AVOIDING INTERNATIONAL FINANCIAL CRISES,
AN INCOMPLETE REFORM AGENDA

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13 May 2009

* To be published in *Understanding the Financial Crisis: Investment, Risk and Governance*, eds. C. Rose, O. Risager and S. Thomsen. The author acknowledges the comments of S. Thomsen.
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Abstract

After a brief review of the origin of the subprime crisis, we argue that the set of reforms proposed recently by national and international groups to reduce the risk of global banking crises constitutes an incomplete reform agenda. Three important issues remain, in our opinion, to be addressed:

- Accountability of bank supervisors and regulators
- An end to the too-big-to-fail doctrine
- A satisfactory regime for the supervision and bailing out of international financial groups
**Introduction**

In this paper, we argue that the set of reforms proposed recently by national and international groups to reduce the risk of future global banking crises constitutes an incomplete reform agenda. Three important issues remain, in our opinion, to be addressed:

- Accountability of bank supervisors and regulators
- An end to the too-big-to-fail doctrine
- A satisfactory regime for the supervision and bailing out of international financial groups.

To address these issues, we review first briefly the origins of banking and the factors that contributed to the subprime crisis. This helps to evaluate the changes in regulation and financial market infrastructure proposed by various national and international institutions. It is then shown why these proposals, although useful, will not be sufficient to reduce significantly the risk of a future banking crisis.

**1. The Origin of the 2007 Financial Crisis and the Reform Agenda**

To understand the roots of the 2007 financial crisis and the remedies proposed to reduce the likelihood of future crises, it helps to understand first the developments in banking markets, with the creation of the modern bank in Italy in the fifteen century, the interbank markets, securitization, and the market for credit risk guarantees.

Insert Figure 1

*The creation of banks*

Let us travel back in time, three thousand years ago. There was no bank, no financial crisis. As shown in Figure 1, an investment in a house (a cabin) had to be financed out of one’s personal wealth (home equity) or through a loan made by a friend. A drop in the value of the house by 10 would imply a drop in the value of home equity by 10 (Figure 2). While allowing for transparency, the system was not efficient as it did not facilitate the mobilization of savings and the financing of real investment. Modern banking in Europe was created in Italy in 1406 (Banco di San Giorgio was founded in Genoa, several years before the founding
in Siena in 1472 of the oldest surviving bank in the world, Banca Monte di Paschi\(^1\)). As shown in Figure 3, short term deposits, attractive to savers, are invested in longer term loans (attractive to borrowers). Imagine what the system would be, if financing the purchase of a house with a short term loan, one would have to refinance the funding every year. One refers to the maturity transformation role of banks, or, in modern economics, to the provision of liquidity insurance (Diamond-Dybvig, 1983; Allen and Gale, 2007). Whenever needed, depositors can withdraw money.\(^2\) In addition, banks perform a useful role in screening and monitoring borrowers. Diamond (1984) has shown that the diversification of risks allow to reduce overall bank risk, the risk borne by depositors, and the cost of monitoring the bank. Since the creation of modern banks in the fifteenth century, the system was inherently fragile as depositors could run away, and illiquid loans could not be sold. For this reason, banks have been heavily regulated and safety nets, including emergency liquidity assistance by central banks or deposit insurance systems, have been created. Travellers in Brazil, South Africa or Russia will meet bankers who have experienced bank runs recently. The absence of major bank runs in the past 80 years in OECD countries is rather an exception. The observation that banking regulations and banking supervision have not been sufficient to prevent the 2007 banking crisis raises the question as to whether new regulations and supervisory models are needed or whether it is the enforcement of existing regulations that is the issue.

Insert Figures 2 and 3

\textit{The creation of interbank markets and securitization}

As demand for loans were growing, banks short of cash started to borrow from other banks, often located in other countries. Such an example was the case of Icelandic banks borrowing from banks located in Germany. An other way to fund loans was to securitize them, that is to sell them to investors. This is described in Figure 4. Due to asymmetric information problem -the bank knows more about the quality of loans than investors-, this was never going to be an easy affair. Financial engineers issued asset-backed securities that differ in seniority: senior tranche, junior or mezzanine tranche, and equity tranche. The senior tranche was to a large extent protected from loan losses, which were covered by the junior and equity tranches. A question arises as to the size of junior and equity tranches needed to cover

\(^1\) In March 2009, Monte di Paschi received Italian government funding, after the ill-timed decision to buy Banca Antonveneta from the Spanish Santander in November 2007 (WSJ, 26/03/09).

\(^2\) A similar role of liquidity insurance is the offering of lines of credit, allowing borrowers to call money on demand.
potential (unexpected) loan losses. Progress in statistics and credit modelling (Vasicek, 1987 and 2002) allows to model the distribution of losses on a credit portfolio. Finally, rating agencies were invited to rate these issues. Note that securitization was not a completely new phenomenon, having been used by American government sponsored enterprises (GSEs), Fannie Mae and Freddie Mac, to securitize prime U.S. mortgages for many years. What was new, in the period 2003-2007, was the securitization of increasingly large classes of risky assets, including US subprime loans (Calomiris, 2007; Gorton, 2008). Securitization reached $2 trillion in 2007, including 70% of recently issued US subprime loans.

Insert Figure 4

**Creation of credit default swaps (CDS)**

A final type of financial innovation was the growth of a credit insurance market whereby one party would provide insurance coverage against the default (or downgrade) of an other party. The market grew from $8 trillion in 2004 to $45 trillion in 2007. Looking at Figure 4, it is useful to remember that financial markets (financial assets and claims) are just a mirror image of the real assets (real estate, industrial assets) in an economy. When the housing market falls by 10, it becomes difficult to estimate the impact on the value of bank’s equity, on the value of a securitized asset, or on the value of a CDS. In other words, these credit transfer innovations have increased greatly the complexity and opacity in the market.

Apparently unnoticed by regulators was the fact that many of these securitization vehicles, so-called Structured Investment Vehicles (SIVs), involved the financing of long term assets with short term commercial paper (asset-backed commercial paper). The plan was that this short term paper would be rolled over at maturity. One notices a financial structure similar to that of a bank, with long term assets funded with short term funding. A major difference is that this short term funding was highly volatile, as it is not protected by a public safety net. This new system has been dubbed quite correctly “shadow banking”. In July 2007, the U.S. investment bank Bear Stearns had to step in to refinance one of its flagship SIV, called High-Grade Structured Credit Strategies Enhanced Leverage Fund. A second issue was that the statistics on portfolio credit risk (Vasicek, 1987, 2002) requires the estimation of a critical variable, default correlation across loans. Few data on credit risk correlation at a time of a recession were available because the world economy had been expanding in the last ten years. Moreover, data were inexistent in a new untested market, the US subprime mortgage market. Finally, information on the counterparty risk exposure of financial institutions to the credit insurance market was, at best, incomplete. The lack of information on counterparty risk and therefore on the domino consequence of a default of a large institution seems to have been the reason for the bail out in September 2008 of the giant insurance group, AIG.
Given the emphasis of the paper on the regulatory reform agenda, we will not address the forces explaining the explosion of these markets, nor shall we discuss the various actions taken by public authorities to prevent a collapse of their banking systems. Progress in the statistics of credit risk, a savings glut with large surplus in several countries (China and the Middle East in particular), a will of governments to facilitate home ownership, an accommodating monetary policy with exceptionally low interest rates, market pressures to grow income exercised on banks, asset managers and rating agencies, or simply greed and gullibility of investors are all likely to have contributed to the credit crisis (Hellwig, 2008; Greenspan, 2009). Following up on the bank run on Northern Rock in the United Kingdom in September 2007 (HM Treasury, 2009) and the default of Lehman Bros. and Washington Mutual (WaMu) in September 2008 in the United States, various measures were taken around the world to restore the stability of banks. Actions were taken on the asset side (insurance of credit risk or sale of toxic or legacy assets in the United States with the private-public investment programme (PPIP)), or on the liability side with public guarantees on bank debt and capital infusion around the world.

As stated above, the objective of the paper is to discuss the regulatory and supervision framework, the financial market architecture needed to reduce the risk of financial crises in the future. Various reports have addressed these issues: the Turner Review (2009) by the Chairman of the Financial Services Authority (FSA) in the United Kingdom and the de Larosière Report (2009) for the European Union. Others include a report by the Group of Thirty (2009) (the Volcker report), reports by the Financial Stability Forum (2008, 2009) and two communiques by the Group of 20 (2008, 2009). A list of regulatory proposals, common to all these reports, includes regulation on liquidity risk, market (trading) risk, capital, counterparty risk, compensation schemes, systemic risk and systemic institutions, and the control of cross-border financial institutions.

**Control of liquidity risk**
- Control liquidity risk with stress test

**Control of market (trading) risks**
- Control market risk with stress test
- Increase capital regulation on illiquid assets
- Increase capital regulation on re-securitization (securitization of securitized tranches)

**Control of capital**
- Increase tangible equity and Core Tier 1 relative to Tier 2 securities. Impose a leverage ratio (equity over assets).
- Reduce the procyclicality of capital regulation (interpreted as capital regulations becoming binding at a time of a recession, with as a consequence a reduction of lending activity which itself exacerbates a recession. In reverse, capital regulation are not binding at a time of economic expansion, which facilitates lending, increasing the economic expansion and, possibly, bubbles in some asset markets). Proposal to create dynamic provision, to move away form marking-to-market of some assets, or to create a capital buffer in periods of economic expansion.³

**Control of counterparty risk**

-Reduce counterparty risk by moving the CDS market to organized exchanges with margin calls and daily settlements.

**Control of compensation schemes**

- Design financial incentives away from short term profit to longer term profit. Include clawback clauses in compensation schemes to introduce symmetry in the sharing of gains and losses.

**Control of systemic risk**

-Control of macro systemic risk. The view is that the micro control of the soundness of individual financial institutions is not sufficient, and that public authorities need to control systemic risk, a risk rarely defined. Our interpretation of systemic risk is the threat of economic shocks that could affect jointly several institutions (increasing correlation across the default risk of financial institutions). An example of a shock is a bubble on the real estate market or the devaluation of a currency when domestic units are running a foreign exchange risk. The de Larosière report (2009) proposes to replace the Banking Supervisory Committee, a college of European supervisors who meet at the European Central Bank),⁴ by a European supervision.
Systemic Risk Council (ESCR) presided by the President of the European Central Bank.\(^5\) The G20 meeting in London in April 2009 proposes to change the Financial Stability Forum (a club of Finance ministers) into a Financial Stability Authority, in charge of monitoring systemic risk with the International Monetary Fund.

- Closer supervision for systemic institutions.

**Control of Cross-border financial institutions**

- Coordinate better the regulation and supervision of international financial groups. The de Larosière Report proposes to move progressively towards a European System of Financial Supervision (ESFS), with *level 3* committees\(^6\) receiving more authority to arbitrage problems with the supervision of international groups. The G20 calls for creation of colleges of national supervisors to coordinate the supervision of international groups.

Additional measures of G20 is a curbing of tax heavens and a supervision of systemic hedge funds, although none of these seem to have been at the origin of the current crisis.

This long catalogue of measures to strengthen bank regulation and supervision is no doubt useful. But, one cannot refrain from asking two questions: aren't these proposals addressing issues of the past (observed during the crisis)? Why were these measures not taken before the crisis? As it seems evident that very few institutions saw the crisis coming. A few quotes from reports published before and during the crisis\(^7\) by the European Central Bank, the International Monetary Fund and the Basel Committee of Banking Supervision (BCBS) are telling:

*November 2006 (report by the Banking Supervision Committee (BSC) of the European System of Central Banks (ESCB), (ECB, 2006, p4): “Vulnerability of the (banking) sector to adverse disturbances has diminished considerably.”*

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\(^5\)Note that according to ECB (2007b), the Banking Supervisory Committee (BSC) was already “contributing to the macro-prudential and structural monitoring of the EU financial system”.

\(^6\)With reference to the Lamfalussy process (Dermine, 2006), *level 3* committees, such as the committee of European banking supervisors (CEBS), advise the European commission with steps to harmonize European banking regulations.

\(^7\)Public information on the risk of a crisis on the US subprime market can be dated to February 2007 with the announcement by HSBC of large loan losses in its U.S. consumer finance subsidiary, Household International.


“There is a growing recognition that the dispersion of credit risk by banks to a broader and more diverse group of investors, rather than warehousing such risk on their balance sheets, has helped make the banking system and overall financial system more resilient. The improved resilience may be seen in fewer bank failures and more consistent credit provision. Consequently the commercial banks may be less vulnerable today to credit or economic shocks”.

Following the crisis, as discussed above, emphasis is put on strengthening regulations and supervision, such as those on liquidity risk and stress testing, and the Basel 2 capital regulations are criticised for focussing too much on a single capital measure (Acharya and Richardson, 2009). However, a reading of Pillar 2 of the Basel 2 regulation finalized in June 2004 (BCBS, 2004) indicates explicitly that banking supervision must go beyond capital regulation:

“# 738. Market risk: The assessment is based largely on the bank’s own measure of value-at-risk or the standardized approach for market risk. Emphasis should also be placed on the institution performing stress testing in evaluating the capital to support the trading function” (BCBS, 2004, p161).

# 741 Liquidity risk: Liquidity is crucial to the ongoing viability of any banking organization. Banks’ capital positions can have an effect on their ability to obtain liquidity, especially in a crisis. Each bank must have adequate systems for measuring, monitoring and controlling liquidity risk. Banks should evaluate the adequacy of capital given their own liquidity profile and the liquidity of the markets in which they operate.” (BCBS, 2004, p161)

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8 Baseline 2 regulations were applied in the European Union in 2008.
One cannot but observe that Basel 2 was asking explicitly for stress testing in market risk and liquidity risk. Why were these regulations not enforced? All the above proposals deal with emphasis on existing regulations or on new regulations, but they fail to address a central issue: the enforcement of regulations and conservative bank supervision. Moreover, the emphasis is almost exclusively on a reinforcement of public controls. No mechanism suggests to develop private controls. In our opinion, three additional issues have to be addressed in a satisfactory manner if one wants to reduce significantly the risk of future global financial crises:

1. The accountability of banking supervisors. Banks were heavily regulated for many years. Why has the current supervision system allow this crisis to happen?
2. The too-big-to-fail doctrine. There is an accepted view that large, systemic institutions should not be allowed to fail. This creates a problem as the credit risk on these institutions is not priced properly by the market, creating a risk of moral hazard. As an outcome of the resolution of the crisis is creating even bigger institutions (such as the merger of Bank of America, Countrywide and Merrill Lynch, or BNP-Paribas and Fortis), one needs to review this too-big-to-fail doctrine.
3. The supervision of international banking groups needs to be clarified.

These issues are discussed in the next section

Section 2 Three Proposals to Complete the Reform Agenda

Accountability of Banking Supervisors

It is a common observation that over the last two years, unlike the case of CEOs of banks, very few heads of national supervisory authorities have been invited to step down. This raises a question of the accountability and independence of banking supervisors. An illustrative example is the case of several countries of Central and Eastern Europe (ECB, 2006, 2007a). Banks were allowed to lend massively in foreign currency (mostly Swiss francs, euro, and Yen) on the individual mortgage market. This created a large source of systemic risk, as the devaluation of the local currency would raise the rate of default in the entire banking system. Why has this source of systemic risk been allowed to develop? It is not difficult to imagine that, for many ministers, a strong development in the real estate

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9Exceptions include the head of banking supervision in Ireland, or the president of the central bank in Iceland.
market was helping the economy, employment, and the public budget with increased tax receipts. One would have needed a very brave bank supervisor to put a break on foreign currency lending, slowing down the economy and hurting real estate developers. An other example is the risk division index imposed on mutual funds in some countries. So as to protect investors and provide them with minimum risk diversification, a mutual fund cannot invest more than 10% of its assets with the same counterparty. However, when money market funds were created in Europe, competing with bank deposits, banks have lobbied successfully in some countries for an exception to this 10% rule. In Belgium for example, money market funds can invest up to 25% of assets in money market certificates issued by the sponsoring bank (CBFA, 1991). For the sponsoring bank, the exception to the 10% risk rule was welcome to retain liquidity in the bank. The argument for the exception is that, regulated by competent authorities, the risk of bank default is minimum. Here is again an example of how lobbying and a twist in regulation could harm the systemic stability of the financial system if worries about bank soundness start to migrate to the money market funds market. Some (Rochet, 2008) are calling for truly independent banking supervisors who would be evaluated on their success in maintaining the stability and soundness of a banking system. In the same way as central banks have been given independence to conduct monetary policy to control inflation, independence would be given to banking supervisors to develop soundness of the banking system. One must recall that the independence of central banks is justified by the argument that, due to short cycles of political elections, Ministers of finance will be tempted to expand money supply to steer the economy in the short term, at a cost of creating inflation and longer term ills for the economy. To reduce the impact of lobbying or too short term goals of public policy makers, independence was given to central banks to control inflation. Should banking supervision be given a similar independence?

The de Larosière report (2009, footnote 10, p 47) is very explicit on this issue and the limited degree of independence that should be given to banking supervisors:

“As such the supervisory authority must be empowered and able to make its own independent judgements (e.g. with respect to licensing, on-site inspection, off-site monitoring, sanctioning, and enforcement of the sanctions), without authorities of the industry having the right or possibility to intervene. Moreover, the supervisor itself must base its decision on purely objective and non-discriminatory grounds. However, supervisory independence differs from central banking independence (i.e. in relation to monetary policy), in the sense that the government (usually the Finance Minister) remains politically responsible for maintaining the stability of the banking system, and the failure of one or more financial institutions, markets or infrastructure can have serious implications for the economy and the tax payer’s money.”
The de Larosière report is very explicit on the limited independence of banking supervisors: day-to-day banking supervision should be independent, but, unlike monetary policy, the government is responsible for maintaining the stability of the banking system. Since this system seems to be prone to regulatory capture and/or short term political interest, one wonders as to whether banking supervision should not receive the same degree of independence as that given to monetary policy and central banks. Note that the decision to bail out an institution with implications for tax payers money would still remain with the government. What would be given to the independent authority is the authority to pass regulation and to enforce supervision with the sole objective of preserving the stability and soundness of the banking system. In the author's opinion, given that it is not a lack of regulations but poor enforcement by banking supervisors that has contributed to the crisis, a reinforcement of the accountability of banking supervisors is a must. Independence with clearly set objectives -soundness of the banking system- would contribute greatly to accountability.

**The Too-big-to-fail doctrine**

Several of the international proposals call for closer supervision of systemic institutions. Although not explicitly mentioned, as central banks have generally chosen to keep some ambiguity, there is an implicit recognition that the default of large institutions would cause systemic risk, and that, in case of distress, they would benefit *de facto* from some type of public support. As public support has often taken the form of public guarantees on the debt issued by these firms, the systemic institutions benefit from a significant source of competitive advantage: the ability to raise debt at a lower cost of funds. There is no doubt, in the author's opinion, that this state of affair has facilitated the creation of very large financial institutions. And one is forced to recognize that the resolution of the crisis has created even larger systemic institutions. In the United States, Bank of America has purchased Countrywide and Merrill Lynch. In Europe, the Belgian government has sold Fortis Bank to the French BNP-Paribas. In the United Kingdom, Lloyds Banking Group has been formed with the merger of Lloyds TSB and HBOS. To resolve the moral hazard resulting from the implicit debt guarantee, the authorities are calling for a closer supervision of systemic institutions with potentially a larger capital ratio, as, unregulated, they would not take into account the systemic cost of a failure. Again, we recognize the need to supervise closely systemic institutions. But as these institutions have been identified long ago (Dermine, 2000), one is left wondering again as to why large institutions, such as Citigroup or UBS, were allowed by supervisors to grow so much and take large risks. The previous proposal - granting more independence to supervisors- would reinforce their power and accountability. A complementary mechanism would be to increase private discipline. Several participants
have claimed that private discipline has functioned properly during the crisis as shareholders of banks have been penalized dearly. But, this is not enough. Equity is a very small fraction of the funding of banks’ assets. In most cases so far, bank debt -including non-insured deposits, interbank debt, subordinated debt- has been protected, often with explicit public guarantees. A way to increase scrutiny of banks, beyond that of supervisors, is to put bank debt at risk, that is to create the risk of bank failure. As these systemic institutions are vital for the proper functioning of the economy, one needs to design a bankruptcy system that allows for the benefits of default (increase in market discipline), with a maximum reduction of the cost of default (Dermine, 2003, 2006). To reduce the cost of the default of a large bank, three features must be met. The first is that the bank should be closed for only a few days (during a week end). As depositors and consumers need to access their funds rapidly, the resolution of bankruptcy must be swift. Bankruptcy court must be able to swap very rapidly debt for equity before the re-opening of the bank. Secondly, to avoid the fear of domino effects (the failure of one bank causes the failures of other banks), credible information on counterparty risk must be available on the spot. Third to reduce the risk of a bank run by uninsured short term depositors and instability, a mechanism must be put in place to chase deposits who have run to avoid the default of the bank. Having no place to hide, they will have no incentive to run (Baltensperger and Dermine, 1986). In short, all banks should be able to meet the bankruptcy acid test: they can be put into bankruptcy. If it is not feasible, then the structure of the financial institution must be changed. With bank debt at risk, there will be much more pressure from private financial markets to limit bank risk. It seems to us that the current proposal calling for closer supervision of systemic banks could be a step in the wrong direction if it increases incentives for banks to become large and systemic.

Finally, a last recommendation on how to complete the international reform agenda, is to address more completely the supervision and corporate structure of international financial institutions.

**The Supervision of International Banking Groups**

Both the G20 communiques (2008, 2009) and the de Larosière Report (2009) have highlighted the need for an adequate supervision of international banking groups. The call is to create effective colleges of national supervisors to ensure better supervision of international banking groups. In the United Kingdom, the Turner Review (2009) also emphasizes a proper regulation of domestic and international banks operating in the UK. This followed the collapse of Icelandic banks which were collecting deposits through a branch
network in the UK Notice that an adequate supervision of international banks operating abroad with branches or subsidiaries is not a new issue. The collapse of the German Bank Herstatt in 1974 prompted the Basel Concordat (BCBS, 1983). It called, in the case of branches, for regulation of capital by the home regulator of the parent, and liquidity regulation by the host state. Later on, the defaults of Banco Ambrosiano Holdings and BCCI called again the attention to the supervision of international groups. Recent calls to improve the supervision of international financial firms confirm that lessons of history have not yet delivered satisfactory responses. In the European Union, although the single market has been in place since 1992, the creation of significant cross-border banking groups is a recent phenomenon (Schoenmaker and Osterloo, 2004). It started with the creation of Nordea, the merger of four Nordic banks completed in 2000, the acquisition of Abbey National by Banco Santander in 2004, followed by Unicredit and HVB in 2005, and BNP-Paribas with BNL (2006) and Fortis (2009).

In the context of cross-border banking, one needs first to identify two specific issues. These concern, successively: 1. the presence of cross-border spillover effects and 2. The financial ability of some countries to deal with bailout costs and large and complex financial institutions. As the European Union is one of the more advanced cases of international banking integration, a discussion of the adequacy of current institutional structure follows. We then draw conclusions on the G20 world level proposals. In the European Union, the supervision of a bank operating through a branch network is supervised by the parent home supervisor, while a subsidiary is controlled by the host authority.

Two specific issues of international banking

The first and main issue concerns cross-border spillovers and the fear that the provision of financial stability (a public good) by national authorities might not be optimal. Four types of potential cross-border spillovers can be identified: i. cross-border cost of closure, ii. cross-border effects of shocks to banks’ equity, iii. cross-border transfer of assets, iv. cross-border effects on the value of the deposit insurance liability.

i. Cross-border cost of closure. Imagine that a foreign bank buys a Dutch bank, and converts it into a branch. According to EU rule on home country control, the Dutch branch

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10 A third issue of a more technical nature is deposit insurance coverage and the ability to reimburse depositors rapidly in case of bank closure (Dermine, 2006).
would be supervised by the authority of the foreign parent. However, Dutch authorities remain in charge of financial stability in the Netherlands. The Dutch treasury could be forced to bail it out for reasons of internal stability, but would not have the right to supervise the branch of a foreign bank because of home country control. Since the lender-of-last-resort and the treasury will be concerned primarily with their domestic markets and banks operating domestically, and since they will bear the costs of a bail-out, it is legitimate for insurers to keep some supervisory power on all institutions (branches and subsidiaries) operating domestically. That is, host country regulations could apply to limit the risks taken by financial institutions and the exposure of the domestic central bank or treasury in cases of bailing out. In other words, home country control has to be complemented by some form of host control as long as the cost of bailing out remains domestic. This positions appears to have been partly recognized by the European Commission which states that “in emergency situations the host-country supervisor may -subject to ex-post Commission control- take any precautionary measures “ (Walkner and Raes, 2005, p.37). This argument is again very present in the British Turner Review calling for effective supervision of all institutions operating in the UK. In this case, since the default of a large international bank could affect several countries, the optimal decision to bail out should take into account the interest of all parties-countries affected. As is discussed below, such a decision could be transferred to the European level or should at least require coordination among these countries.

ii. Cross-border effects of shocks to banks’ equity. Peek and Rosengren (2000) demonstrated the impact on the real US economy of a drop in the equity of Japanese banks, resulting from the Japanese stock market collapse in the 1990’s. The transmission channel runs through a reduction in the supply of bank credit. Since in a branch-multinational bank, the home country will control solvency (through policy on loan-loss provisioning and validation of probability of default in the Basel II framework), it could have an impact on the

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11 Although Iceland is not a Member of the European Union, the provisions of the single market applies it due to its membership in the European Economic Area (EEA). This is the reason why branches of Icelandic banks were allowed to operate in the UK with apparently minimum supervision by the British authorities (Turner Review, 2009).

12 It is well known that the Bank of Italy did not intervene to prevent the collapse of the Luxembourg-based Banco Ambrosiano Holding, because it created little disruption on the Italian financial markets.

13 Bailing out would occur if the failure of a branch of a foreign bank led to a run on domestic banks.
real economy of the foreign country. In the current crisis, similar fear has been expressed by countries of Central and Eastern Europe having banking systems controlled very largely by foreign banks.

iii. Cross-border effects of transfer of assets. In a subsidiary-type multinational, in which the host country retains supervision of the subsidiary, there could be a risk that the home country colludes with the parent bank to transfer assets to the parent bank. This risk has been discussed in the countries of Central and Eastern Europe. An example is the case of Lehman Brothers Holdings. The investment bank had the habit to centralize cash operations in New York. In the case of Lehman Europe, the sweep had taken $8 billion out of the UK business the Friday before it collapsed.

iv. Cross-border effects on deposit insurance. The general argument is related to diversification of risks in a branch-based multinational, which, because of co-insurance, reduces the value of the put option granted by deposit insurance (Repullo 2001, Dermine 2003). There is an additional dynamic consideration to take into account. A multinational bank could be pleased with its overall degree of diversification, while each subsidiary could become very specialized in local credit risk. This implies that banks in a given country could find themselves increasingly vulnerable to idiosyncratic shock. One could argue that, for reasons of reputation, the parent company will systematically bail out the subsidiaries as if they were branches. This could be true in many cases, but there will be cases where the balance of financial costs versus reputation costs may not be so favorable. Capital adequacy rules should be less stringent on branch-based structure. The more general point is that diversification should be rewarded with less stringent capital adequacy ratio. Cross-border spillovers raise the question of whether coordination of national interventions will be optimal (Freixas, 2003). This will be discussed in our assessment of the European institutional architecture.

Bailing out costs: Too big? Too complex?

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14 The Basel Committee on Banking Supervision (2003) discusses the respective role of host and home country in validation of PDs. It calls for adequate cooperation between host and home authorities, and a lead role for the home country authority. In the case of Nordea, the Swedish supervisory authority will have the final control of PDs across the group. This is in line with recommendation by the European Union (ECB, 2007b)

15 FT 15 April 2009.
A second issue is that the bail-out of a large bank could create a very large burden for the treasury or deposit insurance system of a single country (Dermine 2000, 2006). This was precisely the case of the Icelandic banks whose size exceeded vastly the insurance capability of the country. A related issue that has received much interest is that some banks have become too complex to fail. Imagine the case of a large European bank with significant cross-border activities and non-bank activities (such as insurance or asset management), which runs into financial distress. It would be very difficult to put this bank into receivership. Given the complex web of corporate subsidiaries and the various legal complexities, the uncertainty concerning the costs of a default is likely to be high, and this complexity might create a temptation for a bail out (‘too big and too complex to fail’).

Two cross-border banking issues related to financial stability have been analyzed: cross-border spillover effects and the size and complexity of bail out. Let us now review the adequacy of the current EU institutional structure.

**Adequacy of EU Institutions**

The EU institutional structure currently in place to deal with financial crises has received a great deal of attention in the last ten years (ECB, 2007b). A series of committees have been created to facilitate cooperation and exchange of information, and a directive on winding up financial institution has been adopted. The Brouwer reports (Economic and Financial Committee, 2000 and 2001) had very much validated the current EU institutional structure to deal with a financial crisis. They essentially argued that there would be no legal impediment to the transfer of information across borders, and recommended an additional effort to strengthen cooperation through Memorandum of Understanding (MOU) dealing with crisis situations. In May 2005, it was announced that an emergency plan for dealing with a

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16 There are currently four potential forums for coordination. The European Banking Committee assists the European Commission in preparing new banking community legislation. The Committee of European Banking Supervisors (CEBS) is concerned with the application of EU regulations. At the EU Groupe de Contact (GdC), national supervisors of banks meet regularly to exchange information. At the European Central Bank, the Banking Supervisory Committee (BSC) works in the context of the Eurosystem's task of contributing to the smooth conduct of polices pursued by the competent national authorities relating to the supervision of credit institutions and the stability of the financial system (Article 105 (5) of the Treaty on European Union).

17 One cannot fail to notice the excess of optimism in these reports. Indeed, the 2009 de Larosière reports the lack of resources and authority of the Committee of European Banking Supervisors (CEBS) and the inadequate cooperation in the case of handling the
financial crisis had been agreed by the European Union finance ministers, central bankers and financial regulators. A Memorandum of Understanding among the 25 EU members which facilitate the exchange of information was tested in 2005 and 2006 with a full scale simulation of a financial crisis. But, the ECB opposed a move to agree on *ex ante* sharing rules for financing of a bail out. The latest MOU on cooperation between the financial supervisory authorities, central banks and financial ministries of the European Union was signed on 1 June 2008. Signatories include 58 financial supervisory authorities, 28 central banks including the ECB, and 28 finance ministries (one for each of the 27 UE members, with the exception of Denmark which has a ministry of finance and a ministry of economics as signatories). The number of signatories (114 in total) is representative of the potential complexity in dealing with large international groups in the European Union. The 2008 MOU calls for Voluntary Specific Cooperation Agreement (VSCA) on crisis management and resolution between the finance ministries, central banks and financial supervision authorities of countries A, B and C.

In the context of the Financial Services Action Plan, the directive on *Winding up of Credit Institutions* was adopted in 2004, sixteen years after it was first proposed. It is consistent with the home regulator principle. When a credit institution with branches in other member states fails, the winding up process will be subject to the single bankruptcy proceedings of the home country. Note that, although recognized as a significant piece of legislation to avoid the complexity issue, it falls short of solving the subsidiaries issue.

Accepting the accountability principle, according to which banking supervision, deposit insurance, and bailing-out should be allocated to the same country, it appears that, in European banking, there are three ways to allocate banking supervision: to the 'host' state, to the 'home country', or to a European entity. The pros and cons or the three approaches are reviewed.

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20Official Journal 125, 05.05.2001
In the ‘host’ state approach, adopted in New Zealand, multinational banks operate with a subsidiary structure. The national central bank retain control on banking supervision, deposit insurance, and bail-out. This system suffers from three drawbacks. First, it does not allow banks to realize fully the operating benefits expected from branch-banking (Dermine, 2003 and 2006). Second, a subsidiary structure contributes to the creation of large and complex financial institution (LCFI). Subject to different bankruptcy proceedings, the closure of a large international bank would become very complex. In a branch structure, the European directive on Winding Up would be applicable, subjecting the bankruptcy proceedings of one country. Third, the resolution of a crisis could be hampered, as discussed above, by problems linked to transfer of assets from subsidiaries to the parent, or to problem of sharing of information. It appears that a ‘host country’-based system would not allow to realize fully the expected benefits of European integration.

The second system, the ‘home country’ approach, currently applicable to cross-border branches in the European Union, suffers from two drawbacks. The first is that small European countries, such as Ireland, Sweden, Belgium, Switzerland, or the Netherlands, may find it difficult to bear the cost of the bail-out of a large international bank. European funding might be needed. The second is related to the cross-border spillover effects. The decision to close a bank could affect other countries. In principle, cooperation among countries could take place in such a situation, but one can easily imagine that conflicts of interest between countries on the decision to close a bank will arise, and that the sharing of the bailing out costs among countries will not be simple (Schoenmaker and Oosterloo, 2004; Schoenmaker, 2009). Theses conflicts of interest could, at times, even limit the cross-border exchange of information among regulators. Freixas (2003) have called for ex ante rules to force this transfer of information. Goodhart and Schoenmaker (2009) explore ex ante mechanisms for fiscal burden sharing in a banking crisis in Europe.

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21 According to Schoenmaker and Oosterloo (2004), to allow them to exercise control, authorities in New Zealand require some overseas banks to establish locally incorporated subsidiaries, instead of operating as branches.

22 It must be observed that the ‘host country’ approach is applied as well in Europe when banks operate abroad with subsidiaries.

23 Note that large European countries might prefer the status quo to make the expansion of banks from smaller countries more difficult. One observes that the resolution of the banking crisis with public funding has increased the public debt of small countries, with a significant impact on the spread paid on these debt.
The de Larosière Report is the first serious call on the lack of adequacy of current arrangement to prevent and deal with financial crises. Besides the replacement of the Banking Supervisory Committee (BSC) by a European Systemic Risk Council (ESRC), the Report proposes to move gradually to a European System of Financial Supervision (ESFS). This is in line with the G20 proposal of creating a college of national banking supervisors to supervise cross-border banks, but it goes further. It wants to give authority to the Committee of European Banking Supervisors to take decision and arbitrage eventual conflicts between national supervisors. In a first stage (2009-2010), the CEBS would be transformed into a European Banking Authority. In a second stage, the European System of Financial Supervision would be created. It would include the college of national supervisors, the newly created European Banking Authority and observers from the ECB/ESCB.

In our opinion, the de Larosière proposal is not going far enough. An adequate public architecture for the proper functioning of financial markets must deal with three issues: regulation, supervision, and the decision to bail out (including financing with tax payers money). The creation of the ESFS is dealing with the first two issues, regulation and supervision. Instead of creating a European body, it relies on a college of supervisors and a banking authority that can arbitrage when necessary. Time will tell if this can function or if there is a need to integrate this network into a single European institution. As concerns the last issue, the decision to bail out, it is left to the national level. As such, it does not solve the problem of externality discussed earlier. It is therefore not a surprise that, although calling for international cooperation, the British Turner Review wants to strengthen host country supervision in the United Kingdom.

The lesson of the European Union with colleges of supervisors and memorandum of understanding is that it does not work satisfactorily at a time of a crisis. The G20 call for the creation of colleges of national supervisors ignores this EU experience. At the European Union, although progress is made in the de Larosière Report in dealing with the first two issues, regulation and supervision, a gap still exists with the bailing out decision. The severity of the international crisis call for more advanced solutions to cross-border banking.

The ‘home country’ approach has served well European banking until now, because the scale of cross-border banking was limited and banks were operating abroad mostly with subsidiaries. Host country supervision was effectively taking place. The crisis has highlighted two facts: first that branch banking was starting to take place limiting control by the host authority. Secondly, that in case of failure, international cooperation was not effective. The two drawbacks of the ‘home country’ approach, discussed above, lead us to call again for a European-based system of banking supervision and deposit insurance for large international
banks. An international bank would be defined either by its size, equity relative to the GDP of one country (say, 3%), or by its market share in a foreign country (say 10 %). Goodhart (2003) argued that a European supervisory agency cannot exist as long as the cost of the bailing-out is borne by domestic authorities, with reference to a British saying “He who pays the piper calls the tune”. There is no disagreement with this accountability principle, but the recommendation to move banking supervision, deposit insurance, and bailing-out to the EU is motivated first by the fact that, de facto, the bail-out of large banks from small countries will be borne by European tax payers, and, second, that spillover effects demand a coordinated resolution. A discussion of cross-border bail-out will turn rapidly into an issue of tax payers' money and into a constitutional debate. A discussion on the preference of citizens to define the border of the nation at the country or European level cannot and should not be avoided. It will guide the choice among 'host country' or EU-wide control of international banks.

At world level, it seems that very strong host supervision should prevail. This is very much the case as international banking often develops with subsidiaries (Dermine, 2003).

Conclusion

Following the international banking crisis, a series of proposals have been made to reinforce the quality of banking supervision. They concern: liquidity, trading risk, capital and provisioning, compensation policies, systemic risk, and college of national supervisors. It is the author's opinion that, although useful, these proposals stop short of addressing three main issues: how to increase the accountability of supervisors? How to limit the too-big-to-fail doctrine? How to supervise international groups?

It is striking to observe that pre-crisis regulation, such as Basel 2, was already calling for stress tests on liquidity and market risk. The supervision issue in the crisis was not a lack of regulation but a lack of enforcement of regulation and effective supervision. How to increase accountability of bank supervision seems to be the issue. The second issue is the existence of systemic banks. Their existence seem to be taken for granted, with a need to guarantee their debt and, as a consequence, to supervise them closely to limit moral hazard. An alternative would be to design an adequate bankruptcy process for these institutions. The fear of bankruptcy would raise private incentives of debt holders to monitor bank risks. Finally, the G20 proposal of a college of supervisors will not help much if one reads the last 10-year experience of the European Union. The ‘home country' principle has served well European banking integration until now because most banks were operating across borders with subsidiaries (regulated by host authorities). Cross-border banking with branches and spillover effects caused by bank failure call for European cooperation. And, in addition, small
European countries may not be able, as the extreme case of Iceland illustrates, to bail-out their large international banks. This raises the issue of transferring the cost of bailing out, deposit insurance, and banking supervision of large international banks to a European entity. Current policy proposals stop short of this eminently political step.
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Figure 1: No banks

- House = 100
- Debt = 80
- Savings = 20
- Debt = 80
- Savings = 80
Figure 2: No banks. Reduction of value of real estate of 10.
Figure 3: Bank Financing
Figure 4: Banks, interbank markets, securitization, credit default swaps (CDS)