José Manuel González-Páramo: Non-standard monetary policy: five questions about the exit

Speech by Mr José Manuel González-Páramo, Member of the Executive Board of the European Central Bank, on the occasion of the Seminar at the European Economics and Financial Centre, London, 6 November 2009.

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Introduction[1]

I would like to thank the European Economics and Financial Centre (EEFC) for organising this conference and giving me the opportunity to speak in front of such a distinguished audience. This is the second time I have had the honour of participating in the EEFC series of seminars; the first time being back in September 2006. It is always a pleasure to be invited to address an audience again because it allows you to resume the dialogue already started. Back in 2006 my speech focused on the many challenges that uncertainty poses for the design of monetary policy. Today, I would like to focus on some questions related to the exit from the ECB's non-conventional monetary policy.

There is no need for me to recall the start of the crisis in early August 2007, when tensions originating in the US sub-prime mortgage market spread to international money and credit markets, nor its intensification in mid-September 2008, following the filing for bankruptcy protection by Lehman Brothers. While the full cost of the crisis has yet to be assessed, the output contraction and job destruction observed so far (as well as the less readily measurable social costs) have been on a scale unseen for more than half a century.

In order to contain the impact of the crisis on the real economy and preserve price stability, central banks have engaged in an aggressive cutting of policy interest rates and have introduced a number of non-standard monetary policy measures. At the same time, governments have adopted large fiscal stimulus measures, while also making vast public funds available to provide support to their banking and financial industries.

Recent data suggest that the massive response to the crisis by public authorities is bearing fruit. The threat of a continuing free fall in activity in our economies has now receded and there are signs that the global slowdown may be bottoming out. However, the crisis has certainly not come to an end: uncertainty remains high and the economic data remain volatile. Based on the information currently available, we expect the recovery to be gradual and, at least in the short term, to continue to rely on a number of temporary factors, such as past discretionary stimulus.

Even though the crisis is not yet over, during the last year we have developed the set of principles and contingent courses of action that will govern the gradual and progressive exit from the set of non-standard measures currently in place. Indeed, no orderly departure from the current set of policies can be achieved in the absence of a well-designed and clearly communicated exit framework. Moreover, if current public policies are ultimately to be successful, the development of a credible exit strategy is almost as important as the nature and magnitude of the policies themselves. It goes without saying that discussing the appropriate design of an exit strategy should not necessarily be interpreted as signalling imminent policy actions.

I would like to structure my speech today around five specific questions related to the exit from the set of non-conventional monetary policy measures. First, I would like to discuss

[1] I am grateful to John Beirne, Ulrich Bindseil, Alessandro Calza and Simone Manganelli for inputs and comments.

"whence" we are exiting. For this purpose, I will briefly recall the main characteristics of the Eurosystem's approach to non-conventional monetary policy. Then, I would like to elaborate on "why" we need to exit such policy. I will then say a few words on "whither" we will exit, particularly as regards the monetary policy implementation framework. I will then discuss "how" we are going to exit the set of measures currently in place and, finally, "when" we will do so.

Whence?

Following the intensification of the financial crisis in the autumn of 2008, inflationary pressures rapidly receded, prompting the ECB to undertake a series of aggressive cuts to its official policy rates. Between October 2008 and May 2009, the ECB's central policy rate – the interest rate on the main refinancing operations – was lowered by a cumulative 325 basis points. The speed and extent of the monetary loosening experienced over this period are without precedent since the ECB took responsibility for the conduct of monetary policy in the euro area. This is, of course, a rather short period, just over a decade. However, even if we look at the much longer historical experience of the national central banks forming the Eurosystem, such as the Deutsche Bundesbank, it is not possible to find anything similar.

The severity of the economic contraction, with the ensuing downside risks for price stability, prompted the ECB to introduce additional measures that allowed it to ease monetary conditions above and beyond what could be achieved through the interest rate instrument alone. Thus, the ECB adopted the comprehensive set of non-standard liquidity measures that together form what we call our "enhanced credit support" approach.

The enhanced credit support programme relies on four key types of measures, which I would like to describe briefly:

1) Full accommodation of private banks' demand for central bank liquidity at a fixed rate (determined by the central policy rate) and the conduct of additional longer-term refinancing operations (LTROs), in particular – and for the first time – six and twelve-month refinancing operations.

   The outstanding amount of LTROs increased from €150 billion in June 2007 to over €600 billion at the end of 2008. Over the same period the total amount of outstanding liquidity almost doubled, peaking at €850 billion on 2 January 2009. The 12-month operation conducted in June 2009 was, at €442 billion, the largest single refinancing operation ever conducted by a central bank. It attracted the widespread participation of counterparties, namely 1,100 financial institutions, which may also have been a record.

2) The regular provision of liquidity in foreign currencies, notably the US dollar. Since October 2008, these operations have been conducted with full allotment at a fixed rate.

   Again, this is unprecedented in central banking history, and illustrates the close coordination and effective cooperation between major central banks over the last two years.

3) The expansion of the list of assets eligible to be used as collateral in Eurosystem credit operations.

   In this respect, the Eurosystem was very different from other major central banks, as it entered the financial turmoil with a broad list of eligible collateral. This also explains why a further extension of collateral eligibility was not required until October 2008, i.e. after the collapse Lehman Brothers. In a financial crisis, the importance of the ample availability of eligible collateral accepted by central banks can hardly be overstated – after all, the most forthcoming of central bank refinancing operations can be used by counterparties only to the extent that they hold eligible collateral.

4) Outright purchases of covered bonds.

The covered bond market, which has historically been an important source of funding for banks in large parts of the euro area, had suffered heavily from the financial crisis. The total sum allocated to the purchase programme – €60 billion, representing about 5% of eligible outstanding covered bonds – may appear modest compared with the size of the portfolios of government and private sector securities built up by other central banks. However, it reflects the ECB's purpose to support market functioning and to act as a catalyst for this market rather than as a market-maker of last resort. As is widely recognised, the goal of market reactivation has been achieved, and maybe even more rapidly then expected. During the first four months, the Eurosystem bought covered bonds for a total of over €20 billion, with the total of up to €60 billion being targeted for June 2010.

These measures were designed with the objective of providing support to the banking sector by: (a) helping the functioning of the money market, (b) easing funding conditions for banks, and (c) improving market liquidity in segments of the private debt securities market (specifically, the market for covered bonds) that represent an important source of funding for euro area banks. Through these measures, the ECB aimed to mitigate the risk of systemic illiquidity in the euro banking sector and to guarantee a steady flow of banking credit to euro area households and firms.

It is sometimes said that the secret of success for a policy stimulus is that it must be T-T-T: timely, temporary and targeted. Let me briefly elaborate on these three Ts.

It is generally recognised that since the start of the tensions, the ECB's response to the crisis has been *timely*. Indeed, when widespread tensions threatened to bring the money market to a halt in early August 2007, the ECB reacted rapidly by injecting €95 billion in an overnight operation. After taking a number of additional measures in the course of the following year, the ECB again responded swiftly to the intensification of the crisis in October 2008, by announcing further exceptional measures. Similarly, the rapid and pronounced cuts in interest rates after October 2008 represented a timely response to the occurrence of large contractionary shocks.

While repeatedly recalling its commitment to maintaining non-standard measures for as long as needed, the ECB has always stressed the *temporary* nature of its non-conventional policy. The temporary character of these measures reflects their extraordinary nature and scale. Indeed, the exceptionally disruptive effects of the crisis required equally exceptional policy responses. However, measures that prove effective and appropriate in a crisis may not be needed when normal conditions are restored. Even more importantly, the temporary nature of the non-conventional measures is an important device to ensure the anchoring of long-term inflation expectations.

Finally, the ECB's liquidity measures were specifically *targeted* to the banking sector. While in the course of the crisis some central banks have decided to bypass the banking system and lend directly to the real sectors of their economies, the Eurosystem has chosen to use the banking sector as an intermediary in order to support the euro area economy as a whole. The reason for concentrating on the banking sector stems to a very large extent from structural features of the euro area economy, particularly the fact that its financial system is still predominantly bank-based.

Indeed, bank loans account for a much larger share of financing to households and firms in the euro area than in the Anglo-Saxon countries, where non-bank financial institutions and capital markets provide alternative sources of funds. For instance, in 2007 the ratio of bank lending to the private sector to GDP amounted in the euro area to almost 150%, compared with 63% in the United States. By contrast, the ratio of outstanding debt securities issued by the euro area private sector relative to GDP was about 80% in the euro area, while it was more than twice as much in the United States.

The fact that the euro area financial system is predominantly bank-based implies that the health of the banking sector plays a major role in determining the orderly functioning of economic activity and the maintenance of financial stability. Thus, by easing funding conditions in the banking sector, the central bank can effectively pursue its target of guaranteeing steady access to credit for households and companies. Moreover, disruptions to the inter-bank money market and to the banking system may have implications for the stability of the monetary policy transmission mechanism, potentially preventing the central bank from implementing its desired policy stance.

Following the implementation of the enhanced credit support framework, the size and complexity of the Eurosystem balance sheet has significantly increased. In June 2007, just before the start of the crisis, total assets of the Eurosystem amounted to around 10% of area-wide GDP.[2] By January 2009, the size of the balance sheet had almost doubled, reaching 19% of GDP. Subsequent improvements in money market conditions have led to a reduction in the amount of total assets, but they remain at a higher level (16% of GDP) than in the pre-crisis period. The expansion of the Eurosystem balance sheet was driven by changes in autonomous factors, as well as by the introduction of non-standard measures.

It is difficult to assess the impact of our non-conventional policy precisely, but there are some clear signs that the measures are having positive effects. In particular, the spreads between unsecured term interest rates and overnight interest rate swaps in the money market have declined significantly since last autumn and are now back at levels last seen before the bankruptcy of Lehman Brothers. Together with the policy rate cuts, this has contributed to a substantial decline in interest rates on loans to households and firms. Also, banks have benefited from the tightening of spreads in the market for covered bonds, while issuance in the primary market has increased dramatically since the summer.

At the same time, we have to admit that growth in aggregate lending has not turned around. Although there have been recent signs that the slowdown in lending to households has come to a halt, the growth rate of loans to non-financial corporations has continued to moderate. Seen in context, the recent developments in loans to firms appear to be broadly in line with past regularities in bank lending behaviour, particularly at turning-points in the business cycle. Indeed, loans to firms tend to lag GDP growth by about three quarters. This may be related to the fact that non-financial corporations usually see their cash flows improve early in an economic upturn and thus tend to finance working capital and fixed investment with internal funds first, and only later with external financing. In addition, when macroeconomic conditions are weak, the dynamics of bank loans are affected by demand-side factors. Having said this, it is important to closely monitor developments in credit in order to assess to what extent supply-side constraints may play a role in limiting credit availability.

Why?

As I mentioned earlier, the exceptionally disruptive impact of the crisis has required extraordinary responses from public authorities. However, as economic and financial conditions normalise, it is important to withdraw the currently exceptional degree of monetary accommodation, implemented through both historically low key policy rates and enhanced credit support measures.

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[2] Data derived from the simplified consolidated balance sheet of the Eurosystem. For an analysis of developments in the balance sheet of the Eurosystem and other major central banks see the article “”Recent developments in the balance sheets of the Eurosystem, the Federal reserve System and Japan”, ECB Monthly Bulletin, October 2009.

Indeed, should a significant improvement in the outlook for economic activity not be accompanied by an adequate adjustment in the policy stance, the current monetary stance may become excessively accommodative, thereby giving rise to risks to price stability.

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.

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 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.

In addition to these considerations of a more macroeconomic character, there are other reasons – related to distortions in the functioning of markets and the behaviour of individual agents – why central banks should not retain non-standard liquidity measures once financial and market conditions render them unnecessary.

First, the protracted provision of central bank liquidity may reduce the incentives for commercial banks to resume their market-based funding activities. Indeed, as a result of the non-standard liquidity provision in euro and other currencies (notably, the US dollar) during the crisis, the Eurosystem has significantly increased its involvement in financial intermediation in the euro area.

In fact, the Eurosystem effectively intermediates liquidity flows between banks in order to mitigate the effects of dysfunctional money markets on the funding liquidity of solvent banks. While justified by the severity of the crisis, this increased intermediation role is, of course, not fully consistent with the principles under which a market-oriented economy like the euro area should normally operate. Thus, with the return of the economic and financial preconditions for normal market functioning, incentives for interbank lending should be restored, so that banks can resume their core functions.

More generally, the protracted provision of central bank liquidity at favourable conditions may end up propping up banks that are unable to fulfil their funding needs, even under normal market conditions. This may give rise to concerns about whether the necessary adjustments and restructuring in the banking system have taken place.

Some considerations can also be made with regard to the collateral framework and to certain practices on collateral use that have emerged over the past two years. As mentioned earlier, the Eurosystem has always accepted a broad range of public and private securities, including unsecured bank bonds and asset-backed securities (ABS), as collateral in its refinancing operations. Having an extensive definition of eligible collateral has proven very useful during the crisis to mitigate refinancing risks for several classes of assets.

Indeed, in the course of the crisis counterparties have made active use of the refinancing opportunities provided by the Eurosystem's refinancing operations and have deposited as collateral some eligible assets for which market liquidity had basically dried up. In particular, many ABS transactions have not been placed in the public market, but have been retained onto the balance sheet of the originator and/or privately placed to be used as collateral in central bank facilities. At the same time, banks have economised on the use of the most

liquid categories of assets (such as central government bonds) in order to save them for private repo transactions. As market conditions normalise, banks will need to make efforts to overcome the present large-scale use of self-originated ABS as collateral in Eurosystem credit operations, and instead place these securities with investors. This requires efforts to meet investor standards, in particular by improving the transparency, simplicity and the degree of standardisation of transactions.

The Eurosystem is prepared to contribute as far as it can to the reactivation of the ABS markets. The eligibility criteria and risk control measures of the Eurosystem's collateral framework are an important tool in this respect. Reactivating ABS markets would be, first of all, in the interest of banks as it would restore a major source of funding. It would also benefit the Eurosystem, as it would reduce the extra financial risks resulting from the inevitable links between counterparties and the self-originated ABS submitted as collateral. The ECB is aware of these risks, and has already mitigated them through a number of specific measures, such as the prohibition of some types of close link, the raising of the rating threshold for ABS, an increase in valuation haircuts and the phasing-out of multi-layer securitisations. Still, we consider that the reactivation of the ABS market and the associated reduction in the use of self-originated ABS would be ultimately the only way forward in this context.

Whither

Interest rates are currently at historically low levels, reflecting rapid and deep cuts between the autumn of 2008 and the spring of 2009. Once economic activity normalises and the outlook for price stability starts pointing to upward risks, adjustments in the stance of monetary policy in line with the maintenance of medium-term price stability are to be expected.

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.[3] 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.

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. At the ECB we have traditionally been reluctant to rely exclusively on models and summary indicators of the monetary policy stance, so we are not concerned about the reliability of any specific indicator. Yet, we share 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.

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. In the case of the ECB, our strategy includes a specific quantitative definition of price stability: annual inflation of below,

[3] See, for instance, Reinhart, C. and K. Rogoff (2009), "The aftermath of financial crises", *American Economic Review*, Vol. 99 No. 2, 466-472.

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.

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.

Turning now to the monetary policy implementation framework, we should recall that prior to the escalation of the financial crisis in September 2008, the operational framework worked 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.

In particular, we seek to revert to a situation in which the one-week main refinancing operation is the main tool for steering money market rates and we act as "rate-takers" in the longer-term money market. In addition, under normal circumstances, central banks also do not provide liquidity in foreign currency. This does not mean, however, that contingency or emergency measures to be activated under extraordinary conditions cannot remain in place. Finally, the use of using self-originated paper as central bank collateral should be considered as an anomaly under normal market conditions.

How?

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.

With regard to the withdrawal of non-standard liquidity measures, it is useful to distinguish again between the main different types of measure.

First, for the non-standard refinancing operations, 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.

Second, as with non-standard euro refinancing operations, the provision of foreign currency liquidity does not need to be renewed when it is considered that it is no longer warranted. In this context, let me remind you that the exit from this specific measure has already started: owing to lack of demand, we have already discontinued foreign currency-providing operations with longer maturities.

Third, 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.

Finally, in relation to the covered bond portfolio, 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. We 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 has been established.

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.

Let me also stress that there are no technical obstacles to the implementation of our exit strategy. In any case, we have the instruments to allow us 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.

When?

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 under normal conditions and even more so when the assessment of risks is, as in the current environment, surrounded by heightened uncertainty.

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. At the ECB, we still have memories of the difficult environment we faced in 2005 when, after leaving the central policy rate unchanged at 2% for two and a half years, we decided to start tightening the policy stance. With hindsight, it is generally recognised that our decision was appropriate and that it 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 be dangerous.

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.

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.[4]

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.

So much for the risk of exiting too early. There is also the opposite 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. 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.

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.

In this context, let me mention that, when assessing whether or not the non-conventional liquidity measures have achieved their objectives, we need to 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 non-conventional monetary policy.

It should be recalled, though, 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. In the institutional set-up of European Monetary Union, this requires full 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.

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.

[4] See, for instance, G.B. Eggertsson and M. Woodford (2003), "The Zero Bound on Interest Rates and Optimal Monetary Policy", *Brookings Papers on Economic Activity*, 2003-1, 139-211.

Conclusions

Over the past year 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.

Although the financial crisis is not yet over, we have carefully and thoughtfully developed 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 central bank'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.