

José Manuel González-Páramo: Financial market failures and public policies – a central banker’s perspective on the global financial crisis

Closing remarks by Mr José Manuel González-Páramo, Member of the Executive Board of the European Central Bank, at the XVI Meeting of Public Economics, Granada, 6 February 2009.

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Introduction¹

Ladies and Gentlemen,

It is a great pleasure for me to participate in the XVI Meeting of Public Economics here in Granada, and to be able to share with you some analyses and reflections on the current financial crisis and the role of public policies in responding to it.

The subject of my speech today deserves some explanation. We are currently experiencing one of the deepest and most complex crises witnessed by the world in many decades. At the root of the crisis, we find the combined effect of a number of market failures as well as regulatory failures that explain how the turmoil stemming from a relatively small segment of the US mortgage market has translated into a global crisis posing a number of challenges for our economies and societies. The notions of market and regulatory failures are at the heart of the Public Economics field.

The current crisis also represents an extraordinary example of how stabilising the international and domestic financial systems and invigorating them in the medium-term required and will continue to demand cooperation among different public policies, ranging from macroeconomic to liquidity-related, regulatory and supervisory policies.

I will structure my intervention in four parts. I will devote the first part to analysing the underlying causes that have contributed to the crisis. Later, I will broadly describe the policy responses given by the major players in the global economy from four different angles: liquidity policy, monetary policy, fiscal policy and regulatory reform. In the third section, I will discuss in depth the actions undertaken by central banks – with especial focus on the policies deployed by the ECB and the Eurosystem – and their rationale, as well as some of the challenges ahead. Finally, in the last part, I would like to make some considerations on the potential new environment for policy makers, and in particular for central banks, that may be a key legacy of the current crisis.

Section 1. Market failures in the financial system

Highlights of the crisis

The start of the financial crisis was triggered in the summer of 2007 by the realisation that the risks associated with the US market for sub-prime mortgages were not properly reflected in the price of related instruments, particularly mortgage-backed securities. A market-wide reassessment of financial risk led to sharp increases in premia and spreads across all segments of the credit market. The rapidly falling market values of credit instruments hit both the net worth and the profitability of the banking system.

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Tensions in the markets for credit instruments spread to the money markets in early August 2007, giving rise to concerns about systemic disruptions. Indeed, inter-bank trading came almost to a halt on 9 August as a result of the combination of: (1) exceptionally high uncertainty about potential direct exposures of banks to “toxic” assets; and (2) increased demand for liquidity to honour credit lines committed to so-called conduits (i.e. bank-sponsored off-balance sheet investment vehicles).

Lack of transparency about the extent of exposures compounded uncertainty, preventing market participants from distinguishing good banks from bad banks, leading to a decline in trading in a real-life version of Akerlof’s “lemon market”. In addition, conduits had become over time increasingly reliant on the issuance of short-term paper for the funding of their securitisation activities. However, with the outbreak of the turmoil, they became unable to roll-over short-term financing in the asset backed commercial paper market amidst great uncertainty about asset valuations. Against this background, money market interest rates and spreads rose sharply, while liquidity dried up, prompting central banks to intervene through large-scale liquidity injections.²

As the year 2007 went on, the fall in US housing prices accelerated against the backdrop of the rising number of foreclosures and the slowdown of the US economy. This led to an increase in the number of defaults in mortgages, not only for sub-prime mortgages but also for the prime segment of the markets. Thus, an increasing number of securities linked to mortgages turned out to be much riskier than previously thought.

All major central banks around the globe continued to address market disruptions through significant liquidity injections. However, the losses in several important markets for financial assets continued to mount and in March 2008, the Fed had to engineer the rescue of Bear Stearns, then the fifth largest U.S. investment bank, by JP Morgan and grant direct access to its financing to the other main investment banks for the first time since the Great Depression.

The financial turmoil deepened in the weeks following the collapse of the Lehman Brothers in mid-September 2008, more than a year after the onset of the crisis, eventually developing into a full-blown crisis with adverse spillovers into real activity. Within two weeks from the bankruptcy of Lehman Brothers, mounting losses from the sub-prime mortgage markets led to both the US largest insurance company (AIG) and largest savings and loan institution (Washington Mutual) being seized by the government. Widespread concerns about the solvency of financial institutions ensued and spread to Europe, where government assistance was needed to avert the collapse of several institutions.

Underlying causes

It goes without saying that, determining the appropriate policy responses to the crisis requires a thorough understanding of its underlying causes. For this purpose, it is important to distinguish the macroeconomic factors from those of a microeconomic nature.

As for the *macroeconomic factors*, the roots of the current crisis may go as far back as the late 1990s, when global imbalances in current account positions and capital flows across major economies, particularly in the US, started to build up. At the time, several emerging economies enhanced fiscal discipline and recorded a collapse in investment, which contributed, alongside other factors, to substantial surpluses in savings-investment and current account balances. In the industrialised countries, corporate investment fell after the collapse of the IT bubble in 2001. Meanwhile, in the US private saving was falling, while domestic demand was expanding. Excess savings in the world outside the US – the so-

² See CGFS (2008) and Cassola et al. (2008) for further details. The effects of asymmetric information and counterparty credit risk on the structure of the interbank market and various policy responses are analysed in Heider et al. (2008).

called “savings glut” – together with accommodative global monetary conditions led to ample liquidity in the world financial markets and low interest rates across the maturity spectrum.

Turning to more *micro factors*, financial innovation allowed the repackaging of mortgages – traditionally, illiquid assets originated and held by local banks – into higher-yielding complex securities with triple-A rating. Mortgage backed securities or more complex products based on those securities were in high demand by banks and investors around the world who were “*searching for yield*” in an environment characterised by low interest rates. The situation endured, as sustained appetite of foreign investors for debt securities issued by the US government and government-sponsored agencies as well as by the corporate sector allowed the country to smoothly finance its current account deficit.

The “search for yield” fostered the demand for more complex forms of securitisation, which led to the creation of instruments that entailed risks that were difficult to assess and price. No active secondary market existed for many of the new instruments, and the associated *opacity* of the credit risk distribution made it difficult to keep track of the exposures.

A key question is why investors did not look more closely into the risks associated with the securities purchased, thereby playing a disciplining role in the securitisation process. The answer leads us to an important microeconomic factor behind the current crisis: the existence of *agency problems* associated with the implementation of the “originate and distribute” model. This model – that became prevalent among large banks over the past twenty years – was designed to deliver a more efficient allocation and distribution of risks in the economy.

However, because of information asymmetries and frictions, the “originate and distribute” model in practice gave rise to inefficient outcomes and distorted the behaviour of the various parties involved in the securitisation process: investors, rating agencies, intermediaries, and originators.³ The main reason for this is that the goals of the parties involved differed, and in some instances may even have been in conflict. Besides, the different categories did not fully internalise the consequences of their individual actions in the overall process, and therefore did not have the right incentives to share information efficiently.

In particular, *investors* became over-reliant on the ratings provided by the rating agencies and often did not properly conduct their due diligence. The fact that regulators gave *ratings* a prominent role in the risk assessment framework might have indirectly affected investors’ incentives. Investors often ignored the fact that rating agencies’ risk measures offer only a partial account of the risks embedded in the securities, as they focus primarily on the expected loss and do not take into account the tail of the loss distribution. In addition, they do not take liquidity risks into account.

Moreover, rating agencies were themselves subject to potential *conflicts of interest* that may have diminished their incentives to undertake timely downgrades of structured products and provide adequate information to investors regarding the analysis underlying the rating decision. In fact, because ratings are paid for by issuers, rating agencies may have incentives to expand coverage to products whose risk assessment is difficult and, potentially unreliable, in order to maximise their revenues. Besides, agencies may also provide commercial advice to the issuers of those securities that are then requested to rate.

As regards *originators of loans*, their incentives to screen and monitor borrowers may have been reduced under the “originate and distribute” model, once they sold the originated assets to intermediaries that subsequently took care of repackaging them into securities. Instead, the loan originators may have concentrated on expanding volumes of loans originated to boost their profits. The diminished incentive to screen and monitor borrowers implies that investors may have ultimately acquired assets of relatively lower quality and performance.

³ See Ashcraft and Schuermann, (2008), Rajan (2005) and Sufi and Mian (2008).

This is compounded by the fact that the *intermediaries*, who purchased assets and bundled them into pools prior to securitising them, focused on maximising revenues stemming from the servicing fees charged to investors, without necessarily delivering the risk/return balance desired by investors.

More in general, remuneration schemes based on rewarding *short-term profits* tended to predominate throughout the financial system, often to the detriment of the longer-term health of the financial institution. For example, *compensation structures* at the top management level are based on the comparison of latest results vis-à-vis those of their peers and thus tend to encourage short-termism and risk-taking by managers keen on avoiding underperformance. The pressure to deliver quick profits makes it more difficult for *risk management* departments, that are often viewed as “party spoilers”, to curb excessive risk taking in their financial institutions. The job of risk managers is also complicated by the fact that certain risks are hard to quantify and measure (for example, tail risks) and that commonly agreed valuation models are missing for more complex securities.

These factors magnified the more general “*pro-cyclical*” tendencies of financial systems, which also stemmed from a host of other factors, such as accounting standards (e.g. mark-to-market accounting) and the dependence of collateral values and leverage ratios on asset prices.

These structural incentive problems have not been fully taken into account by *regulators and supervisors*. The Basel I framework that was prevalent at the time of the turmoil’s outbreak (and still is) underestimated banks’ exposures by not capturing the bulk of the risks related to off-balance-sheet vehicles as well as liquidity and reputational risks.

Supervisors and regulators should also have paid more attention to the challenge of regulatory arbitrage. In fact, some financial innovation processes were triggered – among other considerations – in order to circumvent the existing regulation, particularly on capital requirements. This aspect is even more pressing in the current environment, with large and complex financial institutions operating across borders, under different national regulatory and supervisory regimes. As I will mention below, an improved and closer cooperation and information sharing among central banks, regulators and supervisors at both national and international levels seems, therefore, essential.

To sum up, we have seen that the causes of the current crisis can be traced back to *macroeconomic imbalances* and, at the micro level, to *incentive problems* and that *regulatory and supervisory deficiencies* have also played a role. Nonetheless, the crisis has once again shown the importance of *system-wide externalities* in propagating and exacerbating the crisis. Problems of individual banks may have wide and serious implications for both the financial system itself and the economy as a whole. Overall, banks must ultimately respond to losses on risky assets by raising new capital. New equity, however, may be difficult to be issued in sufficient amount in the short run. As a consequence, banks’ first responses have been both asset “fire sales” and the scaling back of their lending activity.

These two effects affect the banking system widely. Widespread liquidation of assets in the current market conditions pushes prices down. Through mark-to-market accounting, declining asset prices lead to unwarranted contagion to other banks with similar assets. Those banks may be forced to adjust their positions by selling assets themselves, thus leading to further asset price declines. Similarly, when deciding to cut lending, banks may not internalise the repercussions of their decisions on the real economy in terms of foregone profitable investment opportunities, output and employment.

2. Policy responses

Let me now turn to the *public policy responses* to the crisis, with a special emphasis on the *common elements* of the responses of the major players in the global economy.

Liquidity policies

Central banks have established the first line of policy defence against the adverse dynamics set in motion by the financial crisis, particularly through the *massive provision of liquidity*. Although the specific responses have varied across central banks, since 9 August 2007 the common objective of these institutions has been to address the global liquidity squeeze, particularly in order to mitigate as much as possible the risk that protracted liquidity shortages turned into solvency problems.

Central bank liquidity policies have not been limited to the shortest end of the money market rates, but have in some cases also sought to ease pressures in term funding markets. This has been pursued through an increased supply of longer-term funds. Access to central bank funding has also been facilitated by enlarging the list of collateral eligible for the central bank lending operations and by widening the range of counterparties with access to these operations. In some countries, central banks have also extended lending to non-depository banks and to non-bank financial institutions. Additionally, some central banks have established securities lending facilities to improve the functioning of their interbank repo markets.

An important characteristic of the global liquidity policy response to the financial crisis has been the strengthened *cooperation* among central banks. Cooperation has taken place first through enhanced information sharing and collective monitoring of market developments, and later on by taking coordinate steps to ease liquidity tensions in the global money markets.

The first initiative in this direction was the agreement in December 2007 between the ECB and the US Federal Reserve to grant loans in US dollars to euro area counterparties in connection with the Fed's Term Auction Facility (TAF). The US dollar-denominated loans to euro area banks were financed through a currency arrangement (swap line) between the two central banks.

The US dollar liquidity-providing bilateral agreements between the Fed and the ECB (as well as between the Fed and a growing number of central banks⁴) under the TAF programme – that has become a symbol of the determination of the central banking community to address global liquidity tensions – has been significantly expanded over time in terms of scale. In addition, the Eurosystem has signed agreements with the central banks of several European countries in order to improve the provision of euro liquidity to their banking sectors.

Finally, in a fortunately limited number of cases, central banks have assisted their domestic governments in providing *emergency liquidity assistance* to institutions under stress.

Monetary policies

Let me now quickly review the common elements of the measures taken by central banks from the perspective of monetary policy. The *distinction between (1) liquidity management and (2) monetary policy* is very important in the case of the ECB, since its strategy clearly separates the role of monetary policy in determining the optimal interest rate level required to maintain price stability from the role of its operational framework in ensuring that interest rate decisions are transmitted to the financial markets and the real economy in an effective manner.

Although at different paces, reflecting differences in domestic macroeconomic conditions and specific monetary policy objectives, from the start of the crisis the major central banks around the world have also adjusted their respective monetary policy stances to reflect the diminished risks for price stability. By doing so, these institutions have clearly signalled the

⁴ 14 with the Fed.

strong commitment of the international central banking community to anchor inflation expectations and addressing the macroeconomic background and the implications of the financial crisis.

Fiscal policies

On the fiscal side, governments around the world have announced a number of initiatives in order to tackle the effects of the financial crisis. The nature of the fiscal measures has evolved with the development of the financial crisis and its propagation to the real economy.

Government interventions initially focused on addressing problems at single institutions, mainly through *rescues* and provisions of *guarantees*. Some governments also announced measures to provide relief to struggling homeowners, and attempted to stimulate domestic economies, particularly in those countries where the slowdown in housing markets was more significant.

Next, as the financial turmoil intensified and the need to support the entire financial system became clearer, the fiscal response in Europe and in the US evolved into more comprehensive plans designed to support entire domestic financial industries rather than individual institutions. Such plans typically comprised *capital injections* in exchange for equity and the more systematic provision of *state guarantees*. Finally, *stimulus packages* aimed at fostering aggregate demand have also been announced, as the adverse effects of the crisis have worked through the real economy.

In parallel to the increase in the scope of fiscal measures, there has also been a rise in the degree of *international policy coordination*, reflecting the global nature and amplitude of the current crisis. The G-7 and G-20 summits have represented major steps for policy coordination at the global level, while at the EU level international cooperation has been shaped by the exceptional procedures from the European Commission to coordinate and accelerate national rescue plans, as well as by the European Economic Recovery Plan. This plan provides a common framework for the efforts made by Member States and by the EU, with a view to ensuring consistency and maximising their effectiveness, always in accordance with and within the framework of the Stability and Growth Pact.

In addition, other types of fiscal measures are currently at work. As the economic crisis has deepened, a significant contribution to the fiscal adjustment may come from the so-called *automatic stabilisers*. These are programmes linked to social security and unemployment benefits, which are generally more comprehensive in Europe than in the US. As they act immediately and are proportionate to the depth of the business cycle, automatic stabilisers can be more timely and targeted than discretionary policies, and do not suffer from political economy risks that can undermine the effectiveness of the discretionary measures.

The volume of public resources made available or committed by governments has no precedent. In this context, fiscal authorities should not forget that sustainability of the public finances is a pre-condition for the effectiveness of the extraordinary measures. Some of the fiscal stimulus packages that have been adopted recently in Europe have raised some concerns, as some of them have been adopted in countries where the fiscal situation already calls for particular prudence regarding its sustainability. Governments around the world, but especially in countries where the presence of automatic stabilisers is significantly important, should take the prospective burden of such stabilisers into account when designing their overall fiscal plans.

Regulatory reforms

Regarding regulatory reforms, the competent authorities at both the European and the global level have been actively involved in the development of measures aimed at restoring market confidence and enhancing the stability of the financial system.

At the European level, policy action has been guided by the *ECOFIN Roadmap* which identified four priority areas: (1) enhancing transparency, (2) improving valuation standards, (3) reinforcing prudential rules and risk management, and (4) improving market functioning.

These priorities have been mirrored at the international level by the *Financial Stability Forum* in its proposal of April 2008 (consisting of a set of 67 recommendations), subsequently endorsed by the G7 ministers and central bank governors). To recall, the Financial Stability Forum brings together central banks, banking supervisors and finance ministries from the largest world economies. The Forum also involves international institutions such as the International Monetary Fund and the Bank for International Settlements. In recognition of the global dimension of the current financial crisis, the G20 Finance Ministers and central bank Governors' acknowledged in their November meeting last year, the need to expand the FSF membership to include also key emerging market economies. This is expected to contribute to further enhancing the FSF's ability to *coordinate* global efforts towards a more resilient financial system.

Section 3. What did central banks do? Why did they do it?

Central banks have acted on *three different fronts* to tackle the crisis, namely liquidity management, monetary policy and financial stability. Over the next few minutes I would like to share with you some reflections on the policy actions that central banks in general – and the ECB in particular – have undertaken and on the challenges that we are likely to face in each of these three areas.

Liquidity policy

Before discussing liquidity management interventions, it is useful to recall that the ECB's measures to provide support to money markets have been based on the fundamental principle of the *separation* between monetary policy decisions and their implementation.

This principle is important in order to reduce the risk that economic agents may mistakenly interpret volatility in short-term money market rates, triggered by temporary and unpredictable fluctuations in liquidity conditions, as containing information on the desired monetary policy stance (which is instead given by the rate applied to the main refinancing operations). The separation principle has proved to be particularly effective during the financial market turmoil and at times of high volatility in the short-term money market rates.

(i) Addressing liquidity risk through increased intermediation

Let me now try to explain in somewhat greater detail the rationale behind the operational measures of the Eurosystem during the financial market turmoil.

From the start of the turmoil until the collapse of Lehman Brothers in mid-September 2008, the ECB engaged in *active liquidity management* by adjusting the *temporal and quantitative distribution* of its liquidity provision within the maintenance period.⁵ Besides, from October 2007, the Eurosystem has engaged in increasing *international cooperation* to ease tensions in global money markets, particularly by facilitating the access of euro area banks to US dollar liquidity.

Through the adjustments to its euro operations, the ECB responded to the perceived change in the pattern of banks' demand for liquidity over the maintenance period, in particular

⁵ For illustration, one may adapt the Poole 1970-paradigm to liquidity management during a financial turmoil: when the demand for liquidity becomes unstable (different demand pattern), the central bank focuses on stabilising interest rates directly, rather than stabilising interest rates by managing the quantity ("excess" allotments above benchmark).

responding to the increasing evidence that interest rates were no longer necessarily linked to liquidity conditions on the last day of the maintenance period (as postulated by the so-called “martingale hypothesis”). Indeed, unlike in normal times, banks seemed to no longer regard reserve holdings on different days of the maintenance period as substitutes. By contrast, there was evidence of the emergence of *precautionary demand* for liquidity early in the maintenance period.

As mentioned earlier, the shift in the time pattern for liquidity demand was related not only to the fact that counterparties were reluctant to lend to each other on unsecured terms, but also to their fear of being confronted with unexpected liquidity shocks. As a consequence, banks seemed to prefer reducing their so-called “liquidity gaps”, also by fulfilling their reserve requirements relatively early in the maintenance period.

The rise in precautionary demand implied a pricing of liquidity that was inconsistent with the martingale hypothesis, which prompted the ECB to bringing its supply of liquidity forward in the maintenance period – i.e. to “*frontload*” – in order to achieve the same level of short term interest rates as before. Concretely, the ECB accommodated banks’ preference for the *front-loading* of reserves by systematically allotting more than the so-called “benchmark” amount in its weekly main refinancing operations. The allotments above the benchmark were reduced in the course of the maintenance period so that the average supply of liquidity over the entire maintenance period remained unchanged.⁶

In the same vein, the ECB increased the amount of refinancing provided via *longer-term refinancing operations*, with a view to reduce the liquidity gaps of the banking system and to smooth conditions in the term money market. It correspondingly reduced the amounts allotted at the weekly main refinancing operations so that the total amount of outstanding liquidity supply remained unchanged.

Indeed, during the early phases of the turmoil, the Eurosystem aimed at keeping the overall level of euro refinancing provided to the banking sector at levels close to those prevailing just before the turmoil, in line with its longstanding policy of providing the banking system only with the amount of liquidity needed to smoothly fulfil its aggregate liquidity deficit over each maintenance period. The Eurosystem’s intermediation role in support of the affected segments of the euro money market was therefore mainly achieved by adjusting the modalities of the liquidity supply operations.

Following the collapse of Lehman Brothers in September last year, the financial market turmoil entered a more intense and disruptive phase, in which the money market became to a large extent dysfunctional. In response to the deterioration of market conditions, the Eurosystem stepped up its temporary intermediation activity to ensure that the dysfunctions of the money market did not drive solvent banks out of business. Out of the various measures implemented, perhaps the most important was the switch to *fixed-rate tender procedures with full allotment* in all refinancing operations – not only euro credit operations with maturities of 1 week up to 6 months, but also the ECB’s US dollar operations with maturities from 1 week to 3 months – against a temporarily enlarged set of collateral.

In practice, these measures imply that the ECB’s counterparties – which represent a very large number of euro area credit institutions – can now borrow as much euro and US dollar liquidity as they wish, both at the weekly and at some key term maturities, against a larger than usual set of eligible assets. As a result, the amount of euro refinancing provided by the Eurosystem in collateralised dollar operations in euro and US dollar is currently close to EUR 900 billion.

⁶ In order to keep the average supply of liquidity over the entire maintenance period unchanged the ECB conducted liquidity-absorbing fine tuning operations on the last day of the maintenance period.

Overall, the ECB's liquidity measures during the more recent phase of the turmoil have focussed on addressing liquidity shortfalls in the interbank market, but have not (and could not) address the problem of heightened counterparty credit-risk aversion. The situation in the euro money market is still far from normal, being still significantly affected by elevated level of risk aversion and information asymmetry.

(ii) *Reactivating the money market*

The Eurosystem has moved from the situation before the start of the turmoil, in which it did not provide more refinancing to the banking system than was needed to satisfy the aggregate liquidity needs arising from autonomous factors and reserve requirements, to the present situation in which it effectively intermediates liquidity flows among individual banks. Therefore, the clearing of intra-bank liquidity flows has to a large extent moved from the dysfunctional money market to the Eurosystem's balance sheet. Reflecting the increased role played in financial intermediation, the Eurosystem's consolidated balance sheet (weekly financial statement) has increased by around 60% since the start of the turmoil.⁷

Taking up a significant intermediation role to guarantee the orderly functioning of our economy was certainly essential in the wake of the collapse of Lehman Brothers, when an unprecedented deterioration in the degree of public confidence in the banking sectors of most developed economies seemed to undermine in a fundamental manner the ability of banks to perform their institutional financial intermediation function. It should not be forgotten that, while the euro area financial landscape has significantly changed in recent decades as a result of a number of structural developments (including the introduction of the euro), it is still predominantly "bank-based". As a result, dysfunctions of the banking system have a relatively larger potential to cause disruptions to the economy in the euro area than in other regions of the world.

Of course, taking up an extensive intermediation role is not acceptable in the long-term for a market-oriented economy like the euro area. The increased intermediation role of the Eurosystem is only a temporary answer to the dysfunction of money markets and is now without potential disadvantages, including disincentives for banks to resume normal trading activity and also potentially increased financial risks for the Eurosystem (which are nevertheless mitigated through adequate risk control measures).

Thus, while the Eurosystem is determined to continue supporting the banking system through its enhanced liquidity policy for as long as needed, it also looks forward to the reactivation of inter-bank lending and to banks resuming their traditional intermediation activity. Indeed, an exit strategy from the exceptional temporary measures undertaken in support of the banking sector will be considered in conjunction with the progressive restoring of normal conditions in money markets.

In the meantime, banks must show willingness to re-establish credit lines and to destigmatise interbank borrowing. In this regard, while it is clear that the financial market turmoil must necessarily imply an adjustment in banks' risk management, it seems to me that the current very conservative behaviour of individual banks, characterised by a strong reduction in credit lines and little appetite to actually assess and price credit risk, even at the very shortest segments of the money market, is not in the long-term interest of the banking system.

(iii) *Extending facilities to non-banks*

Financial intermediation in the euro area has traditionally been to a large extent conducted via the banking system, rather than via capital markets (unlike in the US and other Anglo-

⁷ From EUR 1 546 billion at end-July 2007 to EUR 2 500 billion at end-January 2009.

Saxon countries). The difference in relative importance of the banking systems and capital markets may explain to a large extent why, in the course of the current crisis, the Eurosystem's efforts have focused on providing support to traditional banks, while other central banks, such as the Fed, have also extended their support to other financial institutions.

Since the inception of the euro, the Eurosystem's operational framework has granted access to the Eurosystem's credit operations to a very large number of counterparties⁸, both via the marginal lending facility and the open market operations. Counterparty eligibility criteria have been defined in general terms so that a wide range of depository institutions, including small saving banks and co-operative banks, have direct access to central bank liquidity. The combination of a large list of counterparties and a similarly wide range of assets eligible as collateral (recently expanded further on a temporary basis), has proven very useful during the turbulence, since it has allowed the Eurosystem to reach a very large number of financial intermediaries at a time when short-term interbank markets are not functioning properly.

Monetary policy

The financial crisis has radically changed the environment of monetary policy making. The rises in oil and commodity prices that generated concerns about upside risks to price stability in recent years suddenly stopped in the course of 2008. The materialisation of downside risks to growth and the decline in inflationary pressures (largely due to falling commodity prices and the effect of the deepening of the financial crisis and its spread to the real economy) have led to a significant reduction in upside risks to price stability.

From today's perspective, the Great Moderation, the era of remarkable macroeconomic performance started in the mid-1980s, appears surprisingly remote. Monetary policy makers have had to adapt quickly to the present macroeconomic and financial environment, which can be best characterised by the concept of non-measurable risk, or "Knightian" uncertainty. As you know, the economist Frank Knight developed a distinction between "risks" (to which probabilities can be assigned), and "uncertainty" (for which even these probabilities are unknown). The very sharp increase in uncertainty that is typical of periods of financial instability had immediate consequences in the risk premia that lead to a strong preference for safe and liquid assets.

Allow me to focus for a second on the *evolution of the risk premia* and its implications for the conduct of monetary policy over the more recent period. Since the beginning of the financial turmoil in the summer of 2007, financial markets have gone through a dramatic process of gradual revaluation and re-pricing of risk, not only in the US and the euro area, but also across the world. Following the bankruptcy of Lehman Brothers in September 2008, the deterioration of financial markets accelerated. Investors' loss of risk appetite, as well as the reassessment of credit and liquidity risk, has been reflected in significant rises in credit and CDS spreads. This is a phenomenon that has particularly affected firms with lower ratings (both in the financial sector and in other sectors).

During this turbulent period, we have faced substantial impairments to the transmission of policy rates to the money markets. This is most evident from the strong increase in the spread between the Euribor rates (indicative rates for unsecured lending among banks) and the corresponding euro overnight index swap rates (Eonia swap rates), compared to the levels prevailing before the turmoil. This development reflects the reluctance of banks to lend to each other and is closely related to a general lack of transparency – as I mentioned earlier – about the magnitude of exposures that individual banks carry on their books.

⁸ Currently, around 2100 credit institutions are eligible for Eurosystem's open market operations, almost 2300 credit institutions can access the Eurosystem's marginal lending facility.

The transmission of monetary policy decisions to very short-term money markets is just the first step along the transmission mechanism. Such decisions are subsequently passed through to bank lending rates, which represent one of the key channels through which monetary policy affects the economy. We know that, reflecting contractual arrangements and banking practices, in many countries a variety of bank lending interest rates tend to adjust in line with the three-month Euribor rather than the policy rate. This implies that the borrowing costs of households and firms increased considerably before October 2008, also relative to the policy rate. More recently, most bank interest rates have started to decrease substantially reflecting the lowering of policy and money market rates started in October 2008. As a result of the continuing decrease of Euribor rates, we can expect further reductions in bank lending rates. We have also observed some signs of easing conditions for risk premia in financial markets at the end of 2008.

Looking in particular at the monetary policy reaction to the crisis, the size of the cumulated interest rate reductions, especially since the coordinated interest-rate cut on 8 October 2008 with five other major central banks (Bank of Canada, Bank of England, the Federal Reserve, Sveriges Riksbank and Swiss National Bank) has been exceptional and has left the policy rates of most central banks at historically low levels.

This environment is not devoid of *challenges for monetary policy*. It is quite obvious that if a central bank keeps cutting rates, sooner or later it will hit its lower bound. However, this alone should not necessarily imply the end of monetary policy effectiveness, as other channels may remain available for the central bank to additionally stimulate the economy in order to achieve its monetary policy objective. The central bank, for instance, can change the size and/or the composition of its balance sheet, two categories of unconventional measures which nowadays are commonly referred to as “quantitative and qualitative easing”, respectively. Through both these channels and specific commitment technologies, the central bank might influence term and credit risk premia, and thus shape the yield curve and the cost of funds to the private sector even when the short-term nominal interest rate is constrained by the lower bound.

In this respect, it is crucial not trying to make a virtue of necessity. Dramatic unconventional measures entail non-trivial risks and their impact is subject to a high degree of uncertainty. It is important to stress that a precondition for more radical unconventional quantitative easing measures (e.g. the large-scale purchase of government bonds by the central bank) is that the standard interest rates policy and what we could define as more “conventional” quantitative easing measures (e.g. the provision of support to the banking sector and the economy at large through expanded liquidity provision and inclusive collateral policies), are deemed insufficient to ensure the credible anchoring of price stability. As I will discuss in the Section 4, before embarking on more unconventional measures, a central bank is likely not only to fully use its policy rate instrument, but also to exhaust all other options in its existing toolbox in order to preserve price stability.

And, of course, a successful outcome of the more dramatic unconventional actions depends on a sound communication with the public and on the existence of a clear, credible commitment of the central bank with respect to achieving its monetary policy objective (a well-defined definition of price stability in the case of the ECB). The central bank must explain the reasons and the mechanism through which these unconventional monetary policy channels operate. It is of crucial importance that the public does not receive the wrong impression that the central is powerless in the face of deflationary pressures in an environment of extremely low nominal interest rates. By contrast, the public must be convinced that the central bank will take the necessary actions to prevent the entrenchment of unacceptable deviations from its monetary policy objective into private sector expectations.

This being said, an environment of zero or almost zero interest rates may bring other policy challenges that go beyond the strict effectiveness of monetary policy. For example, in such

an environment the interbank money markets are likely to be disrupted – as the Japanese experience demonstrates –, and institutions such as money market funds may be put under threat. While monetary policy could still be effective, an impaired money market has serious consequences for the private financial intermediation and eventually poses difficulties for the transmission of monetary policy and the optimal asset allocation within the economy as well as risks to financial stability.

An additional challenge for central banks is the concern that the lower rates go the more difficult might become to reverse this policy, thus making it more likely that today's monetary policy may compromise future price stability and financial stability. The experience of the Eurosystem in 2005 is a clear reminder of the pressures that a central banks faces when it decides to start removing policy accommodation.

Moving to a different subject, let me now recall that the adjustment to the ECB policy rate started with a coordinated move with five other major central banks (Bank of Canada, Bank of England, the Federal Reserve, Sveriges Riksbank and Swiss National Bank) on October 2008. This coordinated interest rate cut was unprecedented by historical standards and was very much welcomed as a sign of the strong commitment of the international central banking community to addressing the macroeconomic implications of the financial market turmoil. It also gave rise to the question whether the financial crisis may have ushered in a new era in which the global nature of the challenges faced by central banks requires increased international monetary policy coordination.

The economic literature on *policy coordination*⁹ suggests that, under normal conditions, the international integration of goods and services markets provides a relatively high degree of risk pooling that makes mechanisms of formal policy coordination less necessary. This conclusion is derived from the fact that rule-based policies funded on common principles and with medium-term orientation anchor expectations and confidence so that the symmetric stabilisation of domestic conditions brings about stable global conditions as well.

The financial crisis, however, has shown that, if not from policy coordination, there are important benefits from cooperation in an increasingly integrated world economy, where adverse shocks to one market are not confined by national borders but rather propagate globally at a rapid pace. Indeed, while a coordinated rate cut is by nature exceptional, cooperation in different areas among world major central banks has proven to be an effective policy response to global and domestic challenges, supporting confidence at times of heightened uncertainty. As explained before, during the current crisis, cooperation among central banks has been pursued in two main directions: (1) through enhanced information exchanges and collective monitoring of markets developments; and (2) through coordinated steps to provide liquidity.

Financial stability

As a third front for central bank policy action, let me now discuss the measures taken in the financial stability field. Contributing to financial stability is one of the core responsibilities assigned by the EC Treaty to the ECB. By pursuing its primary objective of maintaining price stability and by contributing to the smooth functioning of the money markets, the ECB prevents unnecessary volatility from being introduced into economic activity and financial markets, thus providing an important contribution to safeguarding financial stability in the euro area, particularly at times of crisis like the present.

In addition, central banks (of course, including the ECB) have actively participated in a wide range of international committees and fora entrusted with the task of restoring market functioning and enhancing the resilience of the financial system.

⁹ See, among others, Obstfeld and Rogoff (2002), Oudiz and Sachs (1984) and Trichet (2008).

Priority has been given to restoring market confidence. In this context, initiatives designed to strengthen transparency and valuation standards should be singled out as pivotal. In particular, improvements were warranted in the disclosure standards for financial institutions' exposures to structured products as well as in the practices followed for their valuation. In this respect, many large global banks have consistently applied the disclosure methodology set out in the FSF report to their holdings of complex and illiquid instruments, thus demonstrating the willingness of the private sector to contribute to strengthening market confidence. Furthermore, guidance has been provided by the Basel Committee on Banking Supervision on assessing banks' fair value practices for financial instruments.

In the same vein, the International Accounting Standards Board has intensified its work to enhance accounting and disclosure standards of off-balance sheet entities and released draft guidance on fair value measurement when markets become inactive. Central banks as well as banking supervisors have contributed to this work by participating in the related expert advisory panel. Furthermore, the ECB is also a member of the newly-created Financial Crisis Advisory Group whose primary role is to advise the International Accounting Standards Board (IASB) and the US Financial Accounting Standards Board (FASB) about the standard-setting implications of the global financial crisis and the potential changes to the global regulatory environment.

While the aforementioned measures significantly improved the information available to markets, investors and competent authorities, the failure of Lehman Brothers last September generated an unprecedented deterioration in the degree of confidence in the banking sector triggering the coordinated action of governments. In this context, the European Heads of State adopted a set of common principles aimed at addressing the financial turmoil and ensuring that the design of national stabilisation measures did not lead to negative spill-over effects across countries. The "EU common principles" endorsed at the European Council of 15-16 October laid down the common features for granting guarantees on new issuance of bank debt and recapitalisation measures adopted by the Member States.

The Governing Council of the ECB contributed to this work by proposing recommendations encompassing the provision of government guarantees for bank debt and recapitalisation measures. First, the Governing Council of the ECB proposed a set of recommendations on the framework for granting government guarantees, which identified the following main objectives for this measure: (1) addressing the funding problems of solvent banks; (2) safeguarding the level-playing field among financial institutions in order to avoid market distortions; and (3) ensuring consistency with the operational framework of the Eurosystem, to avoid impairing the implementation of the single monetary policy. Furthermore, these recommendations included a pricing system for the government guarantees on bank debt.

The EU governments agreed to provide guarantees for new medium-term bank senior debt (up to 5 years) under a scheme to expire on 31 December 2009. Banks have begun to make use of this measure: at the beginning of 2009, the outstanding volume of government guaranteed unsecured bank bonds amounted to EUR 58 billion in the euro area, and EUR 97 billion in the EU. More banks have indicated their intentions to issue similar bonds. It should be noted that the issuances have so far been oversubscribed and spreads of such government guaranteed bonds are lower than those for secured bonds from the same country and with a comparable maturity.

Second, with regard to recapitalisation measures, the Governing Council of the ECB also provided recommendations. The main aim of these measures has been to improve the functioning and stability of the banking system and to foster an adequate flow of credit to the economy by providing Tier I capital to fundamentally sound institutions. This would be carried out by acquiring equity in the form of ordinary shares, preferred shares or other hybrid

instruments, such as subordinated debt. The total commitments regarding recapitalisation schemes reached EUR 255 billion in December 2008.¹⁰

Also in this regard, the Governing Council of the ECB proposed a methodology for benchmarking the pricing of State recapitalisation measures for fundamentally sound institutions in the euro area. These recommendations are without prejudice to guidance from the European Commission aimed at avoiding undue distortions to competition in accordance with State aid rules of the Treaty.

The pricing system proposed by the Governing Council of the ECB considered that any recapitalisation should take into consideration the specific market situation of each institution, distinguishing in particular between fundamentally sound and distressed banks. Based on this premise, it provided for a required rate of return, captured by a “price corridor”, which varies depending on the type of instrument. The lower band of this corridor is applied to instruments with features similar to those of subordinated debt and the higher band to those with features similar to ordinary shares. It is also recommended that the temporary nature of recapitalisation measures should be ensured by providing financial institutions with incentives to redeem such instruments and that the pricing system be revised periodically to reflect possible changes in market conditions.

Overall, I am fully confident that the actions taken by central banks and national governments provide an appropriate response to the challenges raised by recent events. Still, restoring market functioning and returning to normal market conditions ultimately depends on the banking sector. In this context, reactivating the interbank market and ensuring the proper financing of the economy is of the utmost importance.

Section 4. Going forward: A new environment for central banking?

Up to now, I have delved into the underlying causes of the current situation, and have discussed the various policy responses announced or implemented by different competent authorities, and the envisaged challenges ahead, especially for those areas that are under the partial or exclusive competence of central banks. *Looking forward*, the current crisis is likely to bring important changes for the future of the economic and financial systems in which we live. These include revisions to the regulatory and supervisory domains, reforms of the international financial architecture as well as changes in the nature of the relationships and coordination among the different policies and public authorities. Therefore, we are likely to witness a number of institutional changes that are likely to bring a new environment for policy making in a number of areas, including several aspects related to central banking.

In the last part of my intervention, I would like to share with you some thoughts on this potential new environment.

More international convergence in liquidity frameworks?

Since August 2007 central banks have responded in a variety of ways to the financial market disruptions, reflecting differences in the extent to which markets have been hit by the turbulences, and differences in the design of their operational frameworks. However, in general all major central banks stepped up their intermediation role with a view to addressing the liquidity squeeze and, in doing so, they showed a certain degree of convergence in operating procedures. In particular, central banks:

- Pursued more active reserve management, reassuring banks of their orderly access to overnight funds and increasing the frequency of their operations.

¹⁰ Please note that there were also capital injections outside government recapitalisation schemes (from BE, DE, FR, LU and NL), amounting to EUR 42 billion, which dealt with troubled institutions such as Fortis and Dexia.

- Increased the supply of funds (notably long-term); expanded to varying degrees the definition of collateral accepted in collateralised lending operations; provided access to collateralised lending to a large number of counterparties.
- Adapted tender procedures for open market operations in the direction of price- rather than quantity-based schemes, akin to those used for standing facilities.
- As the turbulence developed, central banks strengthened their cooperation through enhanced communication and collective market monitoring and co-ordinated actions to provide liquidity. In this respect, a significant number of inter-central bank swap lines have been set up to facilitate the distribution of foreign currency liquidity to domestic counterparties.

Overall, one lesson we can draw from the turmoil is that are certain key operational features that facilitate the implementation of monetary policy under stress. In particular, central banks are better positioned to distribute reserves effectively when the inter-bank lending is impaired if they are capable of providing access to collateralised lending operations on a large scale to a wide set of counterparties and against a broad range of collateral.

Yet, a very important issue, on which I have myself no clear answer, is how – not so much whether but rather how – this convergence in the understanding of the “optimal” features of the operational framework under stress, should be reflected by the design of the operational framework in the steady state. For this we need, in particular, to develop a better understanding of the optimal mix between private market and central bank intermediation and we need to carefully liaise with supervisory bodies.

I should clarify that when I say “optimal” in this context, I do not mean “uniform”. To the extent that monetary policy strategies, central banks’ status vis-à-vis governments and certain specific features of domestic financial systems persist, the optimal liquidity frameworks of each country or monetary union should reflect such country- or area-specific factors.

More scope for direct lending to the real economy?

In the previous section, I have discussed an issue that has come to fore in the current crisis: the provision of central bank liquidity to financial institutions other than banks. An additional issue that has come up in the last few months concerns the extent to which central banks may engage in direct lending to the real economy. This is not a purely theoretical subject for central banking conferences, as the recent establishment by the Federal Reserve System of several liquidity facilities directed to non banks shows (for instance, those in support directed to money market funds and issuers of commercial paper).

In principle, the scope for direct lending by the central bank to the real economy should depend on the extent that the malfunctioning of the money and credit markets distorts bank lending and prevents aggregate households and businesses from obtaining credit. In that sense, some central banks have decided to bypass the banking system and start lending to households and firms directly for the sake of preserving the orderly functioning of the economy.

In practice, even abstracting from possible legal constraints (i.e. monetary financing to state), there are several issues that central banks must ponder before deciding on the appropriateness for their *own* economies of providing directly financing to the real sectors. I stress the term “own” because this is one of those cases in which there is no unique answer. Whether or not a central bank engages in direct lending will very much depend on a number of considerations referring to structural features of the economy, the gravity of the crisis, the state of the financial system and a number of institutional factors, notably those governing the relationship between the central bank and the government.

For instance, one apparently straightforward observation is that the need to provide direct credit to the economy at times of dysfunctions in banking activity, is likely to depend on the relative importance of the banking sector for financial intermediation. Following this argument, one may argue that in a bank-based economy there may be relatively less need to provide credit to agents other than banks than in a market-based economy. Indeed, by focusing on providing support to the banking sector, the central bank may increase its chances to sustain the economy as a whole. However, under extreme circumstances (notably, when the banking sector reneges on its institutional role as the main engine of financial intermediation), a central bank may reach the opposite conclusion: exactly because of the banking sector's predominance in financial intermediation, its dysfunctional state might prompt a central bank to intervene before the entire economy comes to a halt.

If so, the central bank will need to decide which sectors to target. Once again, this is not an easy choice. It may imply the need for the central bank to take decisions on the optimal allocation of resources in the economy that, historical experience shows, are better left to the private sector.

Other concerns may relate to the risk of political pressure and government interference, especially in case the scale of the financing programme requires support from the Treasury. If financing is ensured through the expansion of the central bank's liabilities, this may give rise to more general concerns about the fiscal costs of actions taken by the monetary authority.¹¹ Finally, but related to the previous arguments, direct lending to the real economy may imply an increase in the financial risks taken by the central bank, potential exposing the latter to risk to its financial independence and, ultimately, to its institutional independence.

The purpose of these remarks is certainly not to suggest that central banks should abstain from direct lending to the real sectors, but rather to point out that the number of aspects to consider before doing so are so many and of such complexity that no central bank would ever take such decision with a light heart. This is why, before embarking in such policy, some central banks may prefer pursuing to the maximum extent the opportunities provided by its operational framework to provide indirect support (i.e. using the banking sector as an intermediary) to the real economy.

One practical way of providing indirect support to the private sector pursued by the Eurosystem is through its liquidity operations and collateral framework. Indeed, by providing banks with unlimited access at fixed rates to its refinancing operations and by accepting a wide range of private paper as collateral, the Eurosystem effectively supports the provision of credit to the real economy.

More domestic policy coordination?

As we have seen, policy responses both at the global and European level have been characterised by an increasing degree of coordination. A natural question therefore seems to be whether, looking forward, more policy coordination at the level of the EU/euro area should be warranted. Given the existence of the single currency in the euro area, I will first focus on the coordination among national fiscal policies.

On the fiscal side, a key challenge for the future is to prevent the financial crisis from eventually undermining the sustainability and credibility of public finances. What can we do to prevent this from happening? At this point, let me reiterate that the Stability and Growth Pact already provides a coordination device for fiscal policies and especially provides peer pressure mechanisms for sound and sustainable public finances. It provides the appropriate framework for the conduct and coordination of fiscal policies in good times and also in bad times.

¹¹ See Cukierman (2006).

The challenge at times of crisis is thus to use this existing mechanism to the best effect. To put it rather bluntly, we should not tinker with the keel just because the wind is strong; the pact is already flexible enough to allow room for the policy to adjust without undermining the foundations for a sustainable path. Indeed, EU countries are already facing considerable long-term challenges from the costs associated with population ageing that should be borne in mind when considering short term demand policies. If the starting position is less strong, an inappropriate short-term response may make us literally “age faster” by exposing even more strongly the need for adjustments to cope with the long-term challenges. Countries with large deficit and/or debt levels may be particularly vulnerable in this regard.

Unfortunately, many euro area countries entered the financial crisis and the economic downturn with unnecessarily weak fiscal balances, having missed the opportunity presented by past years’ revenue windfalls to consolidate their budgets. While this is never a popular message even in normal times, it still deserves mention so that the mistakes can be avoided once the crisis has passed. Indeed one of the fiscal policy errors prior to and including 2000-01 was to mistakenly interpret budgetary improvements in good times as evidence of structural improvements, which were often used to motivate spending increases or tax cuts.

On a positive note we can note that while compliance with the Stability and Growth Pact during its first ten years has been somewhat uneven, the EU’s overall fiscal performance in terms of avoiding high budget deficits and the build-up of government debt was much better than in the decades preceding the Pact.¹² Indeed, some of the EU countries that comply with the Stability and Growth Pact can now take advantage of their relatively large automatic stabilisers to do much of the work. These accomplishments should be a guiding beacon ahead. Sound fiscal policies with a strong keel provide the basis for stability and the necessary conditions for good long-term growth in the challenging seas ahead.

One additional dimension of policy coordination in the euro area is that between the single monetary policy and the national fiscal policies of the member states. In this respect, the institutional set-up of the European Monetary Union consists of a clear and efficient assignment of objectives and instruments to the different authorities, together with a strict division of responsibilities. The ECB must focus on its primary mandate of delivering medium term price stability under conditions of full independence. Fiscal policy must focus on its traditional objectives related to allocation, redistribution and stabilisation (to varying extents), while contributing to maintaining an environment of macroeconomic stability.

Of course, in setting monetary policy the ECB takes into account the fiscal policy stance, as one of the factors which contribute to the outlook for price stability over the medium term. It goes without saying that an open exchange of views and information among the different authorities is welcome if it enhances a common understanding of desirable objectives and strategies to pursue them.

However, there cannot be any scope for an active co-ordination of fiscal and monetary policies. Indeed, a commitment to *ex ante* co-ordination between fiscal and monetary policies may blur the responsibilities of the various authorities at the expense of accountability and may ultimately reduce their incentives to pursue their objectives. Thus, the current macroeconomic policy framework in the euro area based on a separation of responsibilities is the most appropriate to ensure sustained and non-inflationary economic growth.

More international monetary policy coordination?

While cooperation in the field of liquidity management on an unprecedented scale has been certainly one of the hallmarks of public responses to the current turmoil, another example without precedents of central bank coordination was the decision by the ECB and other five

¹² See the article “Ten years of the Stability and Growth Pact”, ECB Monthly Bulletin, October 2008.

major central banks to ease global monetary conditions on 8 October 2008. Commentators and observers have wondered whether this concerted policy decision may be the beginning of a new era of increased international monetary policy coordination in response to economic and financial globalisation.

It is important to stress that this coordinated interest rate cut was taken in a specific context and with a specific objective. There was extraordinary uncertainty at the time about the economic outlook and strong evidence that upside risks to price stability had diminished at the global level. The coordinated cut addressed the need to respond to a common shock that was being transmitted around the globe almost simultaneously. Through the joint communication, the international central banking community provided a signal of its strong commitment to responding to the macroeconomic implications of the financial market turmoil.

There is no doubt that over the past three decades the trade, economic and financial linkages among the different regions of the world have grown tighter, and of course policy-makers take this into account in the design of their policies. However, when talking about international policy coordination, it is important to define clearly what we mean. Policy coordination does not mean, of course that all central banks need to adopt the same policy stance for the entire world and certainly it cannot not be a surrogate for domestic macroeconomic prudence nor weaken the commitment of each central bank to its institutional objective.

Indeed, differences in cyclical positions, structures of the economies (e.g. in terms of market rigidities and frictions, sectoral leverage, financial systems, etc.), monetary policy institutional frameworks as well as shocks hitting the economy almost necessarily lead to differences in deciding the appropriate monetary policy stance. Thus, systematic monetary policy coordination may eventually come at the cost of weaken a central bank's commitment to its institutional objective.

International policy coordination is better understood as the continuous cooperation and exchange of information at both staff and decision-making levels, shared experience and mutual understanding and trust, which very much lies on the consensus among central banks that monetary policies geared towards domestic price stability, sound public finances and flexible economic structures create the conditions for long-term economic growth and financial stability.

More weight given to asset prices in monetary policy?

Another interesting debate that has gained – for obvious reasons – renewed interest and strength over the past year is the role that asset prices should take in the monetary policy design. Indeed, as we are experiencing at present, large volatility in asset prices can jeopardise the stability of the financial system and potentially undermine macroeconomic stability. The repetition of boom-bust cycles and the potentially very high costs for macroeconomic stability associated with the typically abrupt reversal of excessive valuation of assets beg the question: should monetary policy give more weight to asset prices?

What have we learned on asset price bubbles and monetary policy? We know that bubbles are extremely difficult to identify in real time. Given that the assessment of whether or not asset prices are being driven by fundamentals is surrounded with uncertainty, perhaps even sometimes uncertainty in the “Knightian” sense, central banks should refrain from targeting asset prices. Moreover, while monetary policy actions can influence asset price developments, the magnitude of the swings in policy rates that would be needed to curb boom and bust cycles in asset prices could have adverse implications for macroeconomic stability in the short term.

Based on these conclusions, which are broadly shared in the central banking and academic community, one option is to do nothing until the bubble bursts and then ease monetary policy aggressively to provide support to the banking system and the economy (the so-called “mop

up after” approach). The downside of this strategy is of course that it risks creating moral hazard. A possible alternative approach that has been suggested consists of “*leaning against the wind*”. According to this approach, the central bank should conduct a slightly tighter monetary policy than warranted by its price-stability objective, when the build-up of a potentially detrimental asset price boom is identified. By doing so, the central bank would buy insurance against the risk of a harmful asset boom-bust cycle, with its potential costs in terms of macroeconomic and financial stability.

The main argument against this approach is that the premium stemming from such a policy framework may be excessively high. In fact, a policy response to asset price increases may end up destabilising the economy if the asset price revaluation is driven by fundamentals. This risk is related to the difficulty that I have just mentioned concerning the identification of asset price misalignments in real time. This risk, however, should not act as a perfect alibi justifying policy inaction. As the recent literature on early indicators started by researchers at BIS shows, different indicators can help the policy maker figure out the nature and the consequences of the reverse phase¹³ of extraordinary asset price developments, and thereby define the need for policy action.

Overall, the very high costs of the current financial crisis seem to provide support to the case for a flexible “leaning against the wind” strategy. How can one implement such a policy in practice? I would like to stress that the ECB’s two-pillar monetary policy strategy is well suited to cope with the challenges brought about by asset price developments.¹⁴ There is a close link between monetary and credit developments and evolving imbalances in asset and credit markets. By exploiting this link, our monetary analysis (consisting of a comprehensive assessment of the liquidity situation) may provide early information on developing asset price imbalances and therefore allow for a timely response to the implied risks to price and financial stability. Thus, the ECB’s two-pillar strategy may represent a practical way of mimicking the “leaning against the wind” approach.

More central bank involvement in supervision?

The recent financial market crisis has also highlighted the important role that not only the ECB but all central banks play in safeguarding financial stability and the need to increase interaction between central banks and banking supervisors. This need for increased interaction, also identified by the Financial Stability Forum in one of its recommendations, would further support and enhance the central banks’ role in financial stability assessments, crisis management and resolution, and liquidity provision.

First, with regard to *financial stability assessment*: central banks can benefit from extended access to supervisory information especially in relation to systemically relevant institutions, in order to identify risks and vulnerabilities for the financial system as a whole in a more efficient way. In this context, the Financial Stability Forum and the International Monetary Fund are already intensifying their cooperation with a view to enhancing the assessment of financial stability risks on a global scale, while in the EU the same is valid for the Banking Supervision Committee and the Committee of European Banking Supervisors. These efforts should also be mirrored at the national and regional levels, through the intensification of the cooperation and exchange of information between central banks and supervisory authorities for an overall better monitoring and assessment of risks to the financial system. The other side of this coin relates to the issue of incorporating the outcome of the financial stability risk analysis into policy action in the field of supervision, which also needs to be reinforced.

¹³ Alessi L. and C. Detken (2009).

¹⁴ See also the April 2005 Monthly Bulletin article, Asset Price Bubbles and Monetary Policy and Trichet (2005).

Second, in the area of *crisis management and resolution*: the global nature of financial markets and the increased interlinkages between markets and institutions requires competent financial authorities, central banks, supervisors and ministries of finance to strengthen their coordination mechanisms for the management of crisis involving cross-border financial institutions. In the EU, an important milestone has been reached with the Memorandum of Understanding signed by the competent authorities of all Member States in June 2008. This MoU establishes common principles, procedures and terminology to be used by all parties involved in a cross-border crisis.

Third, in relation to *liquidity provision*: in order to maintain stable money markets, central banks would benefit from enhanced access to supervisory information, including liquidity stress-testing and contingency funding plans of banks. At the same time, supervisors would benefit from information available at central banks, such as banks' bidding behaviour.

Overall, while the need for enhanced interaction between central banks and supervisory authorities is widely acknowledged, recent events have called into question whether improved interaction in cooperation suffices. In this context, the debate has recently turned towards the future supervisory architecture. The financial crisis has underscored the urgency of reviewing the EU supervisory framework, which is still based on national responsibilities against the background of increased financial market integration and the growing role of large cross-border financial institutions. In the EU, a High Level Group was set up under the chairmanship of Mr Jacques de Larosière with the mandate to examine the allocation of tasks between the national and the European level and submit proposals to strengthen European supervisory arrangements. The expectations regarding the recommendations of the Group, to be issued in February 2009, are high, and could encompass, among the possible options, a stronger role of central banks and the ECB in particular in EU supervision, thus recognising the crucial role central banks have currently played in fostering financial stability.

Concluding remarks

The financial turmoil which began in the summer of 2007 has developed over time into one of the most disruptive crises that the world has experienced in many decades. This is why from the start of the turmoil public authorities – both in the euro area and in other parts of the world – have reacted with determination to prevent the turbulences from undermining financial stability and destabilising our economic systems.

Despite the large range of actions undertaken by public authorities, key financial markets remain under stress and the banking sector must yet recover its strength and initiative, while each day brings us new reports of job losses and output cuts that provide only a partial and limited account of the strains and costs that the current crisis imposes on our societies.

From the beginning of the crisis, we have put a premium on understanding how disturbances stemming from a relatively small segment of a market presumably linked to local and regional conditions (such as the US subprime mortgage market) could spread through continents and markets at such a rapid pace, undermining the strength of our economies and financial systems and, ultimately, giving rise to concerns about systemic stability.

At the root of the crisis, we find a combination of macroeconomic imbalances and microeconomic factors, including market failures and deficiencies in the design of our regulatory and supervisory frameworks. Public authorities have reacted to the current crisis through a range of interventions in key fields, including liquidity management, monetary policy and fiscal policy. In addition, many initiatives have been undertaken to address weaknesses in the regulatory and supervisory framework in order to provide sounder foundations to our financial systems and, ultimately, to our economies and societies.

Despite our best efforts, we cannot yet see the light at the end of the tunnel. However, it is fairly easy to predict that when we get out of the tunnel, the world will look different in many

respects. I venture to say that, if we are able to draw the right lessons from the crisis, the world will not look only different, but also better. For this reason, it is crucial to increase our efforts to implement those urgent reforms, especially in the regulatory and supervisory frameworks, and to reassure the public that it can be confident of our determination to do whatever is necessary to preserve price stability and financial stability.

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