, we look at the exit from these measures. The interest rate issue has

been recently discussed elsewhere (see, for example, Bartsch 2009a). Most of these studies concluded that the ECB will likely keep rates steady until mid-2010. Some unconventional measures might be unwound earlier than that; others will likely remain in place for longer.

2. MONETARY EXIT STRATEGIES

Monetary policy has brought interest rates down to nearly zero for all major currencies, including the euro. In addition, central-bank efforts to rescue financial systems by giving banks easier access to central bank money has caused a rapid and significant expansion, and changes in the composition, of banks' balance sheets. *So far*, this policy of 'quantitative easing' and 'qualitative easing' has *not affected the broad money supply* and therefore *not resulted in inflationary pressures* ((Borio and Disyatat 2009, von Hagen 2009). But, as banking systems recover and inflation expectations increase according to ever rising gold prices etc., central banks must keep a keen eye on monetary developments to ensure that inflationary potential does not build up in the future (ECB Observer, various issues, von Hagen 2009, von Hagen, Pisani-Ferry and von Weizsäcker 2009).

Why exit? If one takes into account that, at least in the long run, all inflation is a monetary phenomenon, the question of the exit strategy takes center stage. There is a need for an exit strategy to avoid inflation (Buiter 2009a, Cottarelli and Viñals 2009, González-Páramo 2009). Current policies, which have expanded the monetary base, are considered potentially inflationary, with the inflation risk arising from three sources: activity overstimulated by hyper-accommodative monetary policy, excess liquidity in the banking system, and the potential deanchoring of inflation expectations (linked to the excess liquidity mentioned above). It is clear that any large-scale quantitative easing has to be reversed when the economy recovers and the demand for base money returns to levels that are not boosted by the extreme liquidity preference of a panic-stricken banking system. The central banks must withdraw in a timely manner the monetary stimulus injected into the system (Baudchon 2009, Borio and Disyatat 2009, Cottarelli and Viñals 2009).

Indeed, should a significant improvement in the outlook for economic activity not be accompanied by an adequate adjustment in the policy stance and a reversal of quantitative easing, the current monetary stance may become excessively accommodative as soon as the income velocity of money is increasing again in the wake of less uncertainty, thereby giving rise to risks to price stability (Belke 2009). If the reversibility, when needed, is not credible, longer-term inflationary expectations will rise and these inflation expectations, as well as possible inflation risk premia, can raise longer-term nominal and real interest rates. But because the stimulus was injected to a large degree using unconventional means, there are fears the central banks lack the tools needed to undo their previous actions, at least in a timely manner (Buiter 2009a, González-Páramo 2009). Rising inflation expectations are currently mirrored by ever rising gold prices. Last Wednesday the gold price reached its all-time high of 1146 dollar per ounce. Moreover, also the US core inflation rate last month increased from 1.5 to a year-on-year value of 1.7 pc at the end-of-year 2009. Note that the Fed has no explicit inflation target but has clarified on several occasions that a core inflation rate of 1.5 to 1.7 pc is considered to be ideal. Inflation in the euro area can also not be excluded in the medium run.

Moreover, the long-term success of non-conventional policies depends on the policy-maker's ability to pull off a *difficult balancing act*: to provide massive stimulus to the economy in the short-term, while keeping long-term private sector inflation expectations firmly anchored. The failure to preserve the anchoring of long-term inflation expectations

would be, expressed in game-theoretic terms, self-defeating for non-conventional policies. In such a case, the beneficial effects on the economy of the latter policies could be neutralised by an array of adverse factors, including increased inflation risk premia, interest rate volatility and Ricardian effects on consumer spending (Cottarelli and Viñals 2009, González-Páramo 2009).

These risks and the innovative nature of the policies mean that central banks will have to make an extra effort in communications. *Communicating about the exit strategy must be an integral part of the exit strategy.* Monetary policy transparency and intelligibility are fundamental to the credibility of policy objectives. And central bank credibility is of the essence in anchoring expectations (regarding inflation or rates). An exit strategy that is clearly identified and understood strengthens monetary policy effectiveness because it reassures that inflation and the entire yield curve will remain under control once growth resumes (Baudchon 2009 and ECB Observer, various issues).

2.1 The need for an exit strategy

The fact that ECB officials are *discussing* exit strategies by no means implies that the ECB is about to *implement* them. But for them to be effective, the ECB needs to be transparent. Otherwise, investors may become fearful of inflation and concerned about the sustainability of public finances. This would no doubt push up long-term interest rates. For the same reasons, households might expect higher taxes in the future and raise the share of their income that they would rather save than spend. All these effects would, of course, jeopardise the gradual recovery and undermine the effectiveness of the policy stimulus (Stark 2009).

Recently, some central banks, including the Fed and the ECB, have been *communicating* about the exit strategies from their unconventional programs. It is clear that the articulation of an exit strategy has been forced up on central banks by market participants. The reason is *uncertainty* regarding the effects of unconventional policy on the economy. Faced with uncertainty, market participants naturally look for guidance about the future path of monetary policy. The concern is driven mainly by *uncertainty about future inflation*. Such a concern is not unreasonable, given the massive interventions by monetary authorities that led to a *sharp rise in their balance sheets* (Tesfaselassie 2009).

Consider for example the excess reserves of about \$800 billion that banks have with the Fed, compared with the typical pre-crisis level of only \$10 billion. Whether the inflationary consequences of excess reserves is real or perceived, it should be a matter of great concern to central banks, as inflation expectations could be embedded in long run inflation, making it harder for monetary policy to achieve price stability. Rising inflation expectations are the last thing a credible central banker would like to see. Thus, even if central banks do not have to start exiting from their unconventional interventions soon, it is important to respond to public concerns by coming up with a credible exit strategy. Exit strategy must be understood as *stipulating a roadmap for a tightening of monetary policy when the time is right*; in other words, it is about being clear about the end game once the economic environment returns to normal. One must see the strategy as *specifying the tools that central banks may use when it is time to tighten monetary policy* (Tesfaselassie 2009).

But there is more than inflation fears without monetary exit. The experience of the past decade has led many economists to conclude that protracted accommodative monetary conditions, especially when they become widespread at the global level, may make access to credit in international financial systems too easy. Easy credit availability can in turn depress interest rates across the maturity spectrum and lead to severely *distorted financial asset prices* as agents engage in increasingly speculative behaviour. Thus, preventing the monetary policy stance from becoming excessively accommodative is important not only to

directly preserve price stability, but also *to avoid the emergence of financial imbalances* that may – if they prevail for too long – eventually give rise to episodes of macroeconomic instability.

Whither goest thou? - Where to go?

While there is no doubt that the return to normality of our economies will need to be accompanied by a normalisation of monetary conditions, the key question is what we mean by “normal” in the post-crisis environment. Indeed, there is significant empirical evidence showing that financial crises tend to have large and long-standing costs in terms of output and employment and tend to be followed by persistent declines in asset prices (Reinhart and Rogoff 2009). In the specific case of the current crisis, there are increasing concerns that its cost in terms of lost financial, physical and human capital all over the world may prove very substantial. As a result, the crisis may end up having a protracted impact on the rate of potential growth of a number of economies, including the euro area (González-Páramo 2009).

Therefore, in the post-crisis world, we may operate in an environment in which the dynamic properties of our economies are persistently affected, so that returning to “normality”, as we knew it before, will take a long time. As a side effect, the statistical regularities underlying the estimates of models and indicators (e.g. the output gap and the interest rate gap) often used for policy analysis may not be as stable as in the past (Belke 2009). The ECB has traditionally been reluctant to rely exclusively on models and summary indicators of the monetary policy stance, so it is usually not concerned about the reliability of any specific indicator. Yet, it shares the more general concern that in the future decisions will be taken in an environment characterised by high uncertainty and reduced reliability of the monetary policy maker’s conventional information set (González-Páramo 2009).

Faced with increased uncertainty, central banks are at their best when they clearly commit to a well-defined goal and pursue it consistently and independently. The ECB strategy includes a specific quantitative definition of price stability: annual inflation of below, but close to, 2% in the Harmonised Index of Consumer Prices over the medium term. This definition sets a clear benchmark against which decisions must be made (ECB Observer, various issues).

Thus, in a period of increased uncertainty it is crucial for the ECB to set its interest rate instrument at any point in time *at the level which is appropriate to ensure the achievement of its primary objective*. The assessment of the risks to medium-term price stability based on a comprehensive and robust set of indicators will prove essential in guiding monetary policy decisions in the future. In this respect, the ECB’s choice of a full-information approach resting on *two complementary pillars* (an economic analysis and a monetary analysis), with its advantages in terms of robustness is likely to prove very beneficial in providing insurance against increased model and paradigm uncertainty (ECB Observer, various issues, González-Páramo 2009).

In fact, the ECB is walking “a tightrope in reining in excess liquidity and in removing monetary policy stimulus” (Bartsch 2009). Remember that the last ECB tightening cycle in 2005 initially led to an outcry amongst European politicians and international organizations claiming – at that time - that the ECB’s move was premature. Yet, the ECB strictly followed its broad-based analysis of the outlook for price stability and their cross-checking against monetary developments which indicated the need to tighten. With the benefit of hindsight, it can be stated that the ECB was correct (ECB Observer, various issues from 2005 on). Today, however, macroeconomic uncertainty, financial market dislocations and foreign exchange repercussions render the exit an even more finely calibrated decision. History shows that even *small monetary policy decisions can have a big market impact*. Bartsch

(2009), for instance, refers to the fall of 1987, when a small 10bp hike in the Bundesbank's repo rate caused a transatlantic policy spat. The latter caused markets to doubt the political commitment to the Louvre Accord which aimed to stabilise the USD. Concerns about support for the USD sent the US equity market which already was wobbly in the wake of a hike in capital gains taxes into a tailspin (Bartsch 2009). Parallels with today's situation are striking.

Turning now to the monetary policy implementation framework, one should recall that prior to the escalation of the financial crisis in September 2008, the operational framework worked quite well. Hereafter, many exceptional measures were taken to support the availability of liquidity and the recovery of the euro area economy. Looking ahead, as conditions in the financial markets normalise further, not all these liquidity measures will be needed to the same extent as during the crisis. Therefore, one should envisage a situation in which the main operational features that were in place prior to the crisis are restored, while of course also bearing in mind the lessons learned from the crisis (Cottarelli and Viñals 2009, González-Páramo 2009).

In particular, the ECB seeks to revert to a situation in which *the one-week main refinancing operation* (MRO) is the *main tool for steering money market rates* and in which the ECB acts as "rate-taker" in the longer-term money market (Stark 2009). In addition, under normal circumstances, central banks also do not provide liquidity in foreign currency. Finally, the use of using self-originated paper as central bank collateral should be considered as an anomaly under normal market conditions (González-Páramo 2009).

2.2 (How) Should the ECB further reduce the volume of money (money supply) and roll back credit easing in order to prevent inflation?

At last year's "The *ECB and its Watchers Conference*" (2009) and on several other occasions at that time, ECB President Jean-Claude Trichet and ECB Executive Board Member Juergen Stark outlined how the ECB might approach the different dimensions of its policy exit. Essentially, they conveyed the clear impression that the ECB's *interest rate decision* will be based merely on the bank's assessment of the risks to price stability. Meanwhile, *decisions on enhanced credit support* will be taken with a view to financial stability and market functioning. Analytically, it clearly makes sense to *separate* these two issues and to fight one goal with only one instrument. Practically, both issues are likely to be *intertwined* though. The ECB is correct in stressing that *price stability takes precedence in all decisions*. Should non-standard measures pose a threat to price stability, they will be unwound "promptly and unequivocally" according to its statute. As long as they do not, however, they can be *unwound gradually* as markets continue to normalise. But if market dislocations continued to impair the transmission mechanism, these measures could also well be left in place for longer. According to different issues of our ECB Observer report (see <http://www.ecb-observer.com>) this should serve as a clear and satisfying assignment.

Of course, due to uncertain time lags in the effects of monetary policy, the timing of any intervention to exit is very crucial but hard to know in advance because the intervention will represent a turning point in the monetary policy stance. Already any signal given by central banks about the timing of an exit strategy would *increase yields on long-term bonds via the term structure*. The fear is that such a preannouncement could drive up interest rates prematurely, derailing the by now significant but still fragile recovery (Tesfaselassie 2009). Moreover, it has some implications for the sustainability of fiscal policy and for the coordination of monetary and fiscal exit (see section 3.2).

General sequencing of measures

If one wants to derive some general principles of sequencing of monetary exit steps, Bini Smaghi (2009) is very instructive and well-taken as a starting point. Hence, this section outlines his principles of sequential and conditional monetary exits in the necessary detail.

Starting with the problem of the *adequate sequence* of exit events, it should be taken into account that any reversal of an environment of extremely low interest rates and ample liquidity which aimed at favouring borrowers and penalising lenders changes the incentive structure over the medium term. On the other hand, most of the unconventional measures put in place are designed to stimulate lending, to convince savers to hold risky longer-term assets. The effectiveness of these measures therefore mainly *depends on the readiness of banks to go back to their main business of lending to households and firms rather than parking excess reserves with the central bank*.

Clearly, an increase in policy rates – and in particular in the deposit rate – risks undermining banks' incentive to re-engage in funding the private sector. In a similar vein, prospects of rising interest rates may discourage private savers from purchasing longer-term assets, as a tightening of monetary policy inevitably implies a capital loss for those who bought these assets. *Raising policy rates* or the expectation of such increases, when confidence is not fully restored could therefore be *counterproductive* (Bini Smaghi 2009).

What, then, are the implications for the sequencing of unwinding conventional and unconventional policy measures? In simple terms, it means that non-standard measures that aim mainly at restoring the orderly functioning of money markets, such as supplementary longer-term refinancing operations or an extended menu of eligible collaterals, might have to be rolled back *before interest rates are increased again*. Why?

First of all, because *raising interest rates in an environment in which such unconventional measures were still judged to be necessary* would risk undermining a sustained recovery by money markets. If concerns about the required and available amounts of short-term funding still prevailed among market participants, raising rates might reinforce these fears and could lead to further, unwarranted upward pressure on overnight rates (Bini Smaghi 2009).

Second, *supplying extra liquidity to the markets through non-standard measures while, at the same time, tightening monetary policy* would send mixed signals on the effective monetary policy stance. Measures to alleviate the strains in money markets could in fact be seen as a continued easing of the monetary policy stance (Bini Smaghi 2009).

Third, *with non-standard measures such as the unlimited provision of liquidity still in place it might be more difficult for the central bank to steer the level of market rates consistent with its policy target*. For example, a fixed rate tender with full allotment usually leaves the banking sector with a large daily liquidity surplus, which needs to be mopped up by additional fine-tuning operations towards the end of the reserve maintenance period in order to avoid a sharp drop in the overnight interest rate. This, however, causes extra volatility in the markets as well as large interest rate fluctuations that are undesirable from the point of view of an effective signalling of the monetary policy stance (Bini Smaghi 2009).

Fourth, *with markets still in need of additional non-standard measures, the pass-through of an increase in policy rates would probably be hampered*. The orderly transmission of any monetary tightening would only resume once trust among market participants has had been restored and money markets were operating normally again (Bini Smaghi 2009).

Finally, in any bank-dominated system of fund intermediation in which the recovery of the

economy largely depends on the soundness of the banking system, *inflationary pressures that would require a tightening of monetary policy are likely to appear only when the banks take up their normal lending activity again*. This, in turn, implies that non-standard measures should ideally be rolled back before interest rates will be increased (Bini Smaghi 2009).

This reasoning might *not hold* for measures taken to revitalise the flow of credit in certain market segments – such as through the purchase of corporate bonds. These measures are primarily designed to *bypass the financial sector* and to ensure that non-financial corporations still have access to external financing. Now, in theory, by stimulating longer-term investments and hence aggregate demand, these measures might induce inflationary pressures in the medium to long-term, independent of the functioning of money markets and lending by banks.

The strength of this channel depends on the depth of the corporate bond market. If policy-makers were to react to these inflationary pressures by raising interest rates pre-emptively while money markets were still weak, the consequences for the banking channel of intermediation could be severe – for the reasons just given. If, however, markets were to function properly again, there would be no reason to postpone the unwinding of ‘credit easing’ policies to a date longer than needed. Taken together, this reasoning suggests that *purchases of privately issued securities should be unwound before or at the same time as interest rates are raised back to normal levels* (Bini Smaghi 2009).

It is important to note that most of the ECB's non-standard measures have a sell-by date at which the liquidity will be withdrawn again, unless the bank decides to prolong the programme (Bartsch 2009). According to Juergen Stark (2009) and, more recently, also Jose Manuel González-Páramo (2009), the ECB aims to re-establish a situation where the one-week MRO is the main tool for steering money market rates and where the ECB acts as a ‘rate-taker’ in the term-funding money again. The latter would imply switching back to partial allotment or even variable rate tenders.

However, *the specific steps will depend on the state of the money market*. The criterion for phasing out the respective operations should be the ECB’s assessment of the financial situation and, specifically, how funding risk evolves, without compromising its price stability mandate. The latter implies that the criterion for how and when to withdraw the monetary policy stimulus in terms of the key ECB interest rates must be a thorough assessment of risks to price stability. Based on its economic and monetary analyses, the ECB should continue to monitor very closely all developments over the period ahead. It should ensure that the measures taken are unwound in a timely fashion and the liquidity provided is absorbed in order to counter effectively any threat to price stability (Stark 2009 and various issues of the ECB Observer, <http://www.ecb-observer.com>). *Two different scenarios* should be considered in this context.

The first scenario is one where the *problems in the money markets disappear before any upside risks to price stability emerge*. In this case, unconventional measures should be unwound before policy rates are raised. The withdrawal would likely impact money market rates, many of which are below the refi rate at the moment.

The second scenario is one where *upside risks to price stability emerge while the problems in the money market persist and bank funding is still constrained*. This could happen if inflation expectations became unhooked, for instance. In this case, the ECB should keep enhanced credit support in place, i.e. should maintain the structure and size of its balance sheet and raise its policy rates. Supplying unlimited liquidity to the banking system would likely leave money market rates below the refi rate. In this context, the key question is whether the funding constraints result from dysfunctional markets overall or from specific

situations at individual institutions. If the issue was intrinsic to individual institutions, targeted measures outside monetary policy - such as government guarantees, recapitalisations or asset swaps - would seem more appropriate (Bartsch 2009).

Detailed sequencing of measures

With regard to the sequencing of the withdrawal of *non-standard liquidity measures*, there is less flexibility and more path-dependence than one might think and it is useful to distinguish again between the main different types of measures (Borio and Disyatat 2009, González-Páramo 2009).

1. For non-standard refinancing operations such as the full accommodation of banks' liquidity needs at fixed rates, there is an obvious built-in mechanism that facilitates their removal, as the operations mature at pre-specified dates and can then be replaced by conventional refinancing operations, if needed.
2. *Extending the collateral pool* down to BBB-. It has been made clear that the widening of the collateral framework is temporary. More precisely, its remaining into effect is linked to the conduct of 12-month LTRO in December 2009. Hence, the widening of the collateral framework will be naturally phased out in December 2010, unless otherwise decided.
3. Lengthening of the maturities of the refinancing operations. Offering supplementary LTROs at 3-, 6- and 12-month maturities. Exit by naturally phasing out.
4. The provision of foreign currency liquidity does not need to be renewed when it is considered that it is no longer warranted. However, it would push the dollar even further down vis-à-vis the euro with the well-known side-effects for the euro area. This might represent a positive side effect in times in which international investors distrust the euro area in the wake of the Greek insolvency crisis and the inability of the euro area to cope with it (Belke, Goecke and Guenther 2009). In this context, the exit from this specific measure has already started: owing to lack of demand, the ECB has already discontinued foreign currency-providing operations with longer maturities.
5. Launching of a direct covered bonds purchase programme to support financial markets. There is no particular need to dispose of the purchased bonds at any future moment in time, as it does not interfere with monetary policy implementation. The ECB could therefore decide to hold the portfolio until maturity and let it gradually shrink over time as a result of redemptions. Alternatively, the portfolio could be disposed of in a gradual way that would make it possible to avoid market distortions. In any case, the alternative options can be considered again once the entire portfolio of exit measures has been established. Currently standing at around EUR22 billion, the purchase programme is slightly ahead of schedule. It is expected to be completed by June 2010, when the ceiling of EUR60 billion should be reached. The programme could possibly be extended, but given its success in bringing covered bond spreads down that might not be necessary (Bartsch 2009).

Seen on the whole, thus there are *no technical obstacles* to the implementation of the ECB's envisaged exit strategy. Unlike many other central banks, for instance, the Riksbank has not at all purchased securities and this will make the phase-out even more uncomplicated than for the ECB. In any case, the ECB has the instruments to allow her to actively withdraw liquidity. Longer-term liquidity-absorbing operations could be envisaged in a scenario where it is clear that the need to absorb persists for a certain period of time, and where a significant tightening in monetary policy is needed. In this case, long-term

liquidity absorption could be used to quickly restore a deficit situation along with an increase in interest rates. It may be recalled that many central banks worldwide constantly and successfully implement monetary policy through liquidity-absorbing operations (González-Páramo 2009).

Some reflections on specific details

As stated above, the stance of monetary policy, as reflected in short-term interbank interest rates, can obviously be tightened through an increase in key policy rates, or through a tighter liquidity supply, or through a combination of both. It is too early at present to say which approach, or combination of approaches, should be followed, as it will depend on the circumstances prevailing at the relevant moment in time (González-Páramo 2009).

The interest rate decision is more straightforward than the non-conventional measures. For the ECB to be willing to raise interest rates, the Council will have to be reasonably confident that the recovery is sustainable. The focus will likely be on the domestic demand recovery, notably corporate investment and consumer spending. A turnaround in the labour market is probably not a necessary precondition though. As in December 2005, it should preferably rather be again the monetary analysis that will swing the decision towards a tightening. The base case should be that the ECB will start to raise the refi rate around mid-year. The risk is that the bank decides to wait longer before raising rates though. Two factors could affect the timeline of the tightening, we think: looming credit constraints and rising inflation expectations. The euro is a factor too, but like asset markets, probably less important unless it starts to swing wildly (Belke 2009a). In any case, the pace of interest rate increases should be gradual. It will probably take until 2013 before euro area short rates will get close a neutral level (Bartsch 2009).

Ahead of raising the refi rate itself, the ECB could ideally nudge money market rates higher. With the EONIA overnight rate at 35bp in December 2009, there is some scope for 'stealth' tightening by the ECB. Even though the ECB currently seems content with EONIA being close to the deposit rate, according to ECB President Trichet in one of his recent November 2009 press briefings, they might want to bring market rates closer to the refi rate before actually hiking it. The convergence between market interest rates and the refi rate can be brought about in several ways, according to a couple of market analysts. The prevailing market view is exemplified in the following by the propositions of Bartsch (2009) which appear to be overall logically consistent (see also, for instance, Baudchon 2009).

First, the ECB could simply *bring the deposit rate closer to the refi rate*, probably as part of a decision to narrow the corridor defined by the deposit rate and the marginal lending facility. The advantage of this approach is it is simple and it directly affects interest rates. By paying higher rates on deposits, the ECB would incentivise banks to hold liquidity buffers. At the same time, liquidity hoarders would have less incentive to offer funds in the interbank market.

Second, an indirect approach to nudge market interest rates closer to the key ECB policy rate is to *drain liquidity from the money market by conducting reverse refi operations* in which the ECB offers to take back excess funds at an interest rate that is somewhere above the deposit rate but still below the refi rate. The ECB regularly engages in such reverse refi operations already. But, typically these are quick tenders with a one-day maturity at the end of the maintenance period when the market tends to be awash with cash after minimum reserve requirements have been met. The advantage of reverse refi operations is that they offer operational flexibility. The disadvantage is that relying on them might require rather frequent market intervention.

The third option is to drain liquidity by *issuing so-called ECB debt certificates*. By issuing such certificates, which can have a maturity of up to one year, the ECB would enter new territory (see section 1.5 for details).

The fourth option is to *switch the operational procedure for some or even all of the tenders away from fixed rate with full allotment*. A first step would be to switch back to partial allotments. This system, which was in place between January 1999 and June 2000, allows the ECB to fully control the actual refi rate paid by banks and the amount of liquidity added to system. If the bids exceed the liquidity offered by the ECB, the allocation will be pro-rata. In this case banks would be forced to raise additional funds in the interbank market. The main drawback of partial allotment is that banks tend to overbid massively. A more radical step would be to go back to the variable rate tenders that were in operation until October 2008, which by definition only offer partial allotment. In contrast to the fixed rate tenders, however, banks will also need to submit an interest rate bid.

The bottom line - A final roadmap for the ECB's policy exit

Some operational decisions depend on information that only the ECB has access to. Others are dependent of market developments. With these caveats in mind, we believed and were proven to be correct ex post the sequencing of the ECB's policy exit next year could look like this. First, reduce liquidity offered in ultra-long refi tenders (e.g., one-year and increasingly also six-month tenders). Second, wean banks of the full allotment liquidity drip by switching back to partial allotment and possibly to variable rate tenders for some LTROs. Third, bring EONIA closer to refi rate via reverse refis and/or issuing certificates. Fourth, start to hike interest rates gradually since deflation fears gradually disappear also in the US and instead medium-term inflation fears emerge. Fifth, switch MRO tenders away from full allotment. In terms of the timeline, we would expect the active management of money market rates back towards the refi rate to start in the spring, in time for a first rate hike around mid-year (Bartsch 2009, Baudchon 2009).

To foster a common understanding about their exit strategies, central banks need to explain what available tools they have – both conventional as well as unconventional – and how they intend to use them. First and foremost, it should be made clear that when the recovery is solid, financial markets are back to normal and credit risk spreads narrow to a comfortable level and the risk to inflation over the medium term rises, then central banks will start tightening monetary policy. In this case there are no economic constraints in adopting the main tool of conventional monetary policy – open market operations – to push the official target for interest rates (and thus borrowing costs) up. Central banks can engage in outright sales of (or reverse repurchase agreements on) government bonds, the most liquid and safe financial assets. In principle, open market operations can be augmented by a new tool – raising the interest rate on banks' reserves at the central bank. The benefit of this action would be to make sure that any excess liquidity in the banking system is stashed back at the central bank, thereby preventing excess credit creation and ultimately inflation. In any case, rising interest rates (official and market rates) will be part of any balance sheet reduction by central banks and raising the reserve rate will have effects beyond banks reserves. This point seems to be ignored in some policy discussions (Baudchon 2009, Hall and Woodward 2009, Tesfaselassie 2009).

In some sense, calls for an exit strategy are reminiscent of the debate on whether central banks should announce projections of future interest rate (Goodhart 2009). Under normal conditions, central bank decisions are based on output gap and inflation projections. Policy stance is captured by the so-called Taylor rule, which proposes how interest rates should respond to inflation and output gap.

The main objection against publishing interest rate projections of central banks comes from

the complexity of decision making by committees. Almost all central banks have committees that make monetary policy decisions. Naturally, there is more disagreement among members regarding the future state of inflation and output gap than the current levels. It is not difficult to imagine that the current extraordinary conditions imposed by the financial crisis mean that besides output gap and inflation, assessing normality of financial markets in the future will also play a key role in monetary policy. This creates more challenges for central bank committee members to agree on the future state of the economy and the appropriate course of action. It could, therefore, be *counterproductive to dwell into specifics of the exit strategy*, in particular the timing of future interventions to be taken by central banks regarding their unconventional policy. *The focus should be on remaining alert to the risks posed by inflation and taking appropriate actions when necessary, including rolling back part of the various support programs* (Baudchon 2009, Tesfaselassie 2009).

2.3 Should the exits be one-off or step-by-step?

When to exit from current policies? The principle of timeliness

When to begin tightening, and where to begin (with conventional and/or nonconventional measures) is a *far more challenging question than how*. If you want greater precision than “as early as possible”, one should not put a date but talk about the *conditions that need to be in place to trigger an exit*. What follows is not a specific recommended sequence of dates but seeks rather to set out the terms of the debate and review the various exit conditions. In this section, we feel legitimized to follow the proposals by Baudchon (2009) which serve best to underline the necessity of timeliness of the monetary exit measures.

Because the nonstandard credit easing policies were implemented only after standard monetary easing was close to reaching its limits, the natural order of events would be to completely end the nonstandard policies before moving back up the chain and hiking rates. Credit easing came in as a replacement for rate cuts; so undoing the credit easing could be a substitute for raising rates (Baudchon 2009).

This is the natural sequence, but it could be disrupted; the high level of excess reserves does not prevent “conventional” monetary tightening. Balance sheets don’t have to contract to pre-crisis levels before the first rate hikes occur (especially because the contraction process will take time). Still, rate hikes would be hard to justify unless accompanied by a significant reduction in excess reserves. There is an obvious reason for this. In the US, for instance, many of the credit easing measures are based on the conviction that market conditions are “unusual and exigent”; this judgment is implicit in maintaining the measures in place, and is fundamentally inconsistent with circumstances warranting an increase in the Fed funds rate (Baudchon 2009).

The first step towards monetary tightening is simply putting an end to monetary policy easing. Next, as in any monetary policy cycle, comes the twofold question of the best time to begin the tightening cycle, and the speed at which it should be conducted. Today, the issue is steering between tightening too early or too fast (undermining the fragile bases of the recovery), and tightening too late (because of the need to contain inflation). The task facing the central banks will be easier if the recovery is strong and robust, and harder if it is soft and fragile (Baudchon 2009).

How monetary and financial conditions will be impacted by an active withdrawal of liquidity is more uncertain than in the case of an ordinary increase in rates. An asymmetric response by markets cannot be ruled out, as markets could tighten to a greater degree than they eased. Hence the *importance of communicating* about what is being done to minimize the

market “noise” surrounding the decision (see introduction). Beginning by draining liquidity could nonetheless buy the time required to test the robustness of the recovery and its capacity to withstand less accommodative monetary policy, while tempering inflation fears. This form of tightening is expected to occur *gradually* (Baudchon 2009).

Raising interest rates is where the *question of speed* really comes into play. Central banks have to choose among four possible strategies: *gradual tightening, either early or late; or aggressive tightening, either early or late*. If we follow Mishkin’s arguments, an aggressive approach goes without saying (Mishkin 2009). That would be a logical symmetric response to a particularly aggressive but necessary action to tackle the financial crisis and the risk of a deflation spiral. Theoretically, for a central bank whose main objective is price stability, and which is as concerned by inflation as by deflation, monetary policy should be *symmetric* when rates rise and fall. But actual practice differs, as central banks are more aggressive in cutting rates than in raising them (Belke and Rees 2009).

According to Trichet (2009), the *preparations for exit* are important. The Governing Council has to ensure that the measures taken are quickly unwound, and the liquidity provided is absorbed, once the macroeconomic environment improves. Long-term refinancing operations (like operations with shorter maturity) provide liquidity over a fixed time horizon and run off in a fully predictable way. By contrast, the unwinding of outright purchases as implied for exit by the US-Fed typically requires an additional decision, namely whether to hold the securities to maturity – and if not, when to sell. The route taken by the Eurosystem avoids such decisions, since it – except the covered bonds programme – relies largely on built-in mechanisms for the reabsorption of liquidity (Trichet 2009).

At what speed? The principle of gradualism

How quickly should policy-makers reverse their policies? On the one hand, withdrawing liquidity in such large quantities will trigger a substantial contractionary monetary policy shock. The large size of many easing programmes will make it difficult to sell assets without a significant market impact. *If it happens too quickly or abruptly, policy-makers risk choking off the economic recovery or imposing heavy capital losses on lenders*. For instance, in the corporate bond or commercial paper market, even small sales of securities by the central bank could cause spreads to widen considerably and to sharply tighten credit conditions for firms (Bini Smaghi 2009).

On the other hand, with policy rates at record low levels and additional liquidity-providing measures adopted in so many countries, the possibility of inflation risks emerging sometime later is not something that can be excluded. Retaining such exceptional policy measures for too long might aggravate the upside risks to price stability and *sow the seeds for future imbalances* in financial markets (Belke and Rees 2009, Bini Smaghi 2009).

Getting the timing right in withdrawing additional liquidity is likely to be decisive in order to ensure a non-inflationary recovery. Generally speaking, the lower the reversibility of the non-conventional operations, the larger the risk of “being behind the curve” when the macroeconomic and financial market situation improves.

Indeed, to a large extent the *speed* of unwinding of unconventional measures would depend on their *degree of reversibility*. As already noted, some of the unwinding would happen automatically as central bank programmes become increasingly unattractive as financial conditions normalise. For instance, many lending facilities provide liquidity at a premium over the main policy rate or with a high haircut applied to the required collateral, making interbank lending the more attractive option once normal lending activity among market participants is restored. As a result, the central bank’s balance sheet would decline automatically as demand for its funds decreases (Bini Smaghi 2009).

Note that the ECB's current liquidity-providing operations imply an "endogenous" exit strategy as banks would automatically seek less credit from the ECB when tensions in financial markets ease. The speed of the reversibility would therefore largely depend on the speed of the resurgence of the financial system. In the euro area, the revitalisation of money markets is key to the ECB's exit strategy and any future interest rate decision should therefore avoid a further disruption of money markets. In this context, bringing the main policy rate too close to zero would risk hampering the functioning of the money markets as it would reduce the incentives for interbank lending. This, in turn, could blur the important signals coming otherwise from the resurgence of interbank lending and the associated positive effect on the ECB's balance sheet (Bini Smaghi 2009).

Obviously, the speed of tightening would also depend on the *maturity of the assets* bought by central banks within the framework of their easing programmes (see section 1.5). Differences in the maturity of assets will ensure that a tightening of the accommodative stance would come in *gradual* tranches. This is important to *avoid any abrupt tightening of credit conditions* in the middle of the recovery. At the same time, measures centered on assets that are longer-term in nature and less liquid could pose challenges to the future unwinding of these measures (see section 1.5). If market conditions were to improve faster than expected, an increase in the average maturity of the central bank's portfolio would make it more difficult for financial markets to return to normal private sector functioning and would also heighten medium-term inflation risks (Bini Smaghi 2009).

Regardless of the specific modalities adopted for the exit strategy, key principles of "how" to phase out existing measures should in any case be *timeliness* and *gradualism*. Indeed, the stance of monetary policy should be normalised and the non-standard measures withdrawn in parallel with the *gradual improvement in economic and financial conditions* (González-Páramo 2009).

Right now the scarcest resource we have is confidence in the future. That is why in the present, very demanding, circumstances all necessary steps should be taken to strengthen confidence at all levels. This calls for bold yet solidly anchored responses. We must maintain the appropriate balance between the need to take immediate action commensurate with the gravity of today's situation, and the equally undeniable obligation to return to a path that is sound and sustainable in the medium and long term (Trichet 2009).

When? Exiting too early vs. too late

It has to be *warned against a common and unfortunate view suggesting that it is currently too early, or even totally inopportune, to envisage appropriate exit strategies*. Such a view is plain wrong because nobody should confuse the existence of a credible exit strategy – which can be activated at the right moment – with the decision to actually embark on that strategy. In terms of political economy, such kind of confusion often explains people's fierce opposition to the mere existence of exit strategies. Moreover, the very existence and the visibility of a credible exit strategy will foster confidence today and will therefore contribute to the re-activation of the economy here and now (González-Páramo 2009, Trichet 2009).

In discussing *when to exit non-conventional monetary policy*, we may distinguish here between the traditional interest rate instrument and the multiple non-standard liquidity measures. For the stance of monetary policy, the answer to this question is simple – at least in theory. Given the institutional policy of the ECB, the obvious point in time to tighten the policy stance is when, based on the analysis of the outlook for economic activity and inflation, there is evidence of emerging upside risks to price stability. At that stage, the interest rate should be increased at the pace necessary to ensure price stability in the medium term. However, identifying the right moment in time to start a tightening phase is

difficult already under normal conditions and even more so when the assessment of risks is, as in the current environment, surrounded by heightened uncertainty (González-Páramo 2009).

Besides being technically difficult, identifying the exact moment when the balance of inflationary risks shifts could be complicated by the “noise” introduced by public utterances and pressures aimed at influencing the decision of the central bank. In section 1.1 I already mentioned the difficult environment the ECB faced in 2005 when, after leaving the central policy rate unchanged at 2% for two and a half years, it decided to start tightening the policy stance. With hindsight, the ECB’s decision served to anchor long-term inflation expectations.

A past record of getting turning-points right is, however, no guarantee of success in the present context. Exceptionally high uncertainty implies that the exit from the current non-conventional monetary policy measures will need to be based on the *analysis of a broader set of indicators than usual*. Nevertheless, no matter how large the number and variety of indicators, one cannot exclude the risk of exiting from the non-conventional measures too soon or too late. Both situations would prove to be quite dangerous (González-Páramo 2009).

Risk of exiting too early

If a central bank starts exiting prematurely, it will be hard for it to reverse its course, should a deterioration in economic conditions materialise again. Indeed, historical experience shows that there is a certain element of irreversibility in the removal of non-conventional measures. This is because the effectiveness of non-conventional policy depends to a large extent on how long the policy is expected to stay in place. For instance, if an exceptional measure to increase liquidity supply to the banking sector is expected to be short-lived, banks are unlikely to extend additional credit to the private sector (González-Páramo 2009).

More generally, even the appearance of a lack of commitment to its non-conventional measures (or simply of being uncomfortable with them) can prove self-defeating. It has been argued that, despite the announcement that the zero interest rate policy introduced in 1999 would be maintained until deflation was over, signs that the Bank of Japan was uncomfortable with this policy (culminating in a 25 basis point increase in the call rate in August 2000) prolonged the Japanese deflation unnecessarily (Eggertsson and Woodford 2003).

At the same time, and here is the tricky issue, if the commitment is to be credible, it must also be realistic. Indeed, unless severe deflationary pressures become deeply entrenched in expectations, the public may not believe that public authorities are seriously committed to pursuing non-conventional measures when these measures are of such a large magnitude as to appear untenable for the balance sheet of the central bank or for the sustainability of public finances (González-Páramo 2009).

Risk of exiting too late

Exiting too late is dangerous because the public may lose faith in the central bank’s commitment to low inflation. We know – from our own historical experience in the 1970s and early 1980s – that, once public sector inflation expectations have become destabilised, it is extremely difficult and costly (in terms of output and job losses) to bring them back under control (see also different issues of our ECB Observer, <http://www.ecb-observer.com>). By contrast, a credible commitment to an explicit inflation objective helps to anchor inflation expectations to the desired level of inflation, and this anchoring contributes in itself to delivering price stability. It is clear, then, that, as long as they

remain well-anchored at the desired level, expectations can greatly facilitate the task of a central banker (González-Páramo 2009).

A recent survey among market participants shows that only a small minority of respondents (less than 20%) are at present concerned about the implications of excess liquidity for future inflation in the euro area. This, together with the fact that long-term inflation expectations remain well-anchored at levels consistent with price stability, suggests that market participants are confident in the ability of the ECB to withdraw its non-conventional measures at the right point in time and at the appropriate pace (González-Páramo 2009).

When assessing whether or not the non-conventional liquidity measures have achieved their objectives, one should be aware that such measures have been introduced for systemic purposes and not to address problems at individual institutions, which fall within the sphere of competence of national governments. Therefore, concerns about the costs or difficulties faced by individual institutions, once the exceptional provision of liquidity is discontinued, should not act as a constraint on the timely implementation of an exit strategy from UMP (González-Páramo 2009).

2.4 What exit strategies for public interventions in banks can be envisaged? How can competition be ensured?

In general, it would be unwise to undertake the necessary monetary policy (and fiscal) exit without first addressing the remaining problems of the financial sector (von Hagen, Pisani-Ferry and von Weizsäcker 2009). Governments planning to withdraw financial-market support should first exit programs that guarantee bank liabilities and coordinate their moves with other countries to keep a level playing field. Bank-debt guarantees are potentially costly for public finances as governments assume credit risk. Governments may need to hold assets bought to help banks improve their balance sheets for some time, as their goal should be to generate the highest possible return. Once financial stability has been established, priority should be given to exiting from those that have a significant distortionary impact on financial markets or involve considerable contingent liabilities for the government. Based on these criteria, it would be reasonable to unwind government guarantee on bank debt earlier than disposing of impaired assets acquired by the public sector (IMF 2009).

In answering the above questions, I think it is advisable to strictly follow a persuasive proposal developed by Snower (2008), according to which the main problem in the financial sector is the potential insolvency of systemically relevant financial institutions has become the main challenge. Just as central banks act as "lender of last resort" in the case of illiquidity, governments should act as "buyer of last resort" in the case of insolvency, when there are no willing private buyers. In turn, bailed-out institutions need to accept tighter regulation and supervision.

Having purchased shares in troubled financial institutions, governments need to specify how they intend to return this equity to the private sector. This is important, because governments are generally less capable of running banks than bankers are, particularly once appropriate regulation is in place. Financial markets are likely to suffer if the partial nationalization of banks is open-ended.

Once the rescued financial institution regains strength to operate on its own, one possible exit strategy for the government is *to hand over the acquired equity to a trust company*. The trust company has the task of selling the shares within a given period (e.g., ten years) with the sole objective of maximizing the profit and, thereby, minimizing the taxpayers' burden. Thus far, this has not happened. Bondholders and shareholders of the bailed-out

financial institutions or companies need to share the losses as well. Whereas the shareholders contribute automatically by putting up with the dilution of their equity, bondholders could take part in the burden sharing by compulsively accepting a debt-to-equity swap, where their bonds are converted into shares.

In the long run, improvements in financial regulation will have to take the lessons from these new experiences into account. Since modern banks cross international boundaries, improved financial regulation will entail a number of things. First of all, international policymakers will have to coordinate ways in which to let banks fail without taking economies down with them, in a manner similar to bankruptcy reorganization. This may require setting up an international deposit insurance fund for those banks which are large relative to their countries (such as those in Austria), modeled on the FDIC, or it may require breaking large banks into smaller pieces, each of which is not too big to fail.

International regulators could also increase capital requirements (thus reducing the risk of future insolvency) once the economic situation has improved. They can increase transparency by moving derivatives trades such as that in CDSs onto a centralized exchange to be cleared, as is done for futures and options. At the local level, individual countries or states could increase the (so far lax) requirements on the origination of loans, particularly subprime residential mortgages. However, caution is also needed when it comes to political decision making. Policymakers need to be careful to focus on creditworthiness in deciding on public loan allocations or new regulations, not on benefits to specific political constituencies (Snower 2008).

While I am very much in favor of the Snower approach, one should not forget to mention a recent example of a more conventional and cautionary approach which is presented by Levy and Panetta (2009). The latter draws upon the fact that, in December 2009, government guarantees on the issuance of bank bonds will close to new issuance in many EU countries. The authors argue that the guarantees have been effective and should be extended into 2010, despite improved market conditions and bank profitability. But in doing so, governments should correct the schemes for some distortionary effects and develop a careful exit strategy.

2.5 Are the options presented by Bini Smaghi viable and if yes, which option should be favoured?

Bini Smaghi (2009) suggested that the fiscal authority could issue debt securities and deposit the proceeds with the central bank. This would effectively transfer the liquidity previously created from the private to the public sector (*first option*). The ECB could also issue such certificates (*second option*), with essentially the same effect, with the aim of adjusting the structural position of the Eurosystem vis-à-vis the financial sector so as to create (or enlarge) a liquidity shortage in the market (ECB 2008, p. 17). The Statute certainly allows the ECB to do so. Note that Bini Smaghi came up with his proposal, significantly before González-Páramo, Stark and Trichet presented their first draft of the ECB's potential monetary exit strategy.

In principle, the option to absorb excess liquidity by issuing certificates is a suitable one. It enables to drain much liquidity within a quite short time. Principally, both approaches also augment the toolbox of the ECB and might be convenient to run a more restrictive monetary policy without necessarily increase interest rates such as the main refinancing rate. Using this option makes sense in situations in which there is the danger that the ECB falls behind the curve because share and commodity prices continue to increase substantially and/or inflation fears emerge. The alternative is a gradual maturing of the

LTRO, as was indicated by Trichet at the press conference at the occasion of the most recent GC meeting in November 2009. Important details followed during the next press conferences in December 2009 and March 2010.

Options 1 and 2: Asset side of the ECB's balance sheet neglected?

However, some critics claim that the problem inherent in both approaches is that they merely deal with a reorganisation of the structure of the liability side of the ECB's balance sheet, according to the first option from bank deposits to government deposits. Hence, both approaches proposed by Bini Smaghi are arguably not well-suited to either diminish the bloated ECB balance sheet or to remove the (potentially) toxic assets from this balance sheet - given that the main aim is to lower the high excess reserves. The caveat relating to the toxic assets is raised with an eye on the fact that it is currently very attractive for commercial banks in some to off-load their potentially toxic assets still included in their balance sheets at the central bank. The liquidity received in return is not used for the extension of credit to the private sector but to lower the risk weighted capital adequacy ratio. By this, the banks must provide less equity capital as without the generous liquidity provision. In addition, the intake of potentially toxic assets as collateral in the central bank balance sheet artificially keeps the asset prices up. To avoid such kind of problematic issues, any exit strategy should rather also consider how to deal with the asset side of the ECB's balance sheet. However, a closer look at the ECB statute (Art. 18) on open market and credit operations reveals that the above passages referring to toxic papers are valid with respect to the Fed but (due to the specific accounting principles of repo operations in the euro area) not for the ECB, notwithstanding the validity of the remaining parts of the above assessment (ECB 2008).

It is also not overall true in this context that - as nevertheless sometimes claimed by critics - in both cases some administrative obstacles would have to be passed. For instance, it is sometimes argued that (with reference to option 2) the ECB cannot simply decide to issue own certificates but probably would have to obtain the (implicit) approval and support of the governments in doing so. But the national governments do not have an interest in the central bank to get in their way as a competitor on the bond market. Whereas involvement of the fiscal authorities is obviously necessary in case of option 1, this argument is not wholly true in the case of option 2 since the issuance of debt certificates by the ECB takes place within the framework of open market operations which can be conducted by the ECB in an arbitrary fashion. The respective papers have a duration of less than twelve months and are only offered to banks. Unfettered competition of ECB debt papers with government bonds should thus be limited. However, indirect effects cannot be excluded in both cases (options 1 and 2) since many commercial banks up to now satisfy their liquidity needs on the money market due to the steep yield curve, and park it in longer-run government bonds. As soon as the ECB will absorb liquidity, some countries will experience trouble and the spreads will enlarge again. However, the money market rate is not necessarily affected as long as the liquidity buffer in the system keeps large enough.

Overall, the caveat that the Bini Smaghi proposals neglect the asset side of the ECB's balance sheet is not completely corroborated. Let us now turn to a potentially more relevant caveat.

Options 1 and 2: Simply not necessary?

Both options deal with skimming the additional liquidity which was made available by the more recent unorthodox policies. The latter comprise, above all, the unlimited allotment within the MROs and the LTROs and the buying-up of covered bonds. What are the orders of magnitude involved, according to the ECB publications such as, for instance, the

November 2009 ECB Monthly Report? Currently, the private sector's need of central bank money (autonomous factors plus minimum reserve) amounts to about 600 bn €. The ECB provides about 650 bn via credit (52 bn MRO and 595 bn LTRO, of which 517 bn have a duration of one year and 445 bn will become due in June 2010) and via purchase of covered bonds (23 bn).

In other words, the ECB has provided liquidity in the framework of the unorthodox policies in the first instance above all by the so-called indirect or endogenous quantitative/credit easing (see also section 4.3 in Bini Smaghi 2009). This implies that *the largest part of additional liquidity is automatically reduced and repatriated*, i.e. when credits become due. The issuance of debt certificates is practically not required, neither by governments nor by the ECB, in order to absorb liquidity, unless:

- the covered bond programme has a quite large volume, and/or
- the absorption of liquidity must take place before the maturity of the long-term credit and it is not possible to allot less liquidity within the weekly MROs.

Seen on the whole, thus, the instruments proposed by Bini Smaghi are currently probably not needed in the euro area. This assessment might be valid until June 2010 except if a large volume has to be mopped up before this date and liquidity skimming is not possible by means of rationing MROs (note again that Bini Smaghi has delivered his speech before the public was informed about any potential details of the envisaged exit from UMP measures). However, if the ECB's covered bond programme would have embraced a larger volume and less liquidity would have been provided via credit (the latter implying that liquidity would have been reduced automatically), the instruments proposed by Bini Smaghi would have certainly been more interesting in the current context.

Mopping up liquidity will become necessary if there is no need of liquidity any more, i.e. as soon as the interbank markets will function again and the ECB will not have to act as an intermediary. If this is the case until June 2010 and the skimming of liquidity via less credit (rationing in the area of the MROs) is not possible but the „structural“ excess banks have nevertheless to be skimmed, I do not see a persuasive advantage of issuing debt as compared to deposit facilities. In the same vein, it does not appear to be overall consistent that the ECB once again enacted a LTRO with a duration of one year in September 2009 and considers to do the same again probably in December. By this, the ECB deprives itself of much of its flexibility to deal with its exit strategy from its unorthodox policies (see section 1.3).

Against the background of how the ECB has provided the additional liquidity up to now the augmentation of the ECB's toolkit box as proposed by Bini Smaghi is not necessary, since the previous instruments proved to be sufficient (up to now) and enable the ECB to flexibly providing credits via MROs (but certainly not more LTROs which were actually not prolonged by the ECB). As long as interbank markets do not function well, the ECB can use deposit facilities.

First option: pros and cons

The first option reminds one of the German „Stabilitätsgesetz“ as of 1967. The latter provided the fiscal authority to park financial means at the Bundesbank in order to avoid an overheating of the economy. If this option is seized, this could be interpreted as a signal into the direction of a stronger cooperation of monetary and fiscal policy – implying the danger of blurring competencies. The engagement of fiscal authorities in this context could also undermine the independence of the ECB (Belke and Potrafke 2009 and the literature cited therein; for an opposite view, see Buiter 2009a).

Second option: pros and cons

The second option circumvents the issues of a (too) close interdependency between the independent ECB and the fiscal authorities. However, it could be problematic that the ECB engages itself at the markets to an even larger extent than already up to now by issuing and selling own debt certificates – and also across a longer time span, depending on the maturity of the certificates. Moreover, it has to be taken into account that the ECB has already bought covered bonds. If the ECB sells other assets only a bit later, this might convey the impression of monetary policy activism.

The second option is to drain liquidity by issuing so-called ECB debt certificates. By issuing such certificates, which can have a maturity of up to one year, the ECB would enter new territory. Issuing ECB debt certificates would probably be best suited to a situation where some monetary financial institutions have a structural liquidity overhang that they are reluctant to offer in the interbank market. It is difficult to assess from the publicly available data whether the deposit facility is repeatedly used by the same institutions or whether there is rotation in the banks that are depositing their excess funds with the ECB overnight. The ECB has the underlying micro data and, hence, should be able to judge whether the excess reserves are structurally tied to the same “problematic” institutions. However, when adding or absorbing excess liquidity the ECB is – independent of the chosen procedure – not capable of discriminating between a „crisis bank” and healthy institutions. This might pose a fundamental problem, since obviously many healthy banks have used excess liquidity for carry trade strategies at the bond markets and carousel frauds.

Which option should be favoured?

If any, one should prefer option 2 because the potential loss of the ECB independence weighs too heavily. This option has been enacted quite successfully in Germany already in times of the Bundesbank (until the early 90s, see Deutsche Bundesbank 1997). A similar instrument is also contained in the toolbox of the Bank of Japan but not used frequently in the past. However, note that the US Fed would require Congressional authorization in this case. Also the SNB has issued its own interest bearing debt certificates, “to be more flexible in steering liquidity”. Some analysts argued at the beginning of December 2009 that there was a good chance that the ECB will “go Swiss” once more. But the ECB did not fulfill their expectations! The first auction of SNB US dollar-denominated bills, i.e. short-term debt with terms of less than one year, took place on February 16, 2009, via the Eurex Zurich electronic trading platform, with 28, 84 and 168-day bills on offer. The bills were also be eligible as collateral for SNB repos. The Swiss National Bank (SNB) said it would issue this short-term debt in US dollars in order to finance a billion-dollar loan made to Switzerland's biggest bank UBS to help it isolate its illiquid assets. Other auctions were said to follow fortnightly 'until further notice'.

Under option 2, one could also address non-banks – a possibility which is not covered by the ECB statute up to now but would enhance the flexibility of this instrument as compared to option 1. However, using this instrument could become quite costly, since one has to offer the banks incentives to sterilize their liquidity. But this can also not be avoided by alternative measures such as re-selling the covered bonds. In the end, option 2 appears also more realistic since it is not at all clear how it can be made sure that the governments effectively leave the proceeds with the ECB and do not consume it as in the case of the SNB described above. Moreover, option 1 would challenge ECB independence to a larger extent. The practical implementation problems should thus also be larger in this case.

3. COORDINATION OF EXIT STRATEGIES

It is not self-evident that the phase-out should be coordinated, as the current economic situation differs in the different OECD countries. However, the argument that the exit strategies for the phase out of the support to the banking sector should be coordinated is on much safer grounds. Otherwise there is a risk that competition could be distorted if some countries retain their fiscal policy stimulus measures while others phase them out. For example, banks will be subsidised to some extent in those countries where bank support programmes are retained in contrast to countries where such programmes are phased out (see section 1.4).

Hence, the issue of the timing and the coordination of the monetary exit strategies on the global level but also as regards the interaction between monetary and fiscal exits should be carefully assessed. For instance, de Grauwe (2009) underlines that there can be little doubt that the spill-over effects on monetary policies are large. The degree of financial integration is such that actions by the major central banks are felt everywhere, which is shown by the success of high cooperation between central banks during the crisis. Is there a case to be made for (globally) coordinating monetary exit strategies? Should there be coordination between the monetary and fiscal exit strategies?

3.1 (Global) Coordination of monetary exit strategies

The standard argument in favour of coordination of the monetary policies designed for exit runs as follows. On the monetary side, economies that tighten first may find their currencies appreciating and, in so doing, draw capital away from countries not yet strongly recovering. In turn, that may induce currency interventions to offset the spillovers, which could contribute to economic conflict. Given current trade politics, we do not need any more of that. Globally well-anchored inflation expectations have enabled aggressive policy easing and helped stave off deflation - yet they are well anchored in part because every major country is aboard; any significant divergences in inflation goals would erode that to everyone's detriment. But the way back from expansionary fiscal policies will be infinitely slower - not a matter of weeks, as it was in 2008 when the stimulus programmes were being put in place, but a matter of years. When the horizon lengthens, spillovers among countries become less important. Hence, fiscal policy in turn has the smallest international spillovers, and should receive the least attention (Giavazzi 2009, Posen 2009).

Global liquidity, uncertainty and the coordination of exit strategies

In order to assess the deeper relevance of this argument it makes sense to have a closer look at studies on global liquidity. For instance, Belke and Rees (2009) analyze the importance of global shocks for the global economy and national policy makers. More specifically, they investigate whether monetary policy has become less effective in the wake of financial globalization. They also examine whether there is increasing uncertainty for central banks due to globalization-driven changes in the national economic structure. A FAVAR framework is applied to derive structural shocks on a worldwide level and their impact on other global and also national variables. The authors estimate their macro model using quarterly data from Q1 1984 to Q4 2007 for the G7 countries plus the euro area. According to their results, global liquidity shocks are a driving force of the global economy and various national economies. However, some other shocks originating from house prices, GDP, technology and long-term interest rates play a role at the global level as well. These results prove to be robust across different specifications. Structural break tests indicate that global liquidity shocks have recently become more important as a determinant for house prices. In general, global variables have become more powerful over time in

driving national variables.

More important in our context, Belke and Rees (2009) have investigated whether there is increasing uncertainty for monetary policy in the wake of globalization and whether central banks have become less effective in influencing national liquidity conditions. In brief, our answer to both questions is a clear “yes”. First, global liquidity conveys additional information about monetary conditions not summarized by national money and short-term interest rates. Second, global liquidity restricts national monetary policy in its ability to influence nominal and real variables, caused by, for example, the effect of global liquidity on short-term interest rates. As a consequence, the influence of central banks on domestic money supply is weakening. Third, national monetary policy is faced with an increasing degree of uncertainty and might feel forced to act according to the so-called Brainard conservatism principle (Brainard 1967). Fourth, the old question of optimal monetary policy among interdependent economies powerfully reappears on the surface. In the following, we elaborate a bit more on the third and the fourth policy conclusion.

Our third policy conclusion is that national monetary policy is faced with an increasing degree of uncertainty. Needless to say, monetary policy always operates in an environment of uncertainty. Sometimes, for instance, it is not unambiguously clear for central banks how to interpret new incoming macroeconomic data (as is now the case with respect to the sustainability of the worldwide recovery). Moreover, there are uncertainties about the concise monetary transmission mechanism. However, our empirical results indicate that the fog of uncertainty has indeed increasingly become denser due to structural changes in the transmission process between global and national variables. Among other common forces, this seems to be also true for global liquidity, which has an increasingly stronger effect on monetary aggregates in some but not all countries. This “Knightian uncertainty” or model uncertainty may have significant implications for the behavior of central banks. Posen (2009) puts it like this: “The unconventional monetary policy measures have indeed served the pursuit of price stability as intended, although with more uncertainty about their size of impact than central banks would prefer”.

According to the Brainard conservatism principle, uncertainties about major model parameters can change the incentives facing central bankers, thereby leading them to use their policy instruments less vigorously. The reason is that uncertainties about the elasticity between global and national money are amplified in the economy the more monetary policy reacts to this relation. Since the Brainard conservatism introduces a motive for caution in optimal central bank behavior, financial globalization and its corresponding structural changes may be important reasons for central banks not fighting against strong rises in monetary and credit aggregates in the last few years.

Our fourth policy conclusion concerns the question of the *optimal design of monetary policy among interdependent economies*. Should open “spillover-driven” economies adopt rules designed to fit specific features of more open and more closed economies? This is old wine in new bottles and is closely related to the popular debates about inward-looking versus outward-looking monetary policy and commitment versus discretion, respectively.

The Chicago School saw a flexible exchange rate as a way of insulating domestic developments from foreign economic disturbances, including foreign monetary policy. There is no need, they argued, for central banks to coordinate their monetary policies. All that is needed is flexible exchange rates. Does the existence of global liquidity mean that we need coordination or even a world central bank? International coordination might be needed to keep global liquidity shocks as low as possible, since structural changes between global and national liquidity cannot be influenced by central banks. One reason is that monetary competition between central banks might cause a free-rider problem in the absence of any coordination. If a national central bank, let’s say the Fed, is inclined to conduct a lax

monetary policy, liquidity spillovers occur and foreign central banks have to bear parts of the burden. Another reason is that there may be multiplier effects that occur when several countries all turn their monetary policy in the same direction.

The crucial issue is not only how to deliver a coordinated exit from unorthodox expansionary monetary policies but even more so how best to prevent further excessive, synchronized shifts in the world money stock. Policy coordination in this context would eventually bring greater predictability, but at *the risk of all countries simultaneously choosing the wrong set of policies. International policy coordination would merely elevate to the global level the shortcomings that are now apparent at the domestic level.* This is especially valid in times of high uncertainty about whether and when the world economy has substantially recovered from the crisis in which it might generally be better to have independent national monetary policies that are not coordinated (or at least not correlated) worldwide, because this leads to risk diversification: the variance of a sum of shocks is lower the lower the covariance among the individual components (Belke and Gros 2009, with an application to fiscal policy).

Coordinating exit with asymmetric country interests – The ECB should go ahead

Note that the US should be part of any meaningful coordination of monetary exit, especially with an eye on its large share at vagabonding global liquidity having its origin to large parts in US monetary policy in strong implicit – though not always explicit - alliance with dollar-pegged China. Otherwise, worldwide coordination would be out of the reach because the euro area with its medium-term target of price stability and some Asian regions with a new bubble emanating both have a stake in starting monetary exit in the not too far away future and would permanently become the receiving country of carry trades. The latter would undermine the effectiveness of their efforts to exit and would eventually force them to impose capital controls.

However, up to now the Fed did not announce any concrete steps with respect to its exit from UMP. So how does the relevant exit coordination game look like? Since European inflation expectations remain firmly anchored, while US inflation expectations are not, serious disturbances in international capital flows will be quite likely if the ECB credibly announces and starts with its exit *unilaterally*. Global investors will be in a position to switch out of dollar into euro assets, driving the dollar-euro bilateral exchange rate to unseen highs. It is not the time to give a prediction of the appreciation potential of the euro here. But one would reckon it is sizeable once the solvency crisis within the euro area will be overcome. The reason is that the US fiscal position and the Fed which is – according to Roubinis RGE Monitor nearly bankrupt by now deserves much more skepticism than that of the PIGS countries in the medium to long run- as measured by nearly all indicators (Munchau 2009). The crisis in the US bond markets would produce further financial strains. Germany's current account surpluses, which we have worried about for years, will miraculously disappear, and may even turn into a deficit. The US would run a massive trade surplus. The days of the dollar as the global reserve currency of choice would be numbered, and the euro will, at least temporarily, take over (Belke 2009a, Belke, Goecke and Guenther 2009).

In the same vein, China's chief banking regulator has recently said that the US Federal Reserve's weak monetary policy is fueling speculative investments in stock and property markets and endangering the global economic recovery (FT 2009). Mingkang believes the combination of a weak dollar and the Fed's low interest rates are facilitating a "huge carry trade" that is distorting global asset prices. China which is the largest US creditor by virtue of its massive Treasury bond holdings has previously focused its criticism also on US fiscal policy, arguing that Washington's rising debt burden is undermining the dollar. Liu's

remarks come at time when China's own monetary policy is also attracting scrutiny, following the massive credit expansion seen so far this year. Qin Xiao, chairman of China Merchants Bank, said last week that Beijing urgently needed to tighten monetary policy to avoid stock and property market bubbles.

However, there may be some other more reliable allies for the ECB in Far East because nothing prevents emerging Asia's central banks from acting and to exit from very expansionary monetary policies. US monetary conditions are clearly not appropriate to their circumstances. Their economies are growing robustly. They are the ones with bubble trouble. They can and should tighten now. Yes, doing so will create problems. In particular, tightening while the Fed remains on hold will mean that emerging Asian currencies will appreciate against the dollar. This will be uncomfortable for a set of economies accustomed to export-led growth and to the security of dollar pegs. But if the price of those dollar pegs is an asset bubble that sets the stage for a disruptive crash – one that does serious damage to banks and corporations with significant exposures to the property market – then that price is no longer worth paying (Eichengreen 2009). The danger posed by Asia's financial bubbles is real. But it is important to take the right steps to combat it. This is appropriately a task for emerging market central banks, but via the global liquidity link and carry trades also for the Fed and the ECB.

Moreover, increased financial integration diminishes the gains from policy coordination. Economic conditions overseas become more important for governments. This should dampen their incentives to enact beggar-thy-neighbor policies even when they abstain from coordination (Belke et al. 2002). Hence, it would currently be clearly desirable if, this time, a clear price stability orientation of the ECB would also induce the Fed to enact a timely exit from its strongly expansionary macro policies (for instance, because the US are not willing to give up the status of the dollar as a world reserve currency faced with increasing mistrust of Russia and other countries in the dollar). Such kind of a monetary policy somersault would take significant pressure from European exports and wages since the very low US money market rates are generally considered as the main reason for the decline of the dollar. This would correspond with a return of the world to more monetary stability and growth, while preserving the status quo regarding the world reserve currency. Anyway and also with an eye on the huge amounts of liquidity vagabonding around the globe, a coordination of the exit and not of a non-exit from UMP on both sides of the Atlantic is highly indicated. The alternative would be that the doubts about the stability of the dollar would increase even more (Belke 2009a).

3.2 Coordination between the monetary and fiscal exit strategies?

It should be clearly acknowledged that a necessary condition for central banks to be able to do their job of delivering price stability is the sustainability and credibility of public finances. According to the institutional set-up of European Monetary Union, this requires full (though not at all realistic, since sanctions are not credible) compliance by national governments with the rules of the Stability and Growth Pact, a fundamental component of the policy framework for area-wide macroeconomic stability (González-Páramo 2009).

The fiscal costs of the crisis – stemming from discretionary stimulus measures, the use of automatic stabilisers and measures in support of the financial sector – are likely to be considerable. These costs, together with the expected adverse fiscal impact of population ageing, pose considerable risks to future fiscal sustainability. In the aftermath of the crisis, many countries may not be able to rely on sustained GDP growth to smoothly reduce their debt burdens. This means that ambitious plans for structural fiscal consolidation need to be

developed and communicated in order to guarantee the public's trust in the sustainability of public finances. Together with the direct impact of monetary exit strategies via the yield curve on public debt consolidation and other feedback mechanisms this appears to underline the need of coordination of monetary and fiscal exit.

The issue then is one of *sequencing*. Should central banks start thinking about rescinding their exceptional monetary accommodation, or should governments start cutting deficits (Giavazzi 2009)? Taking into account various fiscal theories of the price level and inflation, the ECB was totally right in explicitly linking fiscal retrenchment and its exit from the recent extraordinary monetary accommodation. The more delayed the fiscal exit, *ceteris paribus*, the more trenchingly the monetary policy exit might have to be brought forward. Indeed, given the level of the debt accumulated in most advanced economies, any delay in the fiscal exit is likely to have an effect on inflation expectations, and may even disanchor them. This is a risk that the ECB's monetary policy cannot take, as it would undermine its overall strategy. In other words, *fiscal responsibility on behalf of Eurozone governments would help avoid a premature exit from unconventional measures by the ECB.*

The valuable option to delay exit

Both governments and central banks have good arguments for a delay of exit. The balance sheets of financial institutions are far from being fully repaired and some argue that this should be done first before any fiscal or even monetary exit is envisaged (Giavazzi 2009, von Hagen, Pisani-Ferry and von Weizsäcker 2009). Moreover, banks, flush with cash but still unwilling to lend, are taking advantage of the yield curve to borrow short and lend long, especially to governments. An abrupt increase in long-term rates risks turning these carry trades sour (see section 1.5). On the other front, we don't know to what extent the recovery that seems to have started is simply the result of the stimulus programmes starting to kick in (Belke 2009). Anyway, a couple of fiscal multiplier analyses tell us that the effects are smaller than and in parts pro-cyclical. This makes governments understandably reluctant to cut spending or raise taxes. This "option value of waiting" might even apply to monetary policy.

The Giavazzi chicken game

In the classic game of chicken, one possibility is that neither player yields to the other, resulting in the worst outcome for both. In the case at hand, this would entail an increase in long-term interest rates resulting from a combination of fear of persistent deficits creating large debts, fear of inflation from persistent monetary accommodation, or simply from the anticipation that central banks will move first and rather early (Giavazzi 2009). This is a sure way to kill the by now rather fragile recovery. Is there any way out?

The answer usually is an *irrevocable commitment by governments to cut spending in the future*. Such an *ideal case* commitment would stabilise expectations and allow central banks to wait longer before they remove their monetary accommodation. At the same time, it would avoid the demand risks that an immediate removal of the fiscal stimulus would impose. Although such commitment may be difficult to achieve, there are arguably means of making spending reversals credible *ex ante* (see the German "Schuldenbremse" which was written even into the constitution).

Thus monetary and fiscal authorities face the choice from where to start. Should monetary accommodation be removed first, or should we start from fiscal policy? Absent a credible fiscal exit strategy, long rates could soon increase as financial markets start anticipating the response of central banks to the lack of action on the fiscal front. The increase in long rates would depress consumption and investment and prevent internal rebalancing. A *clear commitment to future spending cuts* is a smart way to allow central banks to maintain an

accommodative policy for some more time (Giavazzi 2009).

But by their nature and proven by the current experience, fiscal policies lack a similarly strong built-in mechanism when it comes to the unwinding of stimulus (Belke 2009). Hence, discretionary policies need to be invoked to engineer an exit from the current degree of fiscal expansion. A return to sound, sustainable public finances, thus strengthening overall macroeconomic stability, must be ensured. Euro area governments should *prepare and communicate* ambitious and realistic fiscal exit and consolidation strategies within the framework of the Stability and Growth Pact (Trichet 2009).

On the theoretical benefits of coordination among monetary and fiscal policy

It is important that there is much scope for beneficial coordination of monetary policy with fiscal policy. For one thing, any increase in interest rates means a higher debt servicing burden for the fiscal authorities (Tesfaselassie 2009). From a fiscal policy point of view, it should be noted that although the exit from monetary measures will be uniform across the euro area, it is likely to have asymmetric fiscal impacts given the current substantial heterogeneity of fiscal positions. A potential increase in market interest rates will have a much stronger impact on highly indebted countries, in particular those with outstanding government bonds with short maturities (Stark 2009). The need for fiscal flexibility under a single monetary policy places a clear premium on timely and credible fiscal consolidation in all euro area member countries, and the workings of this mechanism should not be undermined.

Likewise, if central banks for instance would start raising the interest rates they pay on banks' reserves, then reserves will compete with government bonds as investment vehicles. This could drive up government borrowing costs and create tensions with fiscal policy. A possible resolution is to have a clearly defined path for fiscal sustainability and let monetary policy focus on fighting inflationary pressures in the economy. This can happen with the full support of governments. They need to understand that the massive fiscal stimulus packages and private sector bailouts cannot continue indefinitely. *Fiscal authorities should devise their own exit strategies* in a way that contributes to the effectiveness of monetary policy in supporting sustainable growth and price stability (Tesfaselassie 2009).

Taking these interactions as a starting point, for instance, von Hagen, Pisani-Ferry and Weizsäcker (2009) propose that an excellent ad-hoc reinforced consultation mechanism should be set up at European level for 2.5 years, renewable once in order to ensure the necessary coordination of the exit between member states and central banks. According to their concept, budgetary consolidation should come *before* monetary tightening, mainly because fiscal policy is the more costly and less nimble stimulus instrument. Besides, delaying consolidation or leaving its pace and duration hanging in the air would involve a non-trivial risk of adverse bond market reaction.

Finally, successful budgetary consolidation will reduce inflationary pressures, thereby allowing central banks to sustain a supportive monetary policy stance for longer and tighten monetary policy only when inflationary potential arises. This sequencing, rather than monetary tightening first and budgetary consolidation second, should be a priority goal in the design of exit strategies (von Hagen, Pisani-Ferry and von Weizsäcker 2009).

If budgetary policy is given precedence, the implication is that, consistent with central banks' mandates, monetary policy should remain geared to price stability and would normalise once justified by expected price developments. In this process of normalisation, central banks should continue with their past attitude of focusing on second round effects of increases in world market prices of raw materials and agricultural products if and when they arise as the global economy starts to pick up again (von Hagen, Pisani-Ferry and von

Weizsäcker 2009).

Failure of implementing credible commitments of fiscal consolidation - Does waiting with monetary exit really make sense?

However, studies with a global view on asset price developments clearly show that global excess liquidity impacts first on prices of raw materials and other commodities (Belke and Rees 2009). Their results indicate throughout that commodity prices might well serve as indicators of future inflationary pressures on goods markets. Why then waiting for second round effects, faced with the ECB's medium term strategy? What is more, if governments still diligently emit bonds and commercial banks off-load newly emitted bonds at the ECB for refinancing purposes (100 percent of the debt is refinanced with central bank money!), this further fuels global liquidity. A vicious circle would emerge without monetary policy exiting from expansionary policies. Moreover, it cannot be excluded that the substantial increases in public debt may give rise to pressures on the ECB to provide easier lending terms, which would nonetheless be self-defeating and ultimately lead to inflation. Consequently, as economies recover from the crisis, it is essential that the capacity of central banks to control inflation will be fully preserved (Cottarelli and Viñals 2009). Hence, in the current scenario, we will almost certainly not be able to make the case that we will see fiscal policy exiting first because there is in theory no lack of a suitable credible commitment (such as increasing the retirement age) but de facto no credible commitment of fiscal policy in sight.

The same critique principally applies to studies asking a couple of years ago what kind of additional co-operation (-ordination) was necessary and feasible to cope with the new institutional set-up under EMU. Starting from the episode of the repo rate cut by the ECB in early 1999, for instance, Belke (2002) asked what would have happened under a business as usual scenario. In this case, the pre-Maastricht pattern of fiscal policy would have quickly led to grave problems. A promising alternative monetary-fiscal policy mix in the first half of 1999 consisted of a restrictive fiscal policy and a monetary policy which had - within the bounds of price stability - some leeway to act counter-cyclically. However, this also more or less boils down to a "if there really is a credible commitment of fiscal policy" strategy and in absence of any such commitment unfortunately is not more than a toothless tiger.

Hence, one should feel legitimized to ask: what if fiscal policy cannot credible commit itself due to, for instance, political business cycle considerations? Should we wait with monetary exit in this case? Here, the clear answer is no. What is more, the institutional framework of the euro area leaves no room for any explicit coordination between the single monetary policy of the ECB and the national fiscal policies. The Treaty sets up a clear allocation of responsibilities between monetary policy and national fiscal policies, with a view to ensuring a smooth functioning of monetary union. The institutional framework grants to the Eurosystem full independence from political influence and interference and assigns to the ECB the primary objective of maintaining price stability. At the same time, fiscal authorities are responsible for safeguarding the sustainability of public finances (Belke and Potrafke 2009, Stark 2009).

This does not at all mean that there should be no interactions. The ECB Governing Council has always been involved in a constructive and open exchange of information on the current economic situation and structural reforms with other bodies and institutions at the European level. Moreover, the outlook for fiscal policy plays a key role in the ECB's projections for economic activity and our assessment of risks to price stability. In the same way, because the ECB's policy decisions must exclusively be based on its assessment of risks to price stability, its responses can be rather safely predicted by fiscal authorities

(Belke et al. 2002). The channels for the exchange of information between fiscal and monetary authorities are also well developed. But there cannot and should not be any pre-commitment to a particular course of monetary policy action. This would *undermine the ECB's independence and therefore violate its mandate* (Belke and Potrafke 2009, Belke et al. 2002). But there are additional problems which hamper an explicit coordination in the euro area.

With whom to cooperate?

A clear focus on preserving price stability becomes even more adequate if one takes into account that successful fiscal policy coordination as a *conditio sine-qua-non* for monetary-fiscal policy coordination is not at all realistic within the euro area. Seen on the whole, one is likely to find a consensus on the broad principle that a coordinated approach to fiscal exit strategies is desirable. It will, however, be difficult to implement this principle in practice (de Grauwe 2009). The reason is that different euro area countries face quite different economic conditions ("*unanimity of fiscal policy interests*") and that there is no unified fiscal body ("*economic government*") with which to coordinate macro policies, i.e. *no single fiscal counterpart to back up the ECB*.

Generally, one should distinguish two types of countries today. The first group consists of the "Anglo-Saxon" countries (US, UK, Ireland and Spain) which have experienced strong growth over the decade preceding the crisis. The latter was based on a consumption and real estate boom made possible by unorthodox finance. Households and financial institutions in these countries have been supported by a massive increase of government debts and deficits and now have to unwind their unsustainable debt levels. In each of them, the government budget deficit takes values of more than 10% of GDP. A second group of countries did not experience the same kind of debt accumulation of households. It consists of mainly the continental European countries except Spain. In these countries, there is no need for households to reduce their debt levels. Only the financial institutions are faced by the problem of excessive debt accumulation. Consequently, their budget deficits are on average only half of the deficits prevailing in the first group of countries (de Grauwe 2009).

The "Anglo-Saxon" countries are likely to hit the problem of unsustainable budget debts and deficits sooner than the continental European countries. They will be pressured to exit first, but they are also the countries that can least afford to do so – at least from a Keynesian point of view. An early fiscal policy exit strategy by these countries would – from a Keynesian perspective – set in motion any deflationary debt dynamics in a more intense way than in the continental European countries. These differences are likely *to make a coordinated approach to fiscal exit strategies very difficult if not improbable* (Frankel and Rockett 1988).

Hence, unfortunately, the only *realistic* though only *second best* scenario in the euro area will be monetary tightening first and budgetary consolidation, if at all, second. Since macroeconomic uncertainty has fallen significantly since Lehman's there is no large option value of waiting with a credible announcement of monetary exit any more (Belke 2009).

4. Concluding remarks

Over the past years our economies have undergone a period of severe financial crisis and major disruptions to economic activity. While the full cost of the crisis has yet to be assessed, the magnitude of output and job losses experienced so far is considerable. In order to contain the impact of the crisis on the real economy and preserve price stability, central banks have aggressively cut policy interest rates and introduced a number of

exceptional liquidity measures (González-Páramo 2009).

Although the financial crisis is not yet over, one has to carefully and thoughtfully develop the strategy that will govern the progressive exit from the set of non-standard measures currently in place. This should not be seen as a none-too-subtle signalling device about imminent policy actions, but rather as a demonstration of the ECB's commitment to engineering a smooth and orderly departure from the current extraordinary and unprecedented policy. Indeed, developing, communicating and eventually implementing in a timely manner a well-designed exit strategy is essential to preserve the contributions from the non-conventional policies to the maintenance of macroeconomic and financial stability (González-Páramo 2009).

The exit from these exceptional monetary measures will require technical skill, especially in view of the well-known difficulties in bringing up the interbank rate exactly to a target rate such as the main refinancing rate. But the real challenge is the macroeconomic impact of such an exit which, if any, will be in a disinflationary direction by driving down asset prices and driving up interest rates as the economy recovers. The unconventional monetary policy measures have indeed served the pursuit of price stability as intended, although with more uncertainty about their size of impact than central banks would prefer (Posen 2009).

What is more, expressed in terms of political economy, it would be a good idea to combine the exit strategies with *structural reforms* to boost the growth potential which has been severely damaged during the financial crisis (ECB Observer, various issues). In this case, economic growth will tend to be higher and resistance to monetary exit will be lower because in case of lower growth it is more difficult to persuade the electorate of the necessity of interest rate increases (although monetary exit will be more pressingly needed in this case to fight expected inflation).

The general picture emerging from this report is one of serious *flaws of our fiat money standard* according to which governments still diligently emit bonds and commercial banks off-load newly emitted bonds at the ECB for refinancing purposes (100 percent of the debt is refinanced with central bank money!). Jointly with an increasing precautionary demand, this pattern explains the often mentioned liquidity "surplus". Frankly speaking and exaggerating only a little bit, the following view of UMP and the envisaged exit from it emerges: as soon as excess liquidity will be mopped up again on an international scale, the interest rate will increase. *Some banks will then go bankrupt – anyway, they are like that already now, but then it becomes visible to everyone.*

Moreover, the sovereign debt scare in the euro area is not over for the same reason and the preceding argument might apply not only to banks *but also to governments*. Only recently, the spread between Greek and German bonds widened to 153 basis points at the beginning of December 2009 and increased to about 300 bp at the midst of March 2010 – a direct result of the country's deteriorating finances. According to a Bloomberg story, the Greek central bank asked domestic lenders to outline future funding sources after the ECB starts tightening liquidity provisions. The widening of the Greek bond was not mirror-imaged by a widening of CEE spreads which suggests that this is primarily a Greek problem, not a wider problem in the bond markets. A report by BNP Paribas says that 7% of excessive reserves are held by Greek banks, but when these reserves are drained, these banks will have to look for funding at market prices.

REFERENCES

- Bartsch, Elga (2009): Euroland - Executing the Exit, Morgan Stanley – Global Economic Forum, November 16.
- Bartsch, Elga (2009a): EuroTower Insights - Tailoring Rates for the Exit, Morgan Stanley – Global Economic Forum, July 29.
- Baudchon, Hélène (2009): Tools for an Exit Strategy, Consensus Economics, Crédit Agricole, Paris, October 1, Web: http://www.consensuseconomics.com/News_and_Articles/Exit_Strategy_From_Unconventional_Monetary_Policy417.htm.
- Belke, Ansgar (2002): Towards a Balanced Policy Mix under EMU: Co-ordination of Macroeconomic Policies and 'Economic Government?', in: Journal of Economic Integration 17, pp. 21-53.
- Belke, Ansgar (2009): Should Fiscal Stimulus Packages Be Coordinated in Times of Crisis?, EuroIntelligence, March 18, Web: <http://www.eurointelligence.com>.
- Belke, Ansgar (2009a): When Does It Hurt? Exchange Rate Pain Threshold for German Exports, EuroIntelligence, November 4, Web: <http://www.eurointelligence.com>.
- Belke, Ansgar, Gros, Daniel (2009): Is a Unified Macroeconomic Policy Necessarily Better for a Common Currency Area?, in: European Journal of Political Economy 25, pp. 98-101.
- Belke, Ansgar, Potrafke, Niklas (2009): Does Government Ideology Matter in Monetary Policy? A Panel Data Analysis for OECD Countries, Paper presented at the Annual Meeting of the European Public Choice Society (EPCS), April 2-5, 2009, Athens.
- Belke, Ansgar, Rees, Andreas (2009): The Importance of Global Shocks for National Policymakers – Rising Challenges for Central Banks, DIW Discussion Paper No. 922, Deutsches Institut für Wirtschaftsforschung, Berlin, September.
- Belke, Ansgar, Goecke, Matthias, Guenther, Martin (2009): When Does It Hurt? The Exchange Rate "Pain Threshold" for German Exports, DIW Discussion Paper no. 943/2009, Deutsches Institut für Wirtschaftsforschung, Berlin, November.
- Belke, Ansgar et al. (2002): International Coordination of Monetary Policies - Challenges, Concepts and Consequences, ECB-Observer - Analyses of the Monetary Policy of the European System of Central Banks, No. 4, Frankfurt/Main, December.
- Bini Smaghi, Lorenzo (2009): Conventional and Unconventional Monetary Policy, Keynote lecture at the International Center for Monetary and Banking Studies (ICMB), Geneva, 28 April.
- Bini Smaghi, Lorenzo (2009a): An Ocean Apart? Comparing Transatlantic Responses to the Financial Crisis, Taking Stock: Global Implications of Transatlantic Differences, Conference organised by Banca d'Italia, Bruegel and the Peterson Institute for International Economics, Rome, 10-11 September 2009.
- Borio, Claudio, Disyatat, Piti (2009): Unconventional Monetary Policies: An Appraisal, BIS Working Paper 292, Bank for International Settlements, Basle, November.
- Brainard, William C. (1967): Uncertainty and the Effectiveness of Monetary Policy, American Economic Review 57, pp. 411-425.

Buiter, Willem (2009a): Fiscal Dimensions of Central Banking: The Fiscal Vacuum at the Heart of the Eurosystem and the Fiscal Abuse by and of the Fed: Part 2, Vox EU, Web: <http://www.voxeu.org/index.php?q=node/3334>.

Cottarelli, Carlo, Viñals, Jose (2009): A Strategy for Renormalizing Fiscal and Monetary Policies in Advanced Economies, IMF Staff Position Note No. 22, International Monetary Fund, Washington/DC, September.

de Grauwe, Paul (2009): To Coordinate or Not to Coordinate, Vox EU, Web: <http://www.voxeu.org/index.php?q=node/4020>.

Deutsche Bundesbank (1997): The Securitised Money Market in Germany, Monthly Report, Frankfurt/Main, pp. 45ff.

ECB (2008): The Implementation of Monetary Policy in the Euro Area, Frankfurt/Main, November.

ECB Observer, various issues, Web: <http://www.ecb-observer.com>.

Eggertsson, G.B., Woodford, M. (2003): "The Zero Bound on Interest Rates and Optimal Monetary Policy", Brookings Papers on Economic Activity, 2003-1, pp. 139-211.

Eichengreen, Barry (2009): It's Not When to Exit, But Who, Euro Intelligence, <http://www.eurointelligence.com/article.581+M5e5d612f467.0.html>.

European Central Bank (2008): The Implementation of Monetary Policy in the Euro Area, Frankfurt/Main.

Financial Times (2009): China Says Fed Policy Threatens Global Recovery, By Geoff Dyer in Beijing and Kevin Brown in Singapore, November 15.

Frankel, Jeffrey and Rockett, Katharine (1988): International Macroeconomic Policy Coordination When Policy-Makers Do Not Agree On the Model, American Economic Review 78, pp. 318-340.

Giavazzi, Francesco (2009): The Risky Game of "Chicken" between Eurozone Governments and the ECB, Vox EU, Web: <http://www.voxeu.org/index.php?q=node/4004>.

Goodhart, Charles (2009): The Interest Rate Conditioning Assumption, International Journal of Central Banking 5, No.2, June.

González-Páramo, José Manuel (2009): Non-standard Monetary Policy: Five Questions About the Exit, Speech on the occasion of the Seminar at the European Economics and Financial Centre, London, November 6.

Hall, Robert, Woodward, Susan (2009): The Fed Needs to Make a Policy Statement, April 13 2009, Web: <http://woodwardhall.wordpress.com/2009/04/>.

IMF (2009): Global Financial Stability Report - Navigating the Financial Challenges Ahead, International Monetary Fund, Washington/DC, October.

Levy, Aviram, Panetta, Fabio (2009): Government Guarantees on Bank Funding: Should We Extend Them into 2010 Despite the Improved Bank Profitability and the Schemes' Distortionary Effects?, Vox EU, Web: <http://www.voxeu.org/index.php?q=node/4156>.

Mishkin (2009): Is Monetary Policy Effective During Financial Crisis?" NBER Working Paper 14678, National Bureau of Economic Research, Cambridge/MA, January.

Munchau, Wolfgang (2009): What Can, and Probably Will, Go Wrong with Global Exit Strategies, EuroIntelligence, September 17, Web: <http://www.eurointelligence.com/article.581+M58aea21cae6.0.html>.

Posen, Adam S. (2009): In Defence of an Unconventional Monetary Policy, EuroIntelligence, October 29, Web: <http://www.eurointelligence.com/article.581+M573d09ef1f9.0.html>.

Posen, Adam S. (2009a): How To Prevent an Unruly Rush for the Exit, Op-ed in the Financial Times, September 17.

Reinhart, Carmen, Rogoff, Ken (2009): The Aftermath of Financial Crises, American Economic Review 99, pp. 466-472.

Snower, Dennis (2008): The Next Steps in Overcoming the Financial Crisis, Kiel Institute Focus 2, Kiel Institute for the World Economy, Kiel, December 15.

Stark, Juergen (2009): Monetary and Fiscal Policy – Criteria and Timing for the Phasing Out of Crisis Measures, Speech at the 80th Kieler Konjunkturgespräch, Berlin, 15 September 2009.

Tesfaselassie, Mewael (2009): Looking Forward - Exciting Unconventional Monetary Policy, Kiel Policy Brief No. 13, Kiel Institute for the World Economy, Kiel, October.

The ECB and its Watchers Conference (2009): Web: <http://www.ifk-cfs.de/index.php?id=1487>.

Trichet, Jean-Claude (2009): The ECB's Enhanced Credit Support, CESIFO WORKING PAPER NO. 2833, CESifo Munich, October.

von Hagen, Jürgen (2009): The Monetary Mechanics of the Crisis, Bruegel Policy Contribution No 2009/08, Brussels, August.

von Hagen, Jürgen von, Pisani-Ferry, Jean, von Weizsäcker, Jakob von (2009): A European Exit Strategy, Bruegel Policy Brief No. 5, Brussels, October.

The following ROME Discussion Papers have been published since 2007:

- | | | | |
|---|------|--|--|
| 1 | 2007 | Quo vadis, Geldmenge? Zur Rolle der Geldmenge für eine moderne Geldpolitik | Egon Görgens
Karlheinz Ruckriegel
Franz Seitz |
| 2 | 2007 | Money and Inflation. Lessons from the US for ECB Monetary Policy | Ansgar Belke
Thorsten Polleit |
| 3 | 2007 | Two-Pillar Monetary Policy and Bootstrap Expectations | Heinz-Peter Spahn |
| 4 | 2007 | Money and Housing – Evidence for the Euro Area and the US | Claus Greiber
Ralph Setzer |
| 5 | 2007 | Interest on Reserves and the Flexibility of Monetary Policy in the Euro Area | Ulrike Neyer |
| 1 | 2008 | Money: A Market Microstructure Approach | Malte Krueger |
| 2 | 2008 | Global Liquidity and House Prices: A VAR Analysis for OECD Countries | Ansgar Belke
Walter Orth
Ralph Setzer |
| 3 | 2008 | Measuring the Quality of Eligible Collateral | Philipp Lehmbecker
Martin Missong |
| 4 | 2008 | The Quality of Eligible Collateral and Monetary Stability: An Empirical Analysis | Philipp Lehmbecker |
| 5 | 2008 | Interest Rate Pass-Through in Germany and the Euro Area | Julia von Borstel |
| 1 | 2009 | Interest Rate Rules and Monetary Targeting: What are the Links? | Christina Gerberding
Franz Seitz
Andreas Worms |
| 2 | 2009 | Current Account Imbalances and Structural Adjustment in the Euro Area: How to Rebalance Competitiveness | Ansgar Belke
Gunther Schnabl
Holger Zemanek |
| 3 | 2009 | A Simple Model of an Oil Based Global Savings Glut – The “China Factor” and the OPEC Cartel | Ansgar Belke
Daniel Gros |
| 4 | 2009 | Die Auswirkungen der Geldmenge und des Kreditvolumens auf die Immobilienpreise – Ein ARDL-Ansatz für Deutschland | Ansgar Belke |

5	2009	Does the ECB rely on a Taylor Rule? Comparing Ex-Post with Real Time Data	Ansgar Belke Jens Klose
6	2009	How Stable Are Monetary Models of the Dollar-Euro Exchange Rate? A Time-varying Coefficient Approach	Joscha Beckmann Ansgar Belke Michael Kühl
7	2009	The Importance of Global Shocks for National Policymakers – Rising Challenges for Central Banks	Ansgar Belke Andreas Rees
8	2009	Pricing of Payments	Malte Krüger
1	2010	(How) Do the ECB and the Fed React to Financial Market Uncertainty? The Taylor Rule in Times of Crisis	Ansgar Belke Jens Klose
2	2010	Monetary Policy, Global Liquidity and Commodity Price Dynamics	Ansgar Belke Ingo G. Bordon Torben W. Hendricks
3	2010	Is Euro Area Money Demand (Still) Stable? Cointegrated VAR versus Single Equation Techniques	Ansgar Belke Robert Czudaj
4	2010	European Monetary Policy and the ECB Rotation Model Voting Power of the Core versus the Periphery	Ansgar Belke Barbara von Schnurbein
5	2010	Short-term Oil Models before and during the Financial Market Crisis	Jörg Clostermann Nikolaus Keis Franz Seitz
6	2010	Financial Crisis, Global Liquidity and Monetary Exit Strategies	Ansgar Belke