Crisis in a Global Economy. Re-planning the Journey
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THE ROLE OF MACRO-PRUDENTIAL OVERSIGHT AND MONETARY POLICY IN PREVENTING FINANCIAL INSTABILITY

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I. Introduction

Over the past three years, we have experienced a financial and economic crisis of exceptional scope, severity and complexity. Since the summer of 2009, financial market conditions have broadly improved and the European and other economies have been gradually recovering. Nevertheless, the crisis is not over yet. Financial market tensions persist and significant policy challenges remain, as developments in the sovereign debt markets in recent weeks have amply demonstrated. The ongoing adjustment in the banking system and the sizeable fiscal imbalances – largely but not entirely due to the crisis – still cast a shadow over the outlook for global economic developments and financial stability.

The experience with the crisis has triggered a comprehensive and far-reaching set of policy responses aimed at preventing the occurrence of similar episodes in the future, as well as better managing crisis situations and mitigating their effects. At the core of these actions and initiatives is the regulatory and supervisory reform agenda that is being pursued by the Financial Stability Board under the political guidance of the G20 leaders. This agenda aims primarily – though not exclusively – to reinforce the resilience of the financial system by various means, mainly by strengthening the regulatory and supervisory framework of financial institutions and markets.

At the same time, the crisis has clearly demonstrated the need to adopt a macro-prudential approach to the regulation and supervision of the financial system as a whole. As a result, in Europe and elsewhere new institutional frameworks for the macro-prudential oversight of the financial system are being established, and it is expected that central banks will play a key role in performing the relevant tasks.

In my remarks, I will address a number of relevant and interrelated questions:

- What is the role of macro-prudential oversight in safeguarding the stability of the financial system as a whole? In particular, what are the specific tasks to be performed and the instruments to be employed in achieving its objectives?
- What is the envisaged role of central banks, and in particular of the ECB, in the conduct of macro-prudential oversight in the European Union?
- What contribution can monetary policy make to preventing financial instability? And how does it relate to the conduct of macro-prudential oversight?

These are the themes on which I will elaborate today. In particular, I set out to convince you that, first, macro-prudential oversight has a crucial role to play in preventing financial crises; and, second, that monetary policy and macro-prudential oversight are complementary: the success of monetary policy in achieving its primary objective of price stability facilitates the pursuit of the objectives of macro-prudential oversight and *vice versa*.

II. The multiple causes of the crisis and the case for macro-prudential oversight

Before addressing these questions, it would be useful to consider briefly two issues that can help to clarify what policy-makers – and central bankers in particular – are striving to achieve with their policies aimed at protecting financial stability. The first issue concerns the concept of financial stability. The second relates to the causes of, and the other contributing factors to, the crisis and the determinants of its severity and evolving nature.

The complexity of the concept of financial stability and the challenges in specifying, in quantitative terms, the associated policy objective render an explicit definition elusive. At the ECB, we have defined financial stability as 'a condition in which the financial system – comprising financial intermediaries, markets and market infrastructures – is capable of withstanding shocks and the unravelling of financial imbalances, thereby mitigating the likelihood of disruptions in the financial intermediation process which are severe enough to significantly impair the allocation of savings to profitable investment opportunities'.[1] It is clear from this definition that the objective of promoting and safeguarding financial stability cannot be defined in terms of a single indicator in a reasonably straightforward manner, as can be done with the price stability objective. Indeed, it has been argued that it may be preferable or more useful to define financial stability as the absence of instability.[2]

If we assess the events of the past few years, what conclusions can we draw about the main causes of, and contributing factors to, the recent episode of extraordinary and prolonged financial instability? These causes and factors are many, complex and inter-related. At the microeconomic level, a toxic combination of a new banking model – characterised by the enormous growth of securitisation at its heart – with weak governance and inadequate risk management led to the emergence of serious incentive problems and excessive risk-taking in the financial sector. Regulators and supervisors did not sufficiently appreciate the extent of these problems. At the macroeconomic level, the emergence and persistence of financial imbalances, both globally and domestically, created new systemic vulnerabilities, which in some cases also reflected the stance of macroeconomic policies. In particular, excessive credit creation and rising leverage, in a benign macroeconomic environment of low inflation, were supported over a considerable period of time by historically very low interest rates that fostered a search for yield and encouraged risk-taking.

The severity and complexity of this crisis is the consequence, among other things, of the combined and interacting effects of those macroeconomic and microfinancial factors. For example, the excessive credit growth and marked rise in leverage was facilitated by the increasingly widespread adoption by banks of the 'originate-and-distribute' business model based on the securitisation of their assets. At the same time, the excessive credit expansion and the remarkable growth in securitisation reflected an increase in risk appetite and a mispricing of risks by banks and investors, which was supported by the very low interest rates as well as by the complexity and opaqueness of structured credit products. These interactions

[1] See *ECB Financial Stability Review*, June 2009, p. 9. This definition implies that the safeguarding of financial stability requires the identification of the financial system's main sources of risk and vulnerability, such as inefficiencies in the allocation of financial resources and the mispricing or mismanagement of financial risks. Other definitions of financial stability that have been proposed also reflect the inherent complexity of the concept.

[2] See Crockett (1997).

between the macroeconomic environment and microfinancial factors and processes contributed to the build-up of financial imbalances, and the emergence of other system-wide risks whose crystallisation affected the stability of the financial system.

A number of pertinent conclusions can be drawn from the recent experience. First, the financial crisis revealed that many financial institutions, including large cross-border banking groups, did not accurately identify and assess the nature, magnitude and consequences of systemic risks that were emerging in the economy and the financial sector, and they were not adequately prepared to absorb such risks when they materialised. Second, the sources and effects of systemic risks were not sufficiently appreciated by supervisory authorities, as their focus was on the soundness of individual financial institutions. Third, as a result of the crisis, a broad consensus has emerged in support of a macro-prudential approach to financial regulation and supervision with the aim to prevent and mitigate systemic risks.

III. Systemic risk and macro-prudential oversight

Let me elaborate on the two concepts of 'systemic risk' and 'macro-prudential oversight'. Systemic risks are those risks that can threaten the functioning of the entire financial system and disrupt the financial intermediation process to such a degree that there are negative spill-over effects on the real economy. It is important to recognise that systemic risk is partly endogenous, as it depends on the collective behaviour of financial institutions and the extent to which they are interconnected, as well as on the interaction between financial markets and the broader macroeconomic environment.

The concept of systemic risk is closely linked to the notion of 'externality' in the jargon of economists. This means that while each financial intermediary manages its own risk appropriately, it may not take into account the impact of its actions on the aggregate risk in the financial system. For this reason, the aggregate amount of risk in the financial system can prove excessive and, owing to interdependencies, larger than the sum of the perceived risks by individual financial institutions. As a consequence, once the system has reached a certain degree of fragility, even apparently limited or localised shocks – such as the one that crystallised in the relatively small U.S. sub-prime mortgage market in mid 2007 – may trigger a disruptive chain of events.

Macro-prudential oversight focuses on the prevention and mitigation of system-wide risks and vulnerabilities. It aims at detecting and assessing systemic risk by examining how aggregate risk is distributed across financial institutions and markets, and how it evolves over time. This requires identification and monitoring of common risk exposures of financial institutions, which can result from their direct or indirect exposures to similar types of risk, as a consequence of the aggregate effects of individual investment decisions or because of the inter-connections between institutions. Common exposures can be a source of contagion and a cause of simultaneous failure of institutions. Macro-prudential policies aim to prevent, or at least contain, the build-up of financial imbalances and ensure that the financial system is able to withstand their unwinding and be resilient to shocks.

Central banks are well suited to be the authorities mainly responsible for macro-prudential supervision because of their expertise and analytical capabilities in the fields of monetary analysis and financial stability analysis. Moreover, they closely monitor and assess money and financial market developments and they have a good understanding of the interlinkages between the financial system and the macroeconomy. These tasks, which are performed for the conduct of monetary policy, strengthen the rationale for assigning to the central banks the responsibility for macro-prudential analysis and the formulation of recommendations concerning macro-prudential policies.

In the European Union, we have made good progress towards the establishment of an appropriate institutional setup for macro-prudential oversight.[3] In October 2009 the Ecofin Council reached a broad agreement – based on a proposal by the European Commission – on two legislative proposals concerning (1) the establishment of the European Systemic Risk Board (ESRB), a new independent body that will be responsible for the macro-prudential oversight of the EU's financial system, and (2) the specific macro-prudential tasks to be assigned to the ECB, which will ensure the Secretariat and provide analytical, statistical and administrative support to the ESRB, also drawing on technical advice from the NCBs and supervisory authorities. The proposed legislation, which was extensively discussed in the European Parliament, envisages that the ECB, in collaboration with the national central banks will play a leading role in the functioning of the Board.[4] This is evident from the Board's composition and from the tasks to be assigned to the ECB.

[3] See Papademos (2009b) for a more detailed account of the European framework for macro-prudential supervision.

[4] Following the discussions in the European Parliament in the first half of 2010 and the opinion adopted, and after a trialogue between the Council, the Commission and the

IV. Macro-prudential oversight: tasks, analytical tools and policy instruments

What are the tasks, analytical tools and policy instruments of macro-prudential oversight? The precise tasks to be performed by the ESRB partly depend on the overall institutional setup. The ESRB will carry out several tasks. The key tasks are three: (1) identify and prioritise systemic risks in the EU; (2) issue risk warnings when systemic risks are judged to be significant; and (3) issue recommendations for remedial action in order to contain the identified risks.

The establishment of the ESRB will strengthen the financial stability framework in the EU in many respects. Firstly, it will be the first EU body responsible for risk identification, monitoring and assessment for the entire financial system in the EU as a whole. This is a major improvement, since so far financial stability assessments have been conducted mostly at the national level by central banks and supervisors or have been focused on specific financial sectors.

Secondly, the power of the ESRB to issue risk warnings and policy recommendations to supervisory authorities and other relevant policy-makers should result in concrete actions to prevent or mitigate threats to the stability of the financial system. More generally, macro-prudential oversight will help micro-prudential supervisors to better take into account conjunctural and structural developments in the financial system and the real economy in the supervision of individual financial institutions.

The tools required for carrying out the tasks of macro-prudential supervision are of two kinds: analytical tools for risk identification and assessment, and macro-prudential policy instruments. The analytical tools that can be used to identify and assess systemic risks and to issue early risk warnings include: (i) financial stability indicators to point to fragilities related, inter alia, to broad-based increases in leverage or to financial institutions' rising common exposures to asset classes; (ii) early warning models to indicate when the financial system, or a particular market, approaches a 'danger zone'; (iii) macro stress-testing models to assess the resilience of the

Parliament, an agreement was reached in September 2010 on a proposal for a regulation of the European Parliament and the Council on 'EU macro-prudential oversight of the financial system and establishing a ESRB'. After a vote in the plenary session of the Parliament, the final legal text was adopted by the Council in November 2010.

banking system to extreme but plausible events; and (iv) contagion models to help identify the extent to which financial sectors are interconnected.

A substantial amount of work is being carried out at the ECB and elsewhere to improve these analytical tools. As the financial system is both complex and evolving, the tools for macro-prudential analysis must be constantly evaluated and possibly adapted accordingly. Of course, the use of such indicators and models should be complemented by other information, including market intelligence; moreover, risk assessments and warnings will have to rely on the judgement of experts and policy-makers.

What are the policy instruments of macro-prudential supervision? Macro-prudential policies can be expected to require, to a considerable extent, regulatory and supervisory action. They could take the form of general guidelines or concrete recommendations relating to the calibration of prudential tools. For example, macro-prudential recommendations could involve the adjustment of minimum capital requirements or the setting of additional capital buffers in the banking system as a whole, or entail guidance regarding leverage ratios and liquidity management. Macro-prudential policies would not concern individual financial institutions but the financial system as a whole, or certain financial sectors.[5] While in principle a range of macro-prudential tools is available, the choice of the appropriate prudential tools to address emerging systemic risks in an efficient and effective manner will require considerable technical work. In addition, it should be stressed that the formulation and implementation of the appropriate macro-prudential policies will always require the use of judgement and common sense.

In the European Union, the implementation of the macro-prudential policy recommendations of the ESRB will be, depending on their nature, the responsibility of governments, the European Supervisory Authorities or national supervisors.[6] Recommendations may also be addressed to the Commission with regard to the relevant European legislation. The ESRB will not issue recommendations to individual financial institutions, since this would conflict with the responsibilities of the micro-prudential super-

[5] With respect to the adjustment of capital adequacy ratios, recent proposals point to adjusting the capital adequacy ratio of individual institutions according to their contribution to systemic risk or to the degree of compliance with corporate governance standards. See Brunnermeier *et al.* (2009).

[6] Recommendations addressed to a national supervisor will also be communicated to the relevant European Supervisory Authority.

visory authorities. Moreover, the ESRB will not make recommendations concerning the potential contribution of monetary policy to preventing and mitigating systemic risks, since this is the responsibility of independent central banks. This observation brings me to the last part of my remarks, namely the role of monetary policy in safeguarding financial stability.

V. The contribution of monetary policy to financial stability

Several pertinent and important issues arise that require careful consideration. What role can monetary policy play in supporting financial stability? Could such support lead to a conflict with the achievement of the primary objective of price stability? And what is the relationship, if any, between macro-prudential oversight and the conduct of monetary policy? These are challenging questions that have been addressed extensively over the past few years in the light of the crisis. I will try to give concise answers based on the available evidence, theoretical arguments and the European institutional framework.

The ECB's objectives are clearly laid out in the Treaty. The primary objective of monetary policy is to maintain price stability. The empirical evidence accumulated over a very long period of time in many countries and the theoretical insights developed by eminent economists, make the case for assigning to an independent central bank the responsibility for using monetary policy to maintain price stability overwhelming.

The recent experience of financial crisis does not overturn this view. On the contrary, it has demonstrated that the effectiveness of monetary policy instruments relies heavily on the credible anchoring of inflation expectations at levels consistent with price stability. By firmly anchoring inflation expectations to price stability, the ECB's monetary policy has minimised the risk of deflation. Stable inflation expectations have enhanced the effectiveness of monetary policy in stabilising the economy, which is particularly relevant when nominal policy rates are very low and face a zero lower bound. Thus, while central banks may need to review and refine their policy or operational frameworks in the light of their experiences during the financial crisis, the central tenets of central bank independence and the primacy of the price stability objective for monetary policy should be reinforced, not revised.

At the same time, the Treaty on the Functioning of the European Union stipulates that the ECB 'shall contribute to (...) the stability of the financial system'.[7] The Eurosystem's Mission Statement states that 'we aim to safeguard financial stability'.[8] An increasing body of evidence suggests that money and credit growth lie at the heart of boom and bust cycles in asset markets, which, in turn, have broader implications for financial stability, as well as for aggregate output and price developments. Asset price surges, and the resulting asset price misalignments, are typically preceded by rapid monetary and credit expansion.[9] Analysis of these relationships is a very active area of research at the ECB.[10] In the design of the ECB's monetary policy strategy, it was always foreseen that the close monitoring of monetary developments would offer a very useful basis for assessing asset price misalignments.[11] Recent research provides a significantly enriched framework for conducting such monitoring in a systematic fashion, and promises that asset price disequilibria and associated financial distress may be identified at an early enough stage for the policy authorities to take corrective measures.

Viewing asset price dynamics through the lens of monetary developments integrates them into an overall framework directed towards the achievement of our goal: price stability. At the same time, taking into account and responding to monetary and credit dynamics as part of a comprehensive assessment of the risks to price stability implies that interest rate decisions will effectively 'lean against' accumulating financial imbalances and asset price misalignments. Even if any such orientation cannot be translated into a mechanical policy rule, such an approach will serve both financial and macroeconomic stability, in particular price stability, especially over longer time horizons.

[7] Article 127(5) of the Treaty on the Functioning of the European Union and Article 3.3 of the Statute of the European System of Central Banks and of the European Central Bank state that 'the ESCB shall contribute to the smooth conduct of policies pursued by the competent authorities relating to the prudential supervision of credit institutions and the stability of the financial system'.

[8] See www.ecb.europa.eu/ecb/orga/escb/html/mission_eurosys.en.html.

[9] See Cecchetti *et al.* (2000), Kohn (2007) and Papademos (2009a) for further arguments and analysis on the role of monetary policy in preventing a financial crisis and dealing with its consequences for the economy.

[10] See, among others, Gerdesmeier, Roffia and Reimers (2009), Adalid and Detken (2007), and Alessi and Detken (2009).

[11] For example, reference is made to such considerations in EMI (1997) in the context of a discussion of the main elements of the ECB's monetary policy strategy. See also ECB (1999) and Issing (2002).

In addition, recent research has shown that monetary policy decisions can influence bank risk-taking, thereby triggering faster credit expansion and a substantially greater easing of financial conditions than policy-makers had initially intended.[12] This is another channel through which monetary policy actions may impact on financial stability. Monetary policy aimed at price stability, taking account of its transmission via this risk-taking channel, would naturally tend to contain excessive bank risk-taking and/or credit expansion. Such monetary policy should also help prevent financial instability.

However, considerable work is needed to better understand these transmission channels because, if such channels are poorly understood, the danger of monetary policy mistakes rises significantly. Monetary policy therefore relies heavily on a good understanding of the behaviour of banks and the financial sector more broadly. Insights developed for this purpose are naturally of central relevance to the assessment of financial fragilities and vulnerabilities which is required in order to pursue policies to safeguard financial stability.

Thus, the preservation of price stability over the medium and longer run by monetary policy generally complements and supports the pursuit of financial stability. This statement also holds true during periods of financial stress. The non-standard monetary policy measures implemented by the ECB in recent years have contributed to financial stability by facilitating market functioning, the efficient transmission of monetary policy, and the provision of credit to the economy. Central bank intermediation has avoided that conditions of illiquidity in the interbank money market would lead to solvency problems, with adverse effects on financial stability, the real economy and, ultimately, price stability.

A monetary policy credibly pursuing the objective of price stability contributes significantly to the maintenance of financial stability. Nevertheless, past experience has also shown that there are limits to what can be achieved by relying solely on the interest rate instrument. Financial crises have usually been triggered by disruptions in specific markets, whether they are defined sectorally or geographically. Similarly, the vulnerability of sectors and regions to the impact and propagation of a financial crisis has

[12] See, among others, Borio and Zhu (2008), Altumbas, Gambacorta and Marques (2010), Jiménez, Ongena, Peydro and Saurina Salas (2010), and Maddaloni and Peydró (2009).

varied. Monetary policy has a broad macroeconomic impact. It is too 'blunt' an instrument to deal with the specificities and peculiarities of a financial crisis. Moreover, market excesses and the pro-cyclical behaviour of the financial system also arise from factors other than excessive credit growth and high leverage, which are related to the monetary policy stance. Consequently, other policy tools must also be employed – notably regulatory and supervisory policy instruments – in order to reduce pro-cyclicality and limit the emergence – of systemic risks in the financial system.

VI. The relationship between macro-prudential oversight and monetary policy

What is then the relationship between macro-prudential oversight and monetary policy? At the start of my presentation, I made a point about the complementarity of monetary policy to macro-prudential oversight. After discussing what macro-prudential oversight is, and after explaining that the pursuit of price stability by monetary policy complements and supports the pursuit of financial stability, I can make the point that success in preventing financial instability through macro-prudential oversight facilitates the pursuit of the price stability objective assigned to monetary policy. The latter can be achieved in various ways: by facilitating the transmission of monetary policy; by containing the propagation and amplification of macroeconomic shocks by the financial sector; and by reducing the frequency and severity of shocks originating in the financial sector itself, such as bank failures, or the abrupt unwinding of sizeable imbalances in financial markets. Thus, interactions between regulatory and supervisory policies, especially at the macro-prudential level, and monetary policy can be expected to be mutually reinforcing in preserving price stability and preventing financial instability.

At the same time, while developing effective interaction at the macro level, it will be important to maintain a clear allocation of responsibilities between monetary policy and macro-prudential supervision, while at the same time ensuring the necessary flow of information among the relevant policy-makers.

The single monetary policy has been unambiguously assigned by the Treaty the objective of preserving price stability and it is formulated and implemented in full independence. The ECB is accountable for the achievement of this objective. All this is understood by other policy-makers. By acting in a transparent way consistent with its mandate, the ECB creates an environment of price stability within which other authorities can take decisions under their responsibility in order to achieve their own objectives. Experience with monetary union demonstrates that clarity of responsibilities, independence of action and accountability for decisions, in an environment of open and frank exchange of information among policy authorities, produces the best overall outcomes. This experience forms a good basis for defining and developing the institutional framework for macro-prudential oversight in Europe, given the existing – and well-functioning – monetary policy regime.

VII. Concluding remarks

Looking ahead, I am convinced that the complementarity of the ECB's monetary policy strategy to the new EU framework for macro-prudential oversight will contribute to enhancing crisis prevention and to strengthening the resilience of the European financial system, in an environment of price stability. We should not forget – and the crisis will not allow us to forget at least for some time – that prevention is always better than cure.

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