Lorenzo Bini Smaghi: Going forward – regulation and supervision after the financial turmoil

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Introduction[1]

Today, the European Council is expected to endorse significant changes to the institutional set-up for financial supervision and regulation in the European Union. Undoubtedly these are important reforms, particularly – but not only – against the background of the financial crisis that started in August 2007. While the ECB has an interest in all these reforms, in particular on the macro-prudential side, namely the establishment of the European Systemic Risk Board (ESRB).

Macro-prudential supervision has its origin in the phenomenon of systemic risk. A particularly illuminating account of the nature of and the need for a macro-prudential supervisory policy was provided in 2000 by Andrew Crockett, then the General Manager of the Bank for International Settlements and Chairman of the Financial Stability Forum.[2] Crockett argued that we should "*consolidate a shift in perspective that is already taking place, complementing the micro-prudential perspective with increased awareness of, and attention to, the macro-prudential facet*". He defined the objective of macro-prudential supervision as limiting the likelihood of the failure, and corresponding costs, of significant portions of the financial system (responding to systemic risk). In contrast, the micro-prudential objective can be seen as limiting the likelihood of failure of individual institutions (responding to idiosyncratic risk).

From today's perspective the distinction seems as relevant as one decade ago. However, the experience of the present crisis and the history of past crises, as well as the transformations of modern financial systems, require us to go further. We should ask ourselves, for example, what is the scope of macro-prudential supervision. I would distinguish two dimensions. The first one is the analysis and monitoring of risk. The second one is the containment of the risks that have been identified, which requires specific instruments. This raises the question of the institutional set-up for conducting macro-prudential supervision.

1. Monitoring and analysing risk

The literature suggests three main considerations on the way in which systemic risks should be monitored and analysed.[3] A first one is that macro-prudential analysis needs to capture all components of financial systems and how they interact. This includes all intermediaries, markets and infrastructures underpinning them. In this respect, it is important to consider that at present some of these components, such as hedge funds, private equity firms or over-the-

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[1] I would like to thank Philip Hartman, Fabio Recine and Lorenzo Cappiello for their contributions and comments. The views expressed represent only those of the author.

[2] See "Marrying the micro- and macro-prudential dimensions of financial stability", remarks before the Eleventh International Conference of Banking Supervisors, held in Basel on 20-21 September 2000.

[3] See for example De Bandt and Hartmann (2000), "Systemic risk: A survey", ECB Working Paper No. 35, November; De Bandt, Hartmann and Peydro-Alcalde, "Systemic risk: An update", forthcoming in Berger et al. (eds.), *Oxford Handbook of Banking*, and as an ECB working paper; as well as the biennial ECB Financial Stability Reviews.

counter (OTC) financial markets, are not subject to micro-prudential supervision. But they need to be part of macro-prudential analysis and risk assessments, as they influence the overall behaviour of the financial system. To gain a truly "systemic" perspective on the financial system, no material element should be left out. This includes, notably, large and complex financial institutions.

The failure of Lehman Brothers in September 2008 and its consequences for the world financial system could not illustrate better how important the individual viability and the multiple connections to other intermediaries and markets of such large and complex institutions are for systemic stability and therefore for macro-prudential risk assessments and policies.[4] At the same time, it illustrates well how micro-prudential and macro-prudential risk assessments and policies interact and should not operate in isolation from each other.[5]

A second consideration is that macro-prudential risk assessment needs to cover the interactions between the financial system and the economy at large. Many systemic banking crises in history have been caused by macroeconomic downturns.[6] The recent crisis shows the magnitude of adverse feedback effects between financial stability and real economic developments.[7] Macro-prudential supervision needs to fully incorporate the two-sided interactions between financial and real sectors and the mutually reinforcing spirals between financial instability and real performance. This includes, but should in no way be limited to, the assessment of the pro-cyclical behaviour of financial systems and the potential reinforcing elements embedded in the regulatory systems.[8] The framework for analysing the interactions between the real and financial dimensions requires a substantial modification of the traditional tools for assessing financial stability. A lot of work is required in this respect.[9]

A third element to be taken into account is that financial markets are not static and are continuously evolving as a result of innovation and international integration. It is probably not a coincidence that the first published official document that I could find that used the term "macro-prudential policy" was actually a report dedicated to innovation in international banking.[10] Several financial crises in history have been a result of financial liberalisations or innovations that were neither sufficiently understood nor managed. For example, one of the origins of the present crisis is to be found in the use of certain securitisation techniques, which were implemented in opaque ways.[11] Again, determining the extent to which a fully

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4 For a much more wide-ranging interpretation of the financial system as a complex network with influential nodes and analogies to other sciences, like biology, computer science and medicine, see Haldane (2009), "Rethinking the financial network", speech delivered at the Financial Student Association, Amsterdam, April.

5 See for example the European Commission communication on "European financial supervision" (27 May 2009).

6 See for example Gorton (1988), "Banking panics and business cycles", Oxford Economic Papers, 40, pp. 751-781, and Demirgüç-Kunt and Detragiache (1998), "The determinants of banking crises in developing and developed countries", IMF Staff Papers, 45, pp. 81-109.

7 See for example the ECB's June 2009 Financial Stability Review for a discussion of the adverse feedback effects from the ongoing global downturn to financial stability risks.

8 See for example Borio, Furfine and Lowe (2001), "Procyclicality of the financial system and financial stability: Issues and policy options", BIS Papers, 1, pp. 1-57, Kashyap and Stein (2004), "Cyclical implications of Basel II capital standards", Federal Reserve Bank of Chicago, Economic Perspectives, 1st quarter, pp. 18-31, or Rajan (2006), "Has finance made the world riskier?", European Financial Management, 12, pp. 499-533.

9 One example is the recently established new project and working group on transmission channels between the real and financial sector by the Research Task Force of the Basel Committee on Banking Supervision.

10 See the so-called Cross Report on "Recent innovations in international banking" prepared by a study group of the central banks of the Group of Ten countries (April 1986). It featured also a full chapter on "Global integration of financial markets".

11 See for example Ashcraft and Schuermann (2008), "Understanding the securitisation of subprime mortgage credit", Foundations and Trends in Finance, 2(3), pp. 191-309, in particular the chart on "The seven "deadly" frictions of securitisation".

developed macro-prudential function would have to take into account innovations shaping instruments, institutions and processes in the financial system would go beyond regular financial stability analysis.

On the basis of the above considerations, a key output of macro-prudential analysis would ideally be a periodical graduated ex ante risk assessment measuring the amount of risk in the overall financial system and its implications for the economy at large. This assessment would also estimate the overall degree of instability that could result if certain unexpected adverse events were to materialise, including scenarios of extreme shocks, ultimately also assessing the resilience of the financial system and of the economy in general. Whereas macro-prudential (and micro-prudential) supervision is mainly concerned with extreme events such as financial crises ("tail risks"), the forward-looking approach required to prevent those extremes implies that careful assessments also be made in more tranquil times, establishing how far the system is from a crisis and which risks – if they were to materialise – could bring it closer to a crisis.

What is needed to conduct such analysis and monitoring? The starting condition for implementing a comprehensive macro-prudential function is an adequate information basis. The first part of the information basis is a good system of continuous market intelligence, which gives a hands-on picture of current market developments and expectations through direct contacts. The second part consists of the regular collection of macro-prudential data and statistics, such as those relating to the macroeconomic environment, financial markets and related infrastructures, payment and settlement systems, regulated and unregulated intermediaries, non-financial corporations and households, as well as to the relationships between the main economic and financial sectors. The third part consists of the regular collection of firm-level information and data, in particular for large and complex financial institutions. This relates to specific items of information regarding on- and off-balance-sheet items, with appropriate breakdowns of exposures related to the asset and liability sides (geographical, sectoral, currency, etc.), including the identification of counterparties. For the identification of interlinkages between major intermediaries and the assessment of contagion risks, an international "risk map" – as proposed for example in the de Larosière Report – would be particularly helpful.[12] Lastly, for the large and complex groups, micro-prudential information about liquidity and risk management models would be required.

The second instrument is a suite of analytical tools and models and a staff familiar with them. Although formal models have their limitations, they do help structure the qualitative and quantitative information that is collected for the regular risk assessments. Existing research offers eight broad groups of approaches and models: financial stability indicators, contagion and spillover models, early warning signal models, stress testing models, macro-financial risk-based flow-of-funds accounts models, macro-econometric forecasting models, calibrated general equilibrium financial stability models and other models (including models of firm and household vulnerabilities). These models have their pros and cons, but some are more promising or easier to implement than others. Each serves different purposes, but there are also overlaps. Since financial stability analysis in general and macro-prudential analysis in particular is much less understood than other policy areas, it is advisable to use a multiplicity of approaches. How many of the overall list can be used and how much will depend on the resources available to develop and maintain them. But the investment in the analytical toolkit is likely to be significant. I expect most authorities having to develop a macro-prudential supervisory function to extend or reallocate resources in order to meet these requirements.

[12] "High-level Group on Financial Supervision in Europe", report, Brussels, 25 February 2009.

2. Containing risks

If risks to systemic stability have been identified, the next step is to contain them. I would consider three ways to achieve this. A first option is to communicate the risks and the sources of these risks to financial market participants, with a view to alerting them and inducing them to adjust their behaviour. A second option is to strengthen supervisory oversight over financial institutions and markets, with a view to avoiding excessive risk-taking. The third option is to achieve the same objective through the use of regulatory powers. The three steps can be summarised as follows: (i) alerting, (ii) supervising more closely and (iii) regulating. The choice of which instrument to use may vary, depending on the severity of the risk and on the circumstances.

A major challenge for macro-prudential supervision relates to the decision-making system capable of accommodating these three options. Let me provide some illustrations. First of all, addressing certain macro risks may require the adoption of regulatory measures across the board, applying in particular to financial institutions and markets. This may blur the responsibility between macro- and micro-prudential supervision. Alternatively, one can follow the suggestion by Crockett I mentioned above and distinguish the regulatory and supervisory actions between those conducted at the level of individual institutions and those affecting the whole markets. The supervisory and regulatory measures aiming at containing aggregate risk and externalities would be part of the macro-prudential toolkit, whereas measures aiming at the stability of individual institutions would be part of micro-prudential policy.

Following this objective-oriented approach, the measures aimed at reducing pro-cyclicality of financial systems would be part of macro-prudential policy. Some concrete ideas are being discussed on how to reduce pro-cyclicality, such as adjusting capital requirements to the business cycle (making them less stringent in bad times and more stringent in good times), adding maximum leverage ratios or introducing dynamic provisioning rules (where reserves have to be accumulated in good times and are drawn down in bad times).[13] Measures aimed at dampening pro-cyclicality may also affect compensation structures, transparency and accounting rules, internal governance (e.g. related to the risk management function), the design of certain financial instruments, and maturity mismatches.[14]

The macro-prudential toolkit would also include measures to reduce contagion and to limit other transmission channels of financial instability. Much progress has been made in the last two decades in the area of payment and settlement systems, but more needs to be done, as suggested by the recent debate on central clearing counterparties for OTC derivatives. New challenges have emerged as a result of the significant increase in wholesale funding of financial intermediaries, the emergence of new institutions (some of them highly leveraged and to which banks are very much exposed) and the increasing transfer of risks previously concentrated in the banking sector to other agents, such as insurance companies.

A comprehensive framework for policy analysis is still lacking. A number of proposals for specific macro-prudential measures have been put forward, following the objective-oriented approach.[15] But we need a broad framework for policy analysis and implementation. We have been working on this at the ECB for some time.

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[13] On dynamic provisioning, see Fernandez de Lis, Martinez Pages and Saurina (2000), "Credit growth, problem loans and credit risk provisioning in Spain", Banco de España Working Paper No. 0018, Madrid, and Jimenez and Saurina (2006), "Credit cycles, credit risk and prudential regulation", International Journal of Central Banking, 3(2), pp. 65-98.

[14] Most or all of them have already been identified in the Draghi Report prepared by the Financial Stability Forum (2008), "Enhancing market and institutional resilience", Basel, 7 April, as the first regulatory and supervisory response to the experiences of the present financial crisis.

[15] See in particular Brunnermeier et al. (2009), "The fundamental principles of financial regulation", preliminary conference draft of the 11th Geneva Report on the World Economy, January, who propose to adjust bank

To be sure, many of the risks that have materialised during the recent crisis had been signalled earlier on, in the public communications by relevant policy authorities, such as the ECB (in its Financial Stability Review and in speeches by Executive Board members), the Bank for International Settlements (in its Quarterly Review of Financial Market Developments and Annual Report), the Bank of England or the International Monetary Fund (in its Global Financial Stability Report).[16] With hindsight we can perhaps acknowledge that these communications were not effective in changing the behaviour of financial market participants, nor of the supervisory authorities. Furthermore, there has been an insufficient understanding of the force with which the different risk factors have materialised and combined. For example, had there been a much more developed monitoring system, covering also the non-regulated financial sectors and the so-called shadow banking system, as well as a more granular and frequent picture of the main exposures of and among the large and complex financial institutions, a better insight could have been gained into the scope for the crisis to erupt and to spread across financial systems. Had there been a more integrated assessment of the impact of financial innovation, the risks developing in credit risk transfer markets would have been better understood and monitored. However, the flow of information from the micro-prudential supervisors was insufficient to undertake such an assessment.

3. The institutional framework

Having set out the main objectives and tools, I would now like to address the issue of the institutional framework which should support the implementation of macro-prudential supervision. Such a framework inevitably involves two main actors: the central banks and the authority in charge of regulating and supervising financial institutions and markets. The latter has the information on individual participants and market developments, and is responsible for the stability of individual institutions, while the former has the analytical capabilities for assessing macroeconomic risk and global financial market developments. A properly functioning system requires a full flow of information: from the supervisory authority to the central bank, with a view to providing all the relevant information to monitor and analyse risk and, vice versa, from the central bank to the micro-prudential supervisor in order to provide the result of the risk analysis and ensure that appropriate measures are implemented. Also important are a clear allocation of responsibilities and proper accountability to ensure that the right incentives are in place for the achievement of results in a cooperative manner rather than inter-institutional fighting, which is a recipe for disaster.

To consider the options available let me refer for simplicity the Turner Review as a basis for the analysis.[17] In extreme synthesis, the Turner Review attributes to the central bank the main responsibility for conducting the risk analysis, but when it comes to the policy implications, three models are considered:

- In Model 1, the central bank identifies systemic risks and makes recommendations to the authority in charge of micro-prudential supervision, which sets out the main actions to be taken to address these risks.

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capital ratios for leverage, maturity mismatches and contagion risk, or Kashyap, Rajan and Stein, "Rethinking capital regulation", for the 2008 Federal Reserve Bank of Kansas Jackson Hole Symposium, who propose a capital insurance mechanism.

[16] Nier (2009), "Financial stability frameworks and the role of central banks: Lessons from the crisis", IMF Working Paper WP/09/70, April, goes even further by stating that: "With hindsight, there has been a collective failure to address a key objective—mitigation of systemic risk" and "an expanded role of central banks that goes beyond the tools already typically at their disposal may enhance the overall effectiveness of financial regulation, allowing synergies to be exploited between existing and new regulatory tools to mitigate systemic risk".

[17] "The Turner Review: A regulatory response to the global banking crisis", March 2009 (www.fsa.gov.uk).

- In Model 2, the central bank is not only in charge of identifying risks, but is also able to take specific macro-prudential measures or to require the authority in charge of micro-prudential supervision to do so.
- In Model 3, a joint committee, composed of representatives of the central bank and the supervisory authority, makes the final decision as to the appropriate policy response.

In my view, the third model is a third best, because it risks blurring responsibilities and does not ensure proper accountability of the central bank and the micro supervisor. Within the proposed committee, no public disagreements between the central bank and the supervisor could arise, as it would hurt the credibility of the process. This means that *de facto* the micro supervisor has a veto right on the central bank. If instead the two components of the committee are allowed to disagree in public, Model 3 would become quite similar to Model 1, where the differences are made public and the supervisor would have to explain why it disagrees with the central bank and does not take the suggested action. Another disadvantage of Model 3 emerges when the supervisory authority is not independent of the political authority. I will not elaborate on the need for such independence, but in my view the recent crisis, if anything, has strongly confirmed it. Looking around Europe, it would be interesting to verify the extent to which during the recent crisis bank solvency problems have emerged mainly in countries where the supervisory authority is outside the central bank and where the independence of the former (also in financial and institutional terms) is less well protected than that of the latter. In these countries, Model 3 would create a channel to influence the central bank. Furthermore, in the context of the European Union Model 3 would be particularly difficult to implement, as it would require agreement between a multiplicity of national authorities, unless we get to a situation in which the central banks and the supervisory authorities are represented by one European-wide institution. While in the current system the central banks can be represented by the ECB, the supervisors do not yet have a similar system.

Models 1 and 2 ensure a clearer allocation of responsibilities, either to the central bank or to the supervisory authority. In assessing the two models, a key issue to consider concerns the conflict of interests, in particular within the central bank and within the supervisory authority, respectively.

Let's consider first the conflicts of interest within the central bank, which would emerge in particular in Model 2, between the objective of price stability and the objective of macro-financial stability. A conflict would arise if the central bank would have to address the two objectives with only one instrument, i.e. the interest rate. The central bank could be pushed to use the interest rate not only to achieve price stability but also to counter macro systemic risks. For instance, it could have to increase interest rates prematurely, in order to stop a financial bubble from developing, while the underlying economic developments do not require it. The interest rate is not necessarily the most efficient way to prevent or to prick bubbles. The conflict of interest would vanish if the central bank had two distinct instruments to address the two objectives, with a clear assignment. The interest rate would be assigned to achieving price stability, while macro-prudential measures would be aimed at macro-financial stability. During the current crisis, the ECB has shown that such a separation can be achieved. On the one hand the interest rate has been used with a view to achieve price stability, while, on the one hand, liquidity-injecting measures have aimed at stabilising the money market. Each measure has been adopted and justified to the public in such a way as to keep separate the two objectives. Overall, the experience suggests that the interest rate and macro-prudential instruments are rather complementary and do not give rise to conflicts of interest.

Let's consider now the potential conflicts of interest for the supervisory authority, between the macro- and micro-prudential objectives. Supervisory authorities might have to make trade-offs to achieve both. For instance, it would be more difficult for a supervisor to decide to tighten capital requirements and liquidity ratios in a booming economy if some banks are individually experiencing difficulties. There might be an incentive to address these difficulties with general, rather than specific, measures.

In the European framework, given that the micro-supervisory authority is exerted at the national level, there is a problem of uniformity of action. In Model 1, in which the central bank can only make recommendations, it is not clear how the various national authorities would react and implement it. There could be a situation in which the implementation differs across countries, without clear justification. Ultimately, the incentive to safeguard the competitiveness of the national systems would induce the respective authorities to adopt a minimalist approach, which would be to the detriment of overall stability.

On the other hand, national economies may develop in different ways, even in the euro area, and the macro risks arising in some countries may not be as relevant for others. For example, over the last ten years some euro area countries have experienced fast growth of domestic credit and rising asset prices, while in others financial dynamics have been more subdued. However, when looking at the risks taken by the banking system across countries, they have emerged both in fast- and slow-growing countries. This implies that in Model 2 the central bank should be able to adopt measures that take adequately into account different macroeconomic developments across countries.

Overall, there seems to be greater conflicts of interest between the objectives of macro and micro prudential supervision than between price stability and macro-prudential supervision. This is the reason why I tend to consider that Model 2, in which the central bank is given two instruments in order to achieve two distinct objectives is more appropriate, especially within the European framework, and even more so for the euro area. This seems to be the model that will be implemented in the US. The US administration has proposed to give the Fed powers to address the build up of risks that threaten the financial system as a whole, with a focus on core institutions and markets. The creation of a Council of regulators has been proposed, but the Fed will not need to seek the council's approval to act against systemic risks.

The de Larosière Report opted instead for Model 1. It suggests the creation of a European Systemic Risk Council (ESRC), embedded in the ECB, corresponding to the General Council. The General Council of the ECB is composed of the governors of the national central banks of the 27 EU Member States, plus the President and Vice-President of the ECB. The Council would be open to a series of observers, like the Commission, the three authorities being created from the three Lamfalussy Committees (for banking, markets and insurance), and the 27 national supervisors. The ESRC will be able to issue recommendations aimed at identifying and correcting systemic vulnerabilities, while national supervisors would be responsible for the implementation. As I mentioned previously, this model raises the issue of uniformity of treatment across the single market. The experience over the last years has shown that national authorities tend to use at their own discretion the room for manoeuvre that is available in the transposition of European legislation. This would also be the case for the recommendations of the ESRC. Finally, the de Larosière Report did not foresee any separate arrangements for the euro area. We will thus be in the very peculiar situation in which those countries that do not participate in the euro will have two levels of discussion and decision on systemic risk, one at the EU level and one at the national level, while the euro area countries will have only the EU level. Unless, of course, the ECB decides to issue itself recommendations for the euro area. One key proposal contained in the de Larosière Report is the obligation for the national micro-prudential supervisors to provide all the necessary information to the ECB in order to support the latter's risk analysis for the ESRC.

From the de Larosière Report to the European Council Conclusions that will be adopted today, there has been a long discussion between the Member States, based on a proposal by the Commission. The main contents of the proposal have been maintained. The European

Systemic Risk Board (rather than Council) has the powers to make recommendations but not to implement policies directly. It will be supported analytically and logistically by the ECB. The Commission will present legislative proposals this autumn that will further specify the new institutional arrangements. Indeed, further work is needed to elaborate in detail the institutional framework of the ESRB, as well as of the new European authorities for micro-prudential supervision.

Conclusions

The recent crisis has shown the importance of macro-prudential supervision in promoting financial stability. A lot of work needs to be done to equip the competent institutions with the analytical instruments to assess and monitor systemic risk and with the toolkit necessary to contain such risks.

Some concern may arise on whether the decision-making process, in particular within Europe and even more so for the euro area, which is expected to be set up over the next few months will be effective in the context of the single financial market, also in comparison to the reforms which have been put forward in the US. Implementation will be key. Indeed, as time goes by, and financial markets show some signs of stabilisation, there is a risk that the sense of urgency for reform fades away and nationalistic tendencies and institutional jealousies re-emerge. The forces pushing towards maintaining the status quo are gaining strength. If these forces are not firmly counteracted, this crisis could turn out to have been a wasted opportunity. And the next crisis could move closer.