

# **Crisis Management and Lender of Last Resort in the European Banking Market**

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## **Abstract**

We discuss some key issues related to supervisory arrangements in the Euro-system countries. In particular, we address the lender of last resort (LOLR) structure and the related crisis management framework. We focus on the responsibilities and powers of individual countries (and national central banks) vis-à-vis those at the European level (EU and ECB). In this context various issues will be raised relating to the effectiveness and efficiency of the arrangements, and specifically the role and positioning of the LOLR in light of the fragmented supervisory structure. We will discuss potential paths forward.

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# **Crisis Management and Lender of Last Resort in the European Banking Market**

## **1. Introduction**

It is widely acknowledged that stability concerns and systemic risks in banking are real and warrant regulatory scrutiny. These issues have become more pertinent with the further integration of financial markets. The credit crisis that came about in 2007 has highlighted the complexities of an interlinked financial system.<sup>1</sup> In particular, the increasing cross-border footprint of financial institutions offers considerable challenges. For the European banking market, a sizable increase in the cross-border externalities has come about originating from the growing number of banking groups with a significant cross-border presence. Moreover, as highlighted in De Nicoló and Tieman (2005), real activities have become more synchronized, exposing EU member countries increasingly to a common European business cycle.<sup>2</sup> These developments point at the need for an international perspective on regulation and supervision.

The focus in this paper will be on the responsibilities and powers of individual countries vis-à-vis those at the European level (EU and ECB).<sup>3</sup> In this context various questions will be raised, in particular relating to financial stability and the effectiveness and efficiency of regulatory and supervisory arrangements. Our primary focus is on the lender-of-last-resort (LOLR) and the related crisis management structure. However, we will indicate that this role, and the allocation of tasks between ECB and national central banks, cannot be assessed independently of supervisory arrangements in the EU in general. Both supervisory and LOLR arrangements are fragmented with primary responsibilities at the national level. Key political concerns related to national sovereignty and excessive concentration of authority at the EU and ECB levels could explain this decentralized structure. We will critically evaluate these arrangements. Our primary conclusion is that centralization of the LOLR function is important, and actually could help facilitate convergence – and ultimately – centralization of prudential supervisory practices. However, considering the fiscal responsibilities which are at the member state level, crisis management and the financial risks

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<sup>1</sup> See the overview and analysis by Fratianni (2008). In particular, he discusses the increasing complexity of the financial system, and the implicit ‘mushrooming’ of the safety net.

<sup>2</sup> Simultaneously, domestic financial sectors have become more dynamic, less predictable and more exposed to competition. This has ignited a lively debate on the interaction between stability and competitiveness; see Boot and Marinč (2008) for an analysis of the interaction between competitiveness, stability and the effectiveness of capital regulation.

<sup>3</sup> This paper expands the earlier analysis in Boot (2006).

it entails will continue to put national authorities at the center. Burden sharing arrangements for cross-border operating banks should be considered.

The organization of the paper is as follows. Section 2 provides a characterization of (prudential) supervisory practices in the EU, and notes the limited role of the ECB in this area. In section 3 the focus shifts to the LOLR arrangements. We discuss here three aspects: the sources of fragility and systemic risks, the allocation of LOLR responsibilities between ECB and national central banks, and the lack of fiscal authority at the EU level. The latter may well complicate the allocation of LOLR and crisis management responsibilities because of the potential budgetary consequences of LOLR support and crisis resolution. Section 4 asks the question whether current arrangements are sustainable, and particularly what distortions the present decentralized nature of arrangements may induce. In section 5, we discuss which improvements could be made. Section 6 concludes.

## **2. A Characterization of ECB and EU Arrangements**

The European regulatory architecture is best described as fragmented with primary responsibilities at the level of the individual nation states. Under the principles of only minimum essential harmonization, home country control and mutual recognition of supervision embedded in the Second European Banking Directive, prudential supervision remains solidly with the home country (i.e., the member state in which the financial institution has been licensed).

At the national level, a diverse assortment of institutional arrangements continues to thrive. If there is a trend, it seems that a domestically centered cross-sector integration of supervision is underway, with the extreme being the fully integrated FSA supervisory model in the UK. Simultaneously, a ‘twin peaks’ type structure – separating prudential supervision and conduct of business supervision – is becoming more popular. Nevertheless, for now, a wide diversity of arrangements continues to exist. This is further highlighted by the fact that in some countries the central bank is the prudential supervisor, while in others – like in the UK – prudential supervision is the task of an independent supervisory agency. The organizational model of supervision will not be the focus of the current paper, but as recent events relating to the credit crisis have highlighted, are not unimportant.<sup>4</sup>

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<sup>4</sup> Interesting recent research also asks the question whether responsibilities for deposit insurance and the LOLR role should be in one hand or allocated to separate agencies. Kahn and Santos (2005) point at the importance of incentives for forbearance in this tradeoff. See also chapter 10 by Di Giorgio and Di Noia (2009) in this volume who advocate a four peak approach of regulation and supervision by ‘objectives’.

At the European level, several arrangements are in place to facilitate the supervision of cross-border activities of financial institutions. For example, the ECB has a limited coordinating role for LOLR facilities that are instead the province of national central banks.<sup>5</sup> Also various multilateral arrangements exist. Within the ECB, the Banking Supervisory Committee (BSC) brings together banking supervisors of all EU countries to discuss financial stability issues, provide macro-prudential oversight, and assess EU and national banking legislation.

At the EU level, several cooperative arrangements are in place. Up to 2004 these arrangements included the Banking Advisory Committee (BAC) that advises the EU on policy matters related to bank legislation, and the Insurance Committee. In 2004, the European Parliament and the EU Council adopted a ‘Lamfalussy type’ framework (Committee of Wise Men, 2001) based on work by the Economic and Financial Committee (EFC) – a committee advising the Ecofin Council (EFC, 2002). This framework, which initially was designed for streamlining the regulatory and supervisory practices for the European securities markets, was subsequently applied to the financial sector at large. It introduces a structure for financial sector rule making at the European level.<sup>6</sup> In this restructuring and further formalization of the EU regulatory and supervisory framework the existing sectoral Bank Advisory Committee and Insurance Committee both were being given important roles.<sup>7</sup>

These sectoral committees (banking, insurance but also securities) and a separate committee addressing financial conglomerate issues, are essentially put under control of the finance ministers and kept at a distance from the ECB and national central banks. Non-supervisory national central banks and the ECB have observer status, but no voting rights. This effectively gives the ECB no formal role in (micro) prudential supervision.<sup>8</sup>

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<sup>5</sup> The ECB has primarily a *facilitating* role for systemic issues. For example, its statute points explicitly at its role in promoting the smooth functioning of the payment system (Art. 3.1. and 22 of the Statute; see also Art 105(2) of the Maastricht Treaty).

<sup>6</sup> The Lamfalussy approach encompasses a four-level regulatory approach: level 1 involves broad framework principles for legislation; level 2 detailed rules; level 3 aims at cooperation between national regulators, and level 4 addresses enforcement issues (see also Lannoo and Casey, 2005).

<sup>7</sup> These committees have a role at level 2 in the Lamfalussy type four layer framework (see EFC, 2002). Also the existing supervisory oriented Groupe de Contact has a role to play.

<sup>8</sup> The ECB has been careful in defining its role in prudential supervision. While it downplays potential conflicts of interest that may arise in combining central banking and prudential supervision (ECB, 2001), suggesting with that possibly a bigger role for itself, it simultaneously expresses that it is not aiming at a bigger role in supervision but only attempts to broaden cooperation (Duisenberg, 2003). The considerable expansion of lending facilities that were adopted in the wake of the 2007 credit crisis has imposed more risk on central banks and brought them closer to an involvement in prudential supervision. This development has somewhat stretched the traditional (and well accepted) notion that central banks should only be involved in liquidity support and not exposed to solvency risk (Bagehot, 1873).

Some convergence and increasing coordination in supervisory practices is observed. A recent development is the EU Directive on Financial Conglomerates that allocates group-wide supervisory responsibilities to a single coordinator located in the group's home country. The hope is that the Lamfalussy approach at the EU level will lead to a further streamlining and coordination in supervisory and legislative practices, and – ultimately – convergence between member states.<sup>9</sup> A similar development comes from the November 2008 discussions of the G-20 in Washington that among other things put forward the notion of 'colleges of supervisors' aimed at improving the monitoring of international banking groups.

### **3. Rationale for Lender of Last Resort and EU Arrangements**

Bagehot's (1873) classical motivation for the LOLR was that it would lend freely to solvent but illiquid banks against good collateral at a premium price (Rochet, 2004). The reality of LOLR support in various countries in the world has been different in that net infusions of cash in troubled institutions have been quite common, in part because distinguishing between liquidity and solvency problems might be difficult.

This potential confusion and uncertainty about the true nature of illiquidity problems may have worsened over time. In particular, the proliferation of financial markets and the ways in which risks can be shifted through the system, undoubtedly complicate the assessment of the fragility of the financial system. For our analysis, an understanding of the sources of fragility and their relative importance is critical because it impacts on the role played by the LOLR facility and the way this role might have changed over time. In turn, the assessment of the role of LOLR support in today's financial sector is of preeminent importance for evaluating the present EU arrangements when it comes to LOLR support and crisis management in general.<sup>10</sup> In subsection 3.1, we will further elaborate on this.

Another issue is how the LOLR facility is organized in the Euro countries. The general principle is one of delegation (i.e., subsidiarity) with the LOLR having been assigned to national central banks. Understanding these arrangements is critical for an assessment of the effectiveness of crisis management in the Euro area. The allocation of responsibilities

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<sup>9</sup> Other arrangements are in place as well. Various bilateral arrangements, such as Memoranda of Understanding (MoUs) between national supervisors, help in coordinating cross-border supervision. They further clarify, on a voluntary basis, the cooperation mandated in EU directives regarding information exchange, mutual assistance, establishment procedures and on-site examinations.

<sup>10</sup> We will focus on crisis management in the context of systemic concerns. In this case, there is a direct link between the LOLR and crisis management.

between national central banks and ECB with respect to LOLR support needs to be evaluated in the broader context of EU supervisory arrangements. In subsection 3.2, we will discuss the present allocation of responsibilities. A brief evaluation is contained in subsection 3.3.<sup>11</sup>

### **3.1. Role of LOLR**

In the classical interpretation, a financial crisis is directly linked to the notion of bank runs. In a fractional reserve system with long term illiquid loans financed by (liquid) demandable deposits, runs may come about due to a coordination failure among depositors (Diamond and Dybvig, 1983). Even an adequately capitalized bank could be subjected to a run if the deadweight liquidation costs of assets are substantial. Regulatory interference via LOLR support, deposit insurance and/or suspension of convertibility could all help and even fix (in this simple setting) the inefficiency. The externalities that a bank failure could create possibly provide a rationale for regulatory interference. These externalities could be directly related to the bank that is subjected to a potential run, but also be motivated by potential contagion effects. Many have generalized this simple setting by allowing for asymmetric information and incomplete contracts; see Bhattacharya, Boot and Thakor (1998, 2003), Goodhart, et al. (1998) and Rochet (2004) for reviews. The general conclusion is that fragility is real, and information based runs are plausible.

For the purpose of this paper two observations are important; both are related to the proliferation of financial markets. First, access to financial markets weakens the liquidity insurance feature of demand deposit contracts. To see this point, note that the root cause of the fragility in the Diamond-Dybvig (1983) world is the underlying demand deposit contract. The rationale for this contract is the desire for liquidity insurance on the part of risk averse depositors with uncertainty about future liquidity needs. However, as shown by Von Thadden (1999), the very presence of financial markets allows depositors to withdraw early and invest in the financial market which puts a limit on the degree of liquidity insurance. This is related to the earlier work of Jacklin (1987) who shows that deposit contracts have beneficial liquidity insurance features provided that restricted trading of deposit contracts can be enforced.<sup>12</sup> In any case, these arguments suggest that the proliferation of financial markets

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<sup>11</sup> See Freixas and Parigi (2008) for an overview of the LOLR function.

<sup>12</sup> Actually, Jacklin (1987) shows that with the 'extreme' Diamond-Dybvig preferences, a dividend-paying equity contract can achieve the same allocations without the possibility of bank runs. However, for basically all other preferences, a demand deposit contract does better provided that trading opportunities are limited.

weakens that liquidity provision rationale of deposits, which may help explain a lesser importance of deposits for banks in the future.<sup>13</sup>

A second observation is that the proliferation of financial markets would at first blush suggest that the LOLR role in providing liquidity loses importance. What we mean is that in Bagehot tradition one could ask the question whether the LOLR has a role to play in providing liquidity to liquidity constrained yet solvent institutions when capital markets and interbank markets are well developed. Goodfriend and King (1988) argue that solvent institutions then cannot be illiquid since informed parties in the repo and interbank market would step in. In this spirit, the former ECB board member Tommaso Padoa-Schioppa suggested that the classical bank run may only happen in textbooks since the “width and depth of today’s interbank market is such that other institutions would probably replace those which withdraw their funds” (as quoted in Rochet and Vives, 2004). As the events surrounding the credit crisis of 2007-2008 have highlighted, however, liquidity cannot be taken for granted. The LOLR role of central banks turned out to be quite important.

Thus, while the proliferation of financial markets could weaken the need for a LOLR to provide liquidity support, it has definitely not made LOLR activities redundant. This is particularly so when information asymmetries are considered.<sup>14</sup> More specifically, an extensive literature on aggregate shocks has moved away from the pure ‘sunspot’ bank run equilibriums, as in Diamond and Dybvig (1983), focusing instead on fundamentals. This literature builds on the empirical evidence in Gorton (1988) showing that banking crises – prior to the creation of the Federal Reserve – were predicted by leading economic indicators. Rochet and Vives (2004) show that a coordination failure in the interbank market may occur particularly when fundamentals are low, and that this may lead to a need for liquidity support by the LOLR for a solvent institution.<sup>15</sup>

Overall the preceding discussion warrants the conclusion that the proliferation of financial markets (including interbank markets) has improved the risk sharing opportunities between banks, and possibly has reduced sunspot type bank run problems on individual

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<sup>13</sup> Paradoxically, the 2007 credit crisis has put deposits center stage. The protection provided by deposit insurance, has made deposits arguable the only stable source of funding. The explicit (and implicit) government support via deposits appears indispensable.

<sup>14</sup> Caballero and Krishnamurthy (2007) emphasize the role of LOLR when agents cannot assess the probabilities of worst case events.

<sup>15</sup> Another line of research points at asset price bubbles as potential source or cause of fragility and contagion (Allen and Gale, 2000). Allen (2005) and De Bandt and Hartmann (2002) provide surveys on contagion. See also work by Lorenzoni (2008) on credit booms. Recent work by Acharya and Yorulmazer (2007) focuses on the steep drop in asset prices that collective massive liquidity needs may cause (“cash-in the market pricing”).

institutions.<sup>16</sup> But these very same interbank linkages may well have increased systemic risk, i.e. the probability of propagation of liquidity and solvency problems to the financial system as a whole. It is therefore clearly wrong to trivialize the need for a LOLR.

Actually, a more market-centered view on systematic risks has gained ground, at the expense of a more institutionally-focused view of systematic risk. The propagation mechanisms for systemic crises have become substantially more complicated and possibly far reaching as well. For example, the revolution in structured finance and securitization may introduce all kinds of systemic issues. The risks in the markets for securitized assets are ill understood. Once big defaults would occur in this market a meltdown is not excluded, and systemic risks are possibly acute.<sup>17</sup> With the credit crisis of 2007 this scenario has effectively materialized (Brunnermeier, 2009).<sup>18</sup>

### ***3.2. LOLR responsibilities in the Euro area***

The ECB has primary stability responsibilities when it comes to the payment system. But the ECB does not have an explicit task of preserving the stability of the financial system in general. This is left to the national central banks that have also the LOLR role. However, in light of the global consequences of the manifestation of systemic risks, the practical allocation of role in the Eurosystem could deviate considerably from its formal assignment.

The practical allocation problem of tasks and responsibilities, as it relates to the LOLR in the Euro countries, became clear in 1999. At the presentation of the 1998 annual report (October 26, 1999), the then ECB President Duisenberg commented that on the part of the ECB “there is a clearly articulated capability and willingness to act if really necessary” (Duisenberg, as reported in Vives (2001)). He added on the procedural issue that “The main guiding principle within the Eurosystem with reference to the provision of emergency liquidity to individual financial institutions is that the competent national central bank would be responsible for providing such assistance to those institutions operating within its jurisdiction”. For a general liquidity crisis in the payment system Duisenberg indicated that a

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<sup>16</sup> Whether total insolvency risk of individual institutions has come down depends on the actual risk taking and capitalization. Evidence in De Nicoló and Tieman (2005) suggests that the insolvency risk of European institutions has more or less remained the same over the last 15 years despite increases in capital over time and a wider geographic range of operations.

<sup>17</sup> Problems include the mighty role of credit rating agencies, the dependence on monoliners, etc.; see Boot, Milbourn and Schmeits (2006) for an analysis of the growing importance of credit rating agencies for the functioning of financial markets. Keys, et. al. (2008) provide empirical evidence that a portfolio of securitized assets is 20% more likely to default pointing at substantial moral hazard in securitization.

<sup>18</sup> See Barrell and Davis (2008) for an overview of the subprime (credit) crisis.

direct involvement of the ECB could be expected.<sup>19</sup> The latter is directly in line with the mandate of the ECB that stipulates its role in the smooth functioning of the payment system (Article 105(2) of the Maastricht Treaty).<sup>20</sup>

This interpretation of the LOLR role of the ECB and the national central banks is in line with the rather flexible wording of the role of the ECB in the Treaty. The LOLR function is primarily a national responsibility, and the provision of liquidity support is under the responsibility and liability of national central banks. Nevertheless, also the ECB could engage in liquidity support, though it uses stricter collateral requirements. Moreover, the scope of the LOLR involvement at the ECB level is restrained by the lack of fiscal authority at the European level.

### ***3.3. Evaluation of LOLR arrangements***

The primary role of national central banks in providing LOLR activities and the (formally) secondary role of the ECB is somewhat curious. Systemic concerns at the EU level, the increasing integration of the EU economies and the introduction of the common currency would seem to dictate that LOLR be assigned to the ECB. However, one may argue that national central banks are often better able to assess the immediate liquidity needs of local financial institutions. This may well be valid, but only addresses the practical operational organization of the LOLR role. It does not explain why the *responsibility* of LOLR support is left to national central banks.

The right way of looking at this is that political considerations have led to these arrangements. In particular, the Maastricht Treaty may have tried to prevent the emergence of an overly powerful ECB at the expense of national central banks. We do not think that there is a much deeper rationale for this, and we are reluctant to put forward more sinister arguments. For example, one could argue that preserving these powers locally serves the desire of national authorities to have better control over their home country financial institutions via the national central bank. This may well be the case. Such local power could help to defend these ‘national interests’ when a crisis occurs. This would not be without cost since it would cast doubt on the desired independence of central banks. Nevertheless, we would more readily subscribe to the idea that a desire to protect national sovereignty has prevented national authorities from agreeing to more powerful EU and Euro area institutions.

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<sup>19</sup> We are not distinguishing in the text between the European System of Central Banks (ESCB), which is the Eurosystem that Duisenberg is referring to, and the ECB. This simplification is not totally correct because the relevant decision making body at the center is the ESCB, and not the ECB as standalone organization.

Also the lack of fiscal powers at the European level is in part, or mostly, motivated by the same balance between national sovereignty and effective EU decision making. This lack of fiscal authority has made it more complicated for the ECB to assume broader powers in the LOLR role. That is, liquidity support is often provided in circumstances where losses may occur; the question then comes up who is responsible for these losses.

To complicate this picture even further, the decentralized and fragmented nature of EU-banking supervision, with primary responsibilities at the level of individual member states, and only a coordinating and facilitating role at the EU level, in all likelihood further reduces the power of the ECB vis-à-vis the national central banks. National central banks in practice will be a natural partner to the primary local supervisory agencies. Indeed, in many countries the national central bank is also the local supervisory agency. Important in this respect are also the national – home-country – linked deposit insurance arrangements. Again, national authorities are in charge and the national treasury incurs the (contingent) financial obligations.<sup>21</sup>

These contingent financial obligations, combined with the absence of fiscal powers at the EU level, are a strong obstacle for the further centralization of both supervision at the EU level and LOLR responsibilities in the ECB. The well known motto, “who foots the bill decides”, underscores the existing decentralized focus. We see no reason why this would be different here.

#### **4. Sustainability of Current Arrangements**

The resulting patchwork of national supervision and European-wide coordination has so far upheld reasonably well. The key questions are how this system will work in crisis situations and to what extent it will accomplish the efficiency objectives of regulation and supervision. The 2007-08 credit crisis might become an interesting learning experience. During crises important concerns are raised about the adequacy of information sharing and cooperation between the various supervisors, such as the European Central Bank and the national central banks. In particular, in such situations the question about who will be in charge might become very urgent. Potential tensions between supervisory agencies, national central banks and the ECB become evident.

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<sup>20</sup> See also Freixas (2003) and Schinasi and Teixeira (2006).

<sup>21</sup> The 2007 credit crisis has put some strain on deposit insurance arrangements. Some competition appears between the various national arrangements. Also, questions are raised about the willingness of home country tax payers to bail-out foreign depositors of domestic banks.

Policy makers are aware of these issues. For example, the new Directive on Financial Conglomerates gives the home country supervisor the single coordinating responsibility in all member states for group-wide supervision of the financial conglomerate. Issues of financial stability however remain the responsibility of the host countries.

The question is how to coordinate these potentially diverse interests, especially during crises. The core message of the second Brouwer Report (EFC, 2001) was that there was no coordination mechanism in place in case of such crisis. For that reason, a Memorandum of Understanding between virtually all European national central banks and supervisors was formulated to specify principles and procedures for cooperation in crisis management situations (ECB, 2003). The fiscal side, in particular the budgetary obligations imposed on member states in case of bail-outs, also requires the approval of national finance ministries that bear the potential financial obligations. In a follow-up Memorandum of Understanding these finance ministries were also included (ECB, 2005).

Several questions can be raised about the efficiency of the arrangements in general. The decentralized structure may give rise to potential conflicts of interest between the national authorities and ‘outsiders’. For example, national authorities might be prone to TBTF (too-big-to-fail) rescues.<sup>22</sup> Alternatively, national authorities may not sufficiently appreciate (that is, internalize) the disrupting consequences that a domestic bank failure could have in other countries. Efficiency might be hampered in other ways as well. For example, the national scope of supervision may help to encourage the emergence of ‘national champions’.<sup>23</sup> More fundamentally, the decentralized structure could give rise to level playing field and regulatory arbitrage issues.

Casual observation and reasoning would seem to suggest that integration and further coordination (if not centralization of authority) of both regulation and supervision might yield substantial efficiency gains, not only for supervisory authorities, but also more importantly for the supervised financial institutions. There are currently in the EU more than 35 supervisory authorities responsible for prudential supervision; a typical large financial institution might have to report to more than 20 supervisors (Pearson, 2003).

Yet, practical considerations suggest that a full integration of all regulatory and supervisory functions at the European level may not be feasible, if at all desirable. While it is

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<sup>22</sup> One could replace too-big-to-fail with to-big-to-close to emphasize that replacing management, wiping out equity holders, etc. could still be done to mitigate moral hazard.

<sup>23</sup> Such institutions would likely be TBTF (for sure from the national perspective), but possibly also have ‘control’ over local supervisors. Fratianni (2008) puts this in the context of a principal-agent problem. The agent

clear that regulatory and supervisory integration needs to keep pace with the development of the size and the cross-border footprint of the covered banks, the heterogeneity of underlying supervisory systems and the implied costs of integration should not be underestimated. An interesting illustration is the evidence reported by Barth, Caprio and Levine (2002) on the variation across the European Union countries in supervisory institutions and practices. Their conclusion is that supervisory arrangements within the EU are as diverse as in the rest of the world. Also, illustrating this point further, the EU countries are current or former standard bearers of all major legal origins. A vast literature now documents how legal origin matters for the shape and functioning of the financial system (see La Porta, et al, 1998).<sup>24</sup>

While common sense suggests that ultimately a more integrated regulatory and supervisory structure is desirable,<sup>25</sup> the way we would get there is far from clear. The Lamfalussy approach may bring us in the right direction but it does not provide for authority at the pan-European level. Indeed, practical considerations, including political concerns, dictate for now a fragmented structure on which a coordination layer needs to be superimposed; the lead regulator model is one example of that.<sup>26</sup>

However, the struggle for an efficient pan-European coordination and integration of regulation and supervision is more than just a practical issue that will be sorted out over time. Two things stand out. The first is that the scope of regulation and supervision needs to be contained. Effective supervision and regulation – given the mushrooming cross-sector and cross-border footprint – requires a better demarcation of safety and systemic concerns.<sup>27</sup> The cross-sector integration of financial institutions and the ever more seamless integration of financial markets and institutions have enormously broadened the scope of regulation and the potential sources of systemic risk.

This also relates to the issue of firewalls. For example, does a subsidiary structure reduce systemic concerns? We do not think that an answer is readily available. More generally, what type of constraints, if any, should be put on the corporate structure of

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(the bank) may have control over the principal (the supervisor). This would undermine the effectiveness of the supervisor.

<sup>24</sup> Bank regulation and supervisory practices differ also considerably between civil and common law countries, with a more flexible and responsive approach in the latter.

<sup>25</sup> Actually, some theoretical work points at the potential value of competition between regulators, see also Kane (1988).

<sup>26</sup> An important distinction needs to be made between business conduct regulation and prudential regulation. We have focused on the latter. The former is closer to the functioning of financial markets and lends itself more readily for centralization at the European level. In the context of these financial markets, the ‘real’ Lamfalussy report (Committee of Wise Men, 2001) does not directly propose authority at the EU level but it states that if its proposed approach is not successful the creation of a single EU regulatory authority should be considered.

financial institutions? While we tend to think of further deregulation in the financial sector possibly leading to even bigger and broader financial institutions, it is far from clear what the future will bring. In any case, changes in the industrial structure of the financial sector are of paramount importance for the design and effectiveness of regulation and supervision.<sup>28</sup> If these issues cannot be satisfactorily addressed, we are not very optimistic about the possibilities for effective and efficient pan-European regulation even in the long run.

The second issue is that very little is known about the efficiency and effectiveness of various regulatory and supervisory structures. As Barth, et. al. (2003) put it, “there is very little empirical evidence on how, or indeed whether, the structure, scope or independence of bank supervision affects the banking industry”. Their own research suggests that the effect is at best marginal but measurement problems are paramount. They conclude from this that we may thus choose to only focus on the effect that regulation has on systemic issues. But also here little is known. What this means is that we need much more work that tries to pin point the costs and benefits of different regulatory and supervisory arrangements. Obviously in the context of the widely different national supervisory arrangements the lack of evidence does not really help in evolving to a harmonized ‘superior’ model.

## **5. The Way Ahead**

It is clear that further improving coordination and cooperation between supervisory bodies makes sense. The EFC (2002) proposals (based on the Lamfalussy approach) and the recent crisis management Memorandum of Understandings (MoUs) (ECB, 2003, 2005) are steps in that direction. Further improvements can be made by harmonizing accounting standards and improving procedures. But this is not enough. Ultimately more is needed than just good intentions and procedures.<sup>29</sup> The missing command structure in EU arrangements (the various MoUs and the Lamfalussy framework) as well as that with respect to LOLR facilities needs to be addressed.

As stated already, an EU-wide regulatory and supervisory authority cannot be expected anytime soon. The LOLR function is directly related to crisis management, and in

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<sup>27</sup> The earlier discussion on the precise source and propagation mechanism as it relates to systemic risk is actually pointing at the same issue.

<sup>28</sup> Earlier we referred to the concentration in the credit rating business and the importance of ratings for the markets for structured finance (securitization). It is interesting to ask the question what impact a meltdown of one of the main credit rating agencies would have on these markets, and what this in turn would imply for participants in these markets.

those circumstances a clear line of control is most important. But accomplishing improvements and particularly changing powers between national authorities and the ECB at the center is – as stated – a political issue. So far, whatever improvements have been made, were predicated by crises. Indeed, crises create urgency. The Bank of Credit and Commerce International crisis was particularly important because this crisis led to willingness to address pan-European coordination failures in supervision. It is then immediately clear that – unless a major crisis would come about – there is no urgency for change. Matters might be even worse. With no crises in sight, complacency could set in. Following this view, the credit crisis that started in 2007 may offer a window of opportunity.

Our own assessment is that current initiatives, including the lead supervisor designation for banking groups, are improvements in the right direction. The Lamfalussy framework we see favorably as well. It will in our view indeed improve the efficiency of the legislative and rule-making process, and encourage convergence in regulatory and supervisory practices. Also the less formalized cooperative initiatives like the Banking Supervisory Committee within the ECB and the widely supported BIS initiatives clearly put us on the path to further improvements and harmonization. These initiatives facilitate a continuous process for improving the supervisory process without having to make highly political and controversial choices. This process we judge very favorably. Nevertheless, a fear for complacency is in order. We need to continue to put improvements in supervisory practices and cooperation among supervisors high on the agenda, and be constantly critical about the speed, efficiency and effectiveness of the process. To speak with Lamfalussy, if the process slows down, more heavy-handed interventions should be considered.<sup>30</sup>

We are much less convinced that the same gradual process should apply to the LOLR structure. The LOLR role is intricately linked to crisis management, and that does not lend itself for a gradual approach or ‘soft’ agreements on cooperation. While MoUs (ECB, 2003, 2005) help in overcoming some of the *lacunae* identified in the Brouwer crisis management report (EFC, 2001), we do not think this is a sufficient response. This is not a criticism of MoUs though. To the contrary, we fully endorse them. The 2005 MoU that addresses cooperation and information sharing (including views and assessments) between supervisors,

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<sup>29</sup> Cooperation between a system of dispersed (semi-autonomous) central banks and dispersed and autonomous prudential supervisors is very complicated. Decentralized systemic responsibilities combined with decentralized prudential responsibilities with each involving different bodies offer multiple coordination problems.

<sup>30</sup> These more positive comments on the developments in supervisory arrangements in the EU do not imply that we fully endorse the current state of affairs. One issue that deserves much more attention is how to address too-big-to-fail (TBTF) concerns. US practice with clear-cut timely interventions could be particularly helpful in EU banking markets considering the massive domestic consolidation (see Eisenbeis and Kaufman, 2005).

central banks and finance ministries is an important document. What it does not do (and does not intend to do) is bring the LOLR responsibility to a more central level. To the contrary, it remains with national central banks which possibly do not, and often cannot, sufficiently take into account the pan-European systemic problems that may have arisen in a crisis situation. This national authority then diffuses the command structure, while the LOLR should be at the heart of crisis management.<sup>31</sup>

From our conversation with some national central bankers in the Euro-area emerges a strong feeling of collective responsibility. The suggestion is that this will effectively guarantee a central command structure at the ECB level because any serious problem with potential Euro-area repercussions would immediately be brought to the ECB, or more correctly the European system of central banks (ESCB). While one should be enthusiastic about the trust in each other and collective feeling of responsibility that has been created at the ECB level, one has to be careful with trusting such informal approach when it comes to crisis management situations. Those situations are rare, involve novel occurrences that are rather unpredictable and can have very severe consequences for individual member states. In those situations, national interests may collide with Euro-area wide responsibilities, and mutual trust might not be sufficient for aligning national interests with Euro-area interests. For this very reason a clear command structure at the Euro-level is important. This would imply that the ECB should get primary responsibility over the LLOR role.<sup>32</sup> In the recent credit crisis, the ECB has been in the lead. This might have been due to the unique characteristics of the credit crisis, with problems emerging very much at the center of the financial system and affecting all member states in somewhat similar fashion.

A more formal centralization might not be feasible without other changes in EU arrangements. More specifically, in the current institutional setting, national central banks cannot extend emergency lending without the permission from all euro-system member countries because emergency lending implies credit risk and has implications for seigniorage

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<sup>31</sup> In our view the central role given to national central banks is really an artifact of the past when the then rather segmented markets allowed the local central bank to resolve a bank crisis by “forcing” the surviving institutions to take care of the problem. This no longer works because local banks in the increasingly open banking market do no longer feel the same responsibility for resolving problems in their home market. A case in point is the recent failure of a very small Dutch bank with only local Dutch operations (Van Der Hoop). Despite the potential reputation damage to the local financial sector, the (many times bigger) surviving institutions were not willing to step in. A further complicating factor is that due to the substantial consolidation in domestic markets, a typical failure might be very difficult to handle for the surviving local institutions.

<sup>32</sup> Let us emphasize that trust and feelings of collective responsibility between national central banks and ECB even then remain important. Much of the information will come from the national level, and trust is needed to facilitate an optimal flow of information. This implies in the broader context of the 2003 and 2005 MoUs as

sharing. The complications in this process effectively mean that the domestic ministry of finance (treasury department) essentially is indispensable for emergency lending.<sup>33</sup> This brings in a very nationally oriented focus. It appears that only introducing some budgetary (fiscal) powers at the EU level and/or designing cross-country burden sharing arrangements could facilitate more centralized decision making.

The feasibility of introducing budgetary (fiscal) powers seems very complicated and appears to directly interfere with the autonomy of member states vis a vis Brussels. Burden sharing arrangements might be an easier route to go, albeit complicated as well. As Goodhart and Schoenmaker (2009) argue, burden sharing arrangements should preferably be set-up ex-ante. Ex-post (after a crisis emerges), time is in short supply and potential conflicts of interest between countries might be difficult to overcome, particularly when a large institution is involved that operates in many member states.<sup>34</sup> Ultimately, burden sharing arrangements seem indispensable for accomplishing a less fragmented supervisory structure.

Only over time can an effective centralized structure become reality. In our view, it is important and absolutely necessary that this is dealt with, yet moving forward pragmatically seems most important. Creating a new supra-supervisor would not be without problems. Following our arguments in section 4, a more gradual approach is probably more realistic and for now continues to grant important supervisory powers to local bodies.<sup>35</sup>

For the LOLR role, in light of the pan-European nature of systemic issues, a central authority is however desirable. National central banks could still continue to play an important operational role in LOLR activities. Authority at the ECB level will give a powerful boost to information sharing, and this could distinctly improve the efficiency and effectiveness of the LOLR operations.

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well. Without trust and collective feelings of responsibility one cannot expect the good intentions with respect to information sharing in those MoUs to be of much value.

<sup>33</sup> See Schinasi and Teixeira (2006). They highlight that central banks can indeed go further than offering just liquidity support (i.e. accept collateral below the standards, and in doing so incur credit risk), but this requires backing by domestic treasuries.

<sup>34</sup> Consider for example the demise of Fortis in October 2008. It involved a bank operating in three countries (Netherlands, Belgium and Luxembourg). In emergency settings these countries were able to agree on a resolution, however several frictions remained despite the fact that only three countries were involved. In particular, action could only be taken very late after it had become abundantly clear that there was an insurmountable problem with the bank. Timely intervention without having clear burden sharing arrangements in place appear very difficult.

<sup>35</sup> This does not mean that there will not be a role for local supervisors in the future. Local supervisors will always play a role because of the proximity to local institutions which could offer information advantages.

## 6. Concluding Thoughts

The centralization of LOLR and crisis management responsibilities is an important issue. We favor a more explicit and formal responsibility of the ECB over the LOLR function; national central banks would then get a more operational role.<sup>36</sup> As with the centralization of supervisory and regulatory responsibilities in Europe, the political feasibility of a centralized LOLR responsibility remains an issue to be dealt with. We alluded to this earlier.<sup>37</sup> This is also related to the issue of fiscal authority as discussed in subsection 3.3. Burden sharing arrangements are needed. The EU Treaty however does allow for a heavier role of the ECB in LOLR operations,<sup>38</sup> so the true issue might be to get agreement within the decision making body at the ECB (the European System of Central Banks, ESCB).

The recent credit crisis has given momentum to a more central role of the ECB. An important question is, whether a more centralized LOLR responsibility with the ECB has any downside. Would this for example compromise the independence of the ECB? It could be that political pressure (also via Ecofin) to provide liquidity support in the case of a bank crisis might become more intense. One could argue that this type of pressure has always been present in central banking, and is actually much more intense for national central banks. A related concern is that the heavier LOLR role could intensify the potential conflict between financial stability and monetary policy objectives within the ECB. It is hard to assess the importance of this argument. The current arrangement already has this potential conflict build in (and one could argue about the importance of this conflict between objectives, see Issing, 2003).

On the positive side – apart from the benefits related to a more central command structure (see section 5) – we see several other potential advantages. One is that it could lead to a more prudent use of the LOLR facility (see Vives, 2001 and Lannoo, 2002). Another potential benefit is that it may create extra urgency for communication between the ECB on the one hand and national central banks and supervisory agencies on the other hand. National authorities could be more willing to share information with the ECB (since only then support can be expected). Thus, self interest may facilitate a better exchange of information.

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<sup>36</sup> This recommendation has also been put forward by Lannoo (2002) and Vives (2001).

<sup>37</sup> National governments could find LOLR control at the national central banks convenient in the case of a crisis, particularly when financial difficulties threaten large domestic financial institution. This already suggests that national control could worsen TBTF incentives, and possibly also compromise the role of national central banks in crisis management (i.e. they would be ‘forced’ in providing LOLR support also in the case of solvency problems).

<sup>38</sup> Also the ECB statute allows for a more dominant role of the ECB with respect to the LOLR function.

Going forward, a more central command structure for LOLR with the ECB might be a catalyst for further reforms in pan-European supervision. We could envision different paths of future developments. One is that a stronger position of the ECB could induce the EU (and Ecofin) to strengthen the role of the EU in supervision to ‘counter’ the enhanced power of the ECB. This could be positive if it is effective in reducing the fragmentation in supervision, and if it would speed up convergence and enhance coordination. In that sense it could add urgency to the Lamfalussy process. However, the systemic nature of the 2007 credit crisis has given some momentum to a more heavy role of the ECB in supervision, thus actually concentrating LOLR and supervision powers in the ECB. Whether this is optimal is unclear. Potential conflicts of interest may exist, and concerns about political interference might become even more acute.

Whatever path will be chosen, the integration of financial supervision and regulation will be far from easy. Resolving the fundamental issues related to the scope of regulation, and, to a lesser extent, our understanding about the costs and benefits of different arrangements would help. Being pragmatic is important in this debate; first-best-choices are not in sight. The 2007 credit crisis may offer some valuable lessons for guiding us in this process.

## References

- Acharya, V. and T. Yorulmazer, 2007, "Cash-in-the-Market Pricing and Optimal Resolution of Bank Failures" *Review of Financial Studies Advance Access* published on December 5, 2007.
- Allen, F., 2005, "Modelling Financial Instability", *National Institute Economic Review* 192, 57-67.
- Allen, F. and D. Gale, 2000, "Financial Contagion", *Journal of Political Economy*, 108, 1-33.
- Bagehot, W., 1873. *Lombard Street: A Description of the Money Market*. H. S. King, London.
- Barrell, R. and P. Davis, 2008, The Evolution of the Financial Crisis of 2007-08, *National Institute Economic Review*, October, 2008.
- Barth, J. R., D. E. Nolle, T. Phumiwasana and G. Yago, 2003, "A Cross-Country Analysis of the Bank Supervisory Framework and Bank Performance", *Financial Markets, Institutions & Instruments*, 12-2, 67-120.
- Barth, J.R., G. Caprio and R. Levine, 2002, "Bank Regulation and Supervision: What works best?", working paper, World Bank.
- Bhattacharya, S., A.W.A. Boot and A.V. Thakor, 1998, "The Economics of Bank Regulation", *Journal of Money, Credit and Banking*, 30-4, 745-770.
- Bhattacharya, S., A.W.A. Boot and A.V. Thakor, 2004, eds, *Credit Intermediation and the Macro Economy*, Oxford University Press, Oxford, UK.
- Boot, A.W.A., 2007, "Supervisory Arrangements, LoLR, and Crisis Management in a Single European Banking Market, *Sveriges Riksbank Economic Review*, 2006:2, 15-33.
- Boot, A.W.A. and M. Marinč, 2008, "Competition and Entry in Banking: Implications for Capital Regulation", ACLE discussion paper, University of Amsterdam.
- Boot, A.W.A., T.T. Milbourn and A. Schmeits, 2006, "Credit Ratings as Coordination Mechanisms", *Review of Financial Studies*, 19-1, 81-118.
- Brunnermeier, M., 2009, "Deciphering the 2007-08 Liquidity and Credit Crunch," *Journal of Economic Perspectives*, forthcoming.
- Caballero, R.J. and Krishnamurthy, A. (2007). Collective risk management in a flight to quality episode, NBER working paper 12896, February
- Committee of Wise Men, 2001, "Final Report of the Committee of Wise Men on the Regulation of the European Securities Markets", (Lamfalussy Report), Brussels, February 15.
- De Bandt, O. and P. Hartmann, 2002, "Systemic Risk: A Survey", in: C. Goodhart and G. Illing eds., *Financial Crises, Contagion and the Lender of Last Resort*, Oxford University Press, Oxford, UK.
- De Nicoló, G. and A. Tieman, 2005, "Economic Integration and Financial Stability: A European Perspective", working paper, IMF.
- Diamond, D.W. and P.H. Dybvig, 1983. "Bank runs, deposit insurance, and liquidity", *Journal of Political Economy* 91(June): 401-19.

- ECB, 2001, Memorandum of understanding on cooperation between payment systems overseers and banking supervisors in stage three of economic and monetary union, Press release, April 2.
- ECB, 2003, Memorandum of Understanding on High-level Principles of Cooperation, Press release, March 10.
- ECB, 2005, Memorandum of Understanding on Cooperation between the Banking Supervisors, Central Banks and Finance Ministries of the European Union in Financial Crises situations, Press release, May 18.
- EFC, 2001, “Report on Financial Crisis Management”, (Brouwer report), document from the Economic and Financial Committee, EFC/ECFIN/251/01.
- EFC, 2002, “Financial Regulation, Supervision and Stability”, document from the Economic and Financial Committee, EF76/ECOFIN 324, 10 October.
- Eisenbeis, R.A. and G. Kaufman, 2005, “Bank Crises Resolution and Foreign-Owned Banks”, *Economic Review*, 90-4, Federal Reserve Bank of Atlanta, 1-18.
- Fратиanni, M., 2008, “Financial Crises, Safety Nets and Regulation”, working paper Kelley School of Business, Indiana University, October.
- Freixas, X, 2003, “Crises Management in Europe”, in: *Financial Supervision in Europe*, J. Kremer, D. Schoenmaker and P. Wierts eds, Edward Elgar.
- Freixas, X. and Parigi, B.M., 2008, “Lender of Last Resort and Bank Closure Policy”. CESifo Working Paper Series No. 2286, April 2008.
- Di Giorgio, G. and C. Di Noia, 2009, “Designing a Regulatory and Supervisory Framework for Integrated Financial Markets”, in this volume.
- Goodfriend, M. and R. King, 1988, “Financial Deregulation, Monetary Policy and Central Banking”, in: W. Haraf and R.M. Kushmeider eds., *AEI Studies*, No. 481, UPA, Lanham, MD.
- Goodhart, C., 2000, ed., *Which Lender of Last Resort for Europe?*, Central Banking Publications.
- Goodhart, C., P. Hartmann, D. Llewellyn, L. Rojas-Suarez and S. Weisbrod, 1998, *Financial Regulation: Why, How and Where Now?*, Routledge, London.
- Goodhart, C. and D. Schoenmaker, 2009, “Fiscal Burden Sharing in Cross-Border Banking Crises”, *International Journal of Central Banking* 5, forthcoming.
- Gorton, G. (1988), “Banking Panics and Business Cycles,” *Oxford Economic Papers* 40, 751-781.
- Hartman, P., A. Maddaloni, and S. Manganelli, 2003, The Euro Area Financial System: Structure, Integration and Policy Initiatives, ECB Working Paper, no. 230.
- Issing, O. , 2003, “Monetary and Financial Stability: Is there a Trade-off”, presentation for the *Conference on Monetary Stability, Financial Stability and the Business Cycle*, Basle, March 28-29.
- Jacklin, C.J., 1987, “Demand Deposits, Trading Restrictions, and Risk Sharing”, in: E. Prescott and N. Wallace, eds., *Financial Intermediation and Intertemporal Trade*, University of Minnesota Press, Minneapolis.

- Kahn, C.M. and J.A.C. Santos, 2005. "Allocating bank regulatory powers: lender of last resort, deposit insurance, and supervision," *European Economic Review*, 49(8), 2107-2136.
- Kane, E.J., 1988, "How Market Forces Influence the Structure of Financial Regulation", in: W.S. Haraf and R. M. Kushmeider (eds.), *Restructuring Banking and Financial Services in America* (American Enterprise Institute, Washington D.C.), 343-382.
- Keys, B. , T. Mukherjee, A. Seru and V. Vig, (2008), "Did Securitization Lead to Lax Screening? Evidence from Subprime Loans" EFA 2008 Athens Meetings Paper, April 2008.
- Lannoo, K., 2002, "Supervising the European Financial System", working paper.
- Lannoo, K. and J.P. Casey, 2005, "EU Financial Regulation and Supervision beyond 2005", CEPS Task Force Report No. 54.
- Lastra, R., 2002, "The Governance Structure for Financial Regulation in Europe", Special Paper 133, Financial Markets Group, LSE.
- La Porta, R., F. Lopes-de-Silanes, A. Shleifer and R.W. Vishny, 1998, "Law and Finance", *Journal of Political Economy*, 106, 113-1155.
- Lorenzoni, G., 2008, "Inefficient Credit Booms," *Review of Economic Studies*, 75(3), pages 809-833.
- Pearson, 2003, "Comment", in: *Financial Supervision in Europe*, J. Kremer, D. Schoenmaker and P. Wierts eds, Edward Elgar, Cheltenham, UK.
- Rochet, J.C. and X. Vives, 2004, "Coordination failures and the Lender of Last Resort: Was Bagehot Right After All?", working paper.
- Rochet, J. C. 2004, "Bank Runs and Financial Crises: A Discussion", in: S. Bhattacharya, A.W.A. Boot and A.V. Thakor, eds, *Credit Intermediation and the Macro Economy*, Oxford University Press, Oxford, UK.
- Rochet, J.C. and X. Vives, 2004, Coordination Failures and the Lender of Last Resort: Was Bagehot Right after all?, working paper.
- Schinasi, G. and Teixeira, P., 2006, "The Lender of Last Resort in the European Single Financial Market", *IMF Working Paper*, Vol. 06/127, 1-23, May 2006.
- Vives, X., 2001, "Restructuring Financial Regulation in the European Monetary Union", *Journal of Financial Services Research*, 19, 57-82.
- Von Thadden, E.-L. 1999, "Liquidity Creation through Banks and Markets: Multiple insurance and Limited Market Access," *European Economic Review*, 43(4-6), 991–1006.