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\* Views expressed are those of the authors and do not necessarily reflect official positions of De Nederlandsche Bank.

Working Paper No. 310

August 2011

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# The Economic Perspective of Bank Bankruptcy Law<sup>\*</sup>

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15<sup>th</sup> August, 2011

**Abstract:** This paper argues that a special bank bankruptcy regime is desirable for the efficient restructuring and/or liquidation of distressed banks. We first explore the principal features of corporate bankruptcy law. Next, we examine the specific characteristics that distinguish banks from other corporations, and argue that these features are largely neglected in corporate bankruptcy law. Finally, we make recommendations for optimal closure and reorganization policies, which should allow regulators to better mitigate disruptions in the financial system and minimize the social costs of bank distress. We compare the U.S., UK, and German bank bankruptcy frameworks and describe the EU framework for cross-border bank bankruptcy. We support our recommendations with a discussion of the Lehman Brothers and Fortis bank failures.

**Keywords:** *bank bankruptcy law, corporate bankruptcy law, bankruptcy regimes, bank failures, optimal resolution*

*JEL Classifications: G21, G28, G33*

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<sup>\*</sup> Special thanks to Arnoud Boot, Jakob de Haan, and the participants at the FED Cleveland Conference on Resolving Insolvent Large and Complex Financial Institutions, and the Regulations, Capital Markets, and Financial Institutions Workshop in Crete for helpful comments and suggestions. Vlahu acknowledges financial support from the Gieskes-Strijbis foundation. The views expressed in this paper are those of the authors and should not be attributed to the institutions with which they are affiliated.

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# 1 Introduction

The banking industry has faced some of the greatest challenges in recent history and subsequently has undergone dramatic changes. The 2007–2009 financial crisis has made evident that the legal frameworks for resolving troubled banks vary widely across countries. This lack of uniformity, and in many instances the total absence of bank bankruptcy frameworks, has been an obstacle in dealing with large distressed banks and non-banking financial institutions, particularly when they have foreign branches and subsidiaries. The immediate consequence has been a disorderly intervention by financial authorities in many countries, which required huge increases in public debt with serious consequences for taxpayers.

The objective of this paper is twofold. First, the paper emphasizes that corporate bankruptcy law largely neglects distinctive characteristics of banks. This creates the need for a special bank bankruptcy framework. Second, we discuss optimal bank restructuring policies and highlight the importance of bank bankruptcy frameworks for cross-border banking.

When confronted with potential bank failures, two actions were usually taken by financial authorities in the absence of a bank bankruptcy framework, with both actions having unintended consequences. On the one hand, a general insolvency procedure has been applied. The main drawback of a non-bank specific insolvency regime is that it may fail to preserve public confidence in the financial system, since it is mainly concerned with value maximization of creditors' claims. Without public confidence, banks may be subject to runs or widespread panics with repercussions for the economy at large. On the other hand, recapitalization using public funds took place on a large scale. This action might have created ex-ante moral hazard, by giving banks incentives to take more risk when financial system functions normally. In the light of recent events, liquidity injections and asset guarantees may undermine market discipline and subsidize bank creditors at the taxpayers' expense.

Another critical feature of the banking industry not taken into account in corporate bankruptcy is joint supervision of banks' activities by several regulators (as is the case in many jurisdictions, such as the UK). In times of distress, coordination among different parties is difficult,

particularly when failure threatens cross-border banks with subsidiaries spread across different national jurisdictions. National authorities may have a strong incentive to protect domestic creditors, while different insolvency regimes may not be synchronized across countries. Hence, optimal bankruptcy law needs to consider the cross-border implications of bank failure under the current fragmented legal framework.

Our policy recommendations with respect to the special rules needed for resolving troubled banks are centered on four main themes: (1) timely intervention by the regulator, (2) optimal resolution of distressed banks, (3) harmonization between a supervisory/regulatory framework and bank resolution regime, and (4) the need for international coordination.

Timely intervention should consist in a pre-insolvency intervention, which can address bank financial weaknesses at an early stage. The regulator should impose rigorous sanctions if the troubled bank fails to take corrective action. It is crucial that the regulator can act rapidly, without the approval of a bankruptcy court, or the consent of shareholders or creditors.

Ex-post resolution for distressed banks should be geared to containing negative externalities of bank failure. An optimal resolution mechanism should comprise effective tools to deal with failing banks, such as selling assets, partial or total transfer of assets and liabilities to a new entity, temporary public control, and capital injection. We argue that the regulator endowed with high powers is more suitable to lead restructuring than the court. Bank bankruptcy law should be also more creditor-friendly than corporate bankruptcy law; that is, it should be stricter to bank shareholders in comparison to corporate bankruptcy law.

The harmonization between a supervisory/regulatory framework and bank resolution regime can be attained by requiring banks to write living wills, which would lower uncertainty in the case of bank failure and allow authorities to anticipate the losses and address spillover effects in a timely manner. Restructuring funds should be created in times of economic growth in order to increase the winding-up efficiency of troubled banks in times of economic distress.

Banking regulation and bankruptcy procedures should be subject to harmonization across countries, in order to facilitate optimal supervision and resolution of cross-border banks. This will ensure the convergence of national insolvency regimes and eliminate disputes between domestic regulators regarding national interest and sovereignty. An optimal agreement for sharing losses, supervisory duties and responsibilities during the resolution process between national authorities might strengthen cross-border coordination with beneficial impact on ex-post outcomes.

Subsequently, we confront our proposals first with the descriptive analysis of bank bankruptcy frameworks around the world and second with the three selected bank bankruptcy frameworks: U.S., UK and German bank bankruptcy laws. We also analyze the lessons learned from the failure cases of Fortis and Lehman Brothers.

This paper is organized as follows. In Section 2, we present the principal elements of corporate bankruptcy law and discuss the main characteristics of banks that differentiate them from other companies. We explain the optimal bank restructuring policies, which can address these peculiarities of the banking industry. Section 3 presents the legal frameworks and resolution regimes for bank insolvency in different countries. Section 4 supports our main recommendations with real banking crisis cases from the 2007-2008 financial turmoil. Section 5 concludes the paper.

## **2 The need for bank bankruptcy law**

### **2.1 General issues in bankruptcy law**

We first synthesize various rationales for the existence of general bankruptcy law given in the economic literature. The main purpose of bankruptcy law is to prevent coordination problems among creditors. It also needs to promote efficiency in the relationship between a debtor and creditors in the ex-ante sense when the debtor is solvent, and in the ex-post sense when the debtor is already insolvent.

The need for bankruptcy law is most evident in the case of a corporation borrowing from several creditors. Without bankruptcy law in place, *coordination problems* between creditors may trigger bankruptcy prematurely (Jackson, 1986; White, 2005). Even upon a slight perceived problem with a corporation, each creditor may try to be on the safe side and sue the corporation first in order to be repaid before other creditors. Creditors would then race to collect their debt in a rush similar to a run on a bank. Secured creditors could cash in the collateral. Short-term creditors could decide not to roll over their loans. This would force the premature liquidation of a corporation that may be worth more as a going concern.

Bankruptcy law aims to mitigate this coordination problem. A common mechanism is to impose an automatic stay (also called a legal stay) in which debt repayment in bankruptcy is frozen. Creditors with equal debt contracts are given equal standing in bankruptcy. Early collection of debt no longer puts them in front of other creditors. This debtor-friendly mechanism mitigates the race to collect debts. It gives the corporation close to insolvency more breathing space and may prevent its premature liquidation (Hotchkiss et al., 2008; von Thadden et al., 2010). Bankruptcy law aims at setting the optimal timing of *when* the corporation would enter bankruptcy and, by doing so, allow for efficient restructuring.

In the ex-ante sense, bankruptcy law should induce optimal behavior from debtors and their creditors before bankruptcy. Bankruptcy law should (1) give debtors incentives to undertake optimal risk and exert sufficient effort, (2) elicit optimal control of debtors by creditors, and (3) affect optimal timing of bankruptcy.

Proper incentives lower the cost and access to debt financing (Berkowitz and White, 2004; Longhofer, 1997).<sup>1</sup> Only if bankruptcy is considered as a sufficient threat, would managers take debt repayment seriously enough and would not expropriate free cash flow from the firm (Jensen, 1986) or conceal the true returns of the firm (Gale and Hellwig, 1985; Townsend, 1979).

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<sup>1</sup> Countries with greater creditor protection have bigger and more developed credit markets (La Porta et al., 1997).

Creditor-friendly bankruptcy law creates appropriate incentives for debtors in the ex-ante sense. It presents a threat that underperforming managers would be fired in case of bankruptcy, thereby giving managers incentives to provide sufficient effort (Povel, 1999) and undertake less risk (Bebchuk, 2002). If bankruptcy law is creditor-friendly, creditors anticipate high returns in case of bankruptcy and demand lower interest rates, which further increase the attractiveness of safe projects and limit risk-taking (Bebchuk, 2002). Acharya et al. (2009) confirm that firms take less risk under creditor-friendly bankruptcy codes mainly because strong creditor rights increase the likelihood of firms engaging in diversifying mergers, with management being dismissed in reorganization.

The design of bankruptcy law should set the right incentives to trigger bankruptcy. Creditor-friendly bankruptcy law acts as a threat for a debtor not to strategically default (i.e., to declare bankruptcy to obtain debt relief). However, when the firm approaches bankruptcy, the need for creditor-friendly bankruptcy law may diminish. Under creditor-friendly bankruptcy law, the manager of a distressed firm will try to postpone bankruptcy to the detriment of creditors (Berkovitch and Israel, 1999). The manager can cut back on investing in profitable projects or even use creative accounting to hide losses. A debtor-friendly bankruptcy law may improve the timing of bankruptcy. Keeping the manager on board in case of bankruptcy may induce the manager to declare bankruptcy in a timely manner (Povel, 1999).

In the ex-post sense, when the debtor has already entered bankruptcy, three new objectives of bankruptcy law become important. First, bankruptcy should lead to welfare-increasing asset reallocations. Second, the costs of bankruptcy due to administrative procedures and lost reputation should be as low as possible. Finally, the incentives for the debtor and creditors should be reevaluated. We consider each objective in turn.

First, efficient bankruptcy procedures are central for the smooth operation of a market economy. Corporations usually use bankruptcy to exit the industry and to cease their operations. Bankruptcy allows competition to drive inefficient corporations out of business and incapable managers out of their jobs, which raises the average efficiency of the industry (Syverson, 2004).



Cheap and fast exit from the industry spurs competition. Consequent reallocations lead to Schumpeterian “creative destruction” that may offer welfare gains and benefit consumers.

Second, despite their importance, bankruptcy procedures around the world are time-consuming, costly and inefficient (Djankov et al., 2008). There are three basic procedures to address insolvency: foreclosure by the senior creditor, liquidation and reorganization. Under foreclosure the ownership of the entire firm or specific assets of a bankrupted firm are transferred to the (most senior) creditor either directly or through a fast-track court procedure. Under liquidation, the corporation terminates its operations and sells off its assets, or is sold for cash as a going concern (e.g., Chapter 7 in the U.S. bankruptcy law). Under reorganization the corporation restructures its operations with the aim of continuing its business (e.g., Chapter 11 in U.S. bankruptcy law).<sup>2</sup>

Finally, bankruptcy law should also give optimal incentives to the already insolvent debtor and his creditors. Creditor-friendly bankruptcy law increases risk-taking once a firm is already financially distressed. The financially distressed firm can no longer survive if it realizes modest returns on safe projects. The only way to prevent bankruptcy is to aim for high returns stemming from risky projects. Debtor-friendly bankruptcy law may mitigate the moral hazard distortion of insolvent debtors for risky projects – the so-called gambling for resurrection incentives (Bebchuk, 2002; Gertner and Scharfstein, 1991).

We have shown why bankruptcy law is needed. The main lessons to be drawn from this overview are as follows. Bankruptcy law mitigates coordination problems of creditors that would trigger liquidation of the corporation worth more as an on-going entity. In the ex-ante sense, creditor-friendly bankruptcy law gives proper incentives to creditors, firms and managers. In the ex-post sense, however, debtor-friendly bankruptcy law may lead to more efficient restructuring

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<sup>2</sup> The direct costs of bankruptcy consist of legal costs such as expenses for lawyers and restructuring accountants. The estimates for the U.S. deviate across empirical studies and range from 1.4% to 9.5% in Chapter 11 proceedings and from 6.1% to 8.1% in Chapter 7 proceedings (Altman and Hotchkiss, 2006). The indirect costs include opportunity costs such as lost sales/employees/suppliers due to bankruptcy. Indirect costs are substantially larger. Andrade and Kaplan (1998) estimate them to be 10% to 20% of the total assets of the firm.

of the failing firms. Next, we will focus on banks and the need for special bank bankruptcy legislation.

## **2.2 Are banks special?**

Banks are considered special or different from other corporations in several ways, making corporate bankruptcy law ill-suited for resolving bank bankruptcies. First, trust in the financial sector is crucial to prevent bank runs and a collapse of the entire financial system with repercussions for the economy at large. Second, implicit and explicit government guarantees exacerbate incentive problems, creating banks that strive as living zombies and gamble for resurrection. Third, banks are often supervised by several regulators and operate within several different legal and regulatory frameworks.

One of the features that distinguish banks from other corporations is that banks act as liquidity providers. Banks provide access to liquid funds to their creditors in the form of liquid demand deposits and to their borrowers in the form of loan commitments (Diamond and Dybvig, 1983; Kashyap et al., 2002). Liquidity provision, however, also makes banks intrinsically unstable. The coordination problem of being the first creditor to collect is especially acute among banks and is rooted in the withdrawal-upon-demand and sequential-service-constraint features of the deposit contract. The fear is that excessive withdrawals would force a bank to liquidate assets and thereby incur substantial liquidation costs that undermine the bank's ability to honor its remaining deposits. Thus, bank runs might be triggered by pure panics (i.e., coordination problems among depositors). The bank's demise could then become a self-fulfilling prophecy: once a depositor thinks that others will withdraw, he will withdraw too.<sup>3</sup>

Corporate bankruptcy law solves coordination problems by using an automatic stay and freezing debt contracts until bankruptcy is resolved. Unlike corporate bankruptcy law, bank bankruptcy law can only impose an automatic stay on bank creditors at a substantial cost because that would destroy one of key bank functions: liquidity provision.

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<sup>3</sup> Excessive withdrawals could also be triggered by concerns about the bank's well being and by poor bank fundamentals (Calomiris and Kahn, 1991; Chari and Jagannathan, 1988).

Runs on individual banks create problems, but of real concern are systemic crises. If one bank goes bankrupt, deposit holders may interpret this event as a signal for solvency problems in the entire financial sector and react by massive withdrawal of funds.<sup>4</sup> The social cost of bank failures may then be considerable. Bank failures can cause a sharp monetary contraction and induce a recession (Bernanke, 1983) and also may reduce the supply of bank loans, which is especially detrimental to small- and medium-sized business financing (Hubbard et al., 2002). The collapse of a banking system might even derail the payment system and impair trade. Empirical evidence confirms the high costs of banking crises.<sup>5</sup>

The systemic impact of bank bankruptcy and its repercussions for the economy at large are much more pronounced than the failure of a non-financial firm. One of the main objectives of bank bankruptcy law should therefore be to secure the systemic stability of the banking system. In this sense, bank bankruptcy law cannot be evaluated without considering banking regulation. Deposit insurance and regulatory intervention (i.e., bailout and closure policy) are standard regulatory instruments employed to avoid systemic banking crises. Deposit insurance provides a guarantee to depositors that their claims will be repaid (generally up to a maximum) and so eases depositors' fears in times of perceived financial weakness. However, deposit insurance as well as other prudential measures does not completely eliminate the instability in banking. Bank runs may still occur from the wholesale side, from uninsured depositors, or from short-term creditors that terminate their roll-over contracts or demand additional collateral (Brunnermeier, 2009). In addition, borrowers could induce severe strain by draining their credit lines when a financial crisis emerges (Ivashina and Scharfstein, 2010). Deposit insurance could even undermine stability by encouraging bank risk-taking, due to decreased market discipline from depositors.

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<sup>4</sup> See Allen and Gale (2000) and Diamond and Rajan (2005) for theoretical models of contagion and Iyer and Puri (2010) and Kelly and O'Grada (2000) for empirical evidence.

<sup>5</sup> Hoggarth et al. (2002) assess the costs at 15 to 20% of annual GDP. In the decade after a crisis, GDP growth is significantly lower and unemployment higher compared to the decade before (Reinhart and Rogoff, 2010).

Systemic reasons may force regulators to prevent banks from failing. The problem is more acute when a bank becomes “too-big-to-fail,” “too-complex-to-fail” and “too-interconnected-to-fail” (Brown and Dinç, 2008; Freixas et al., 2000; Mailath and Mester, 1994; Herring, 2002; Rochet and Tirole, 1996). In this case, the regulator may not be able to close the bank without damaging systemic stability and without adverse consequences for the real economy. Political interference may even aggravate the situation. Failures of financial institutions might have an adverse effect on the economy and, as a consequence, on the prospects of the incumbent party for another mandate. Hence, bank failures bring large political costs resulting in political pressure on regulators for forbearance.<sup>6</sup>

Systemic stability considerations create a soft-budget-constraint problem (Dewatripont and Maskin, 1995). In particular, as banks anticipate that their failure is costly for the economy at large, this will create a moral hazard problem in an ex-ante sense: a stable bank no longer fears bankruptcy and undertakes excessive risk to obtain high profits knowing that the potential losses will be absorbed by the deposit insurer or the government. Opaqueness and access to liquid assets elevate the asset substitution problem: a bank can take on excessive risk at short notice.<sup>7</sup> This moral hazard problem is exacerbated in the ex-post sense, when the bank is undercapitalized.<sup>8</sup>

Opaqueness, implicit government guarantees, and deposit insurance form a perfect environment for the continuous existence of undercapitalized banks, also called “zombies” by Kane (1987). Undercapitalized (or even insolvent) banks may still finance themselves through insured deposits and creditors who anticipate a government bailout. The existence of zombie banks creates

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<sup>6</sup> Brown and Dinç (2005) show that bank bailouts are more common before elections. Timely intervention may be avoided by deferring the recognition of losses incurred by troubled banks (Kroszner and Strahan, 1996).

<sup>7</sup> Banks seem to be inherently more opaque than other corporations. Banks acquire proprietary information when lending to borrowers (Boot, 2000). Morgan (2002) provides evidence that the combination of proprietary information and high leverage increases the uncertainty over a bank’s value.

<sup>8</sup> Weakly capitalized thrifts engaged in moral hazard behavior and undertook excessive risks during the S&L crisis (Akerlof and Romer, 1993; Brewer, 1995). La Porta et al. (2003) provide evidence for legal looting in the case of banks in Mexico through favorable related lending.

substantial costs for the economy. Failing banks no longer perform the role of monitoring their borrowers and restructuring underperforming loans (see Caballero et al., 2008 for empirical evidence from weak Japanese banks in the 1990s). They may pick highly profitable but risky investments to gamble for resurrection. This further weakens financial stability.

It is necessary to stress that non-financial corporations are also prone to excessive risk-taking, especially if they are weakly capitalized. However, the agency problems of banks are exacerbated by the presence of deposit insurance and government guarantees that prolong the time in which banks operate in insolvency. In addition, the special role of banks and negative externalities of their failure make banks' agency problems costlier for the economy at large and give banks high bargaining power in negotiations with regulators.

Banking conglomerates are often supervised by several regulatory bodies. Conflicts between the objectives and requirements of these authorities might make the coordination among them very difficult.<sup>9</sup> The conflict of interest between the regulators from different countries may become severe for international (e.g., cross-border) banks. The national regulator may favor too-big-to-fail rescues of national champions. It may fail to sufficiently internalize the disruptive effect of a failure of a foreign bank, but rather ring fence the assets within its reach to satisfy its own regulatory objective. Also legal frameworks are not synchronized across countries. Some countries only use amendments to corporate bankruptcy law when dealing with bank failures, while others have separate bank bankruptcy laws. These issues may spur level playing field and regulatory arbitrage problems. Optimal bank bankruptcy law needs to consider the cross-border implications of bank failure in light of current fragmented regulatory and legal framework.

*Proposal 1: There is a need for special bank bankruptcy law.*

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<sup>9</sup> A single regulator may lead to too much forbearance and to insufficient bank monitoring (Kahn and Santos, 2001). Repullo (2000) advocates that the central bank should act as a lender of last resort when liquidity problems are small whereas the deposit insurer should intervene when the liquidity problems are large. Kahn and Santos (2006) explain why the coordination between multiple regulators is such a difficult problem, by analyzing regulators' incentives to share information with one another.

Banks are special due to opaqueness and fragility of their operations. Their stability is crucial for the economy at large. Bank bankruptcy law should consider these features and, when necessary, deviate from corporate bankruptcy law.<sup>10</sup> It should be in place before bank bankruptcy occurs, otherwise the lengthy and uncertain political process of accepting legislation may postpone immediate regulatory actions. In the case of bank distress, immediate regulatory actions need to be taken to restore confidence and prevent systemic crisis.

## **2.3 Bank bankruptcy law**

In this section, we discuss how bank bankruptcy law should differ from corporate bankruptcy.<sup>11</sup> We stress the need for timely intervention by the regulator and analyze how to optimize the ex-ante and ex-post effects of bank bankruptcy law.<sup>12</sup> We also give guidelines for the design of optimal bank bankruptcy law.

### *2.3.1 Timely intervention*

Timely intervention by the regulator to close undercapitalized banks is crucial for mitigating the negative effects of bank bankruptcy. Before bankruptcy is declared, banks, as opposed to other firms, have to pass through an intermediate phase, when they are illiquid but still solvent. As a result, it is of critical importance for the bankruptcy process to set a trigger for timely intervention above insolvency and (long-term) illiquidity. This allows the regulator to move an undercapitalized but still solvent bank into an insolvency regime. The losses to public funds are minimized (e.g., to the deposit insurance fund) and the reputation of the regulator is safeguarded. Political pressure to keep failing banks afloat eases. Too-big-to-fail and too-complex-to-fail problems are less acute as well. If the regulator's commitment to timely intervention is credible, depositors no longer fear losses. Bank failures are also less damaging for interconnected banks,

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<sup>10</sup> Bliss and Kaufman (2007) compare bank bankruptcy and corporate bankruptcy in the U.S.

<sup>11</sup> Ayotte and Skeel (2010) argue that, even though bankruptcy law can effectively be used for bank failures, special amendments are needed for systemically important banks. In our view, special amendments may not be enough and special bank bankruptcy legislation is better suited for addressing the special features of bank failures.

<sup>12</sup> For a more detailed description of reorganization options in bank bankruptcy and for the treatment of systemic financial crises; see Marinč and Vlahu (2011). This paper builds on Marinč and Vlahu (2011) and focuses on the need for bank bankruptcy law.

containing systemic concerns. Hence, timely intervention prevents unraveling through bank run-type events.

Timely intervention mitigates excessive ex-ante bank risk-taking. If banks anticipate prompt closure they no longer rely on a government safety net. They also refrain from uploading excessive systemic risk. Herding behavior, growing too-big- or too-complex-to-fail may no longer be attractive. Timely intervention prevents ex-post risk-taking if a regulator removes undercapitalized zombie banks that can only operate due to the presence of a government safety net. In this way, gambling for resurrection is limited and financial stability maintained.

Timely intervention also mitigates the drawbacks of a fragmented regulatory framework. In the case of a failure of a cross-border bank, it is easier to reach an agreement between several regulators when the losses due to the intervention are still limited. Timely intervention mitigates political pressure against bank closure because the losses to (uninsured) depositors, the deposit insurer and public funds are limited. However, political pressure mounts in the other direction. Politicians try to establish an influence in the failing bank, its lending practices and restructuring policies either directly or through pressure on the regulator. The regulator should be protected from political pressure as much as possible and should have a clear mandate to sell off the distressed bank after a given restructuring period.<sup>13</sup>

The trigger for the bank insolvency regime could be based on hard quantifiable data or on the discretion of the regulator. In practice, both methods are used; the best seems to be a mixture of both. Strictly defined thresholds limit the forbearance of the regulator. However, banks may conceal information from the regulator to prevent foreclosure.<sup>14</sup> Accounting standards may allow for exaggerated regulatory capital over the true economic value (see Wall et al., 2005 for the

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<sup>13</sup> Government ownership of banks is costly for the economy at large due, to for example, politically influenced lending, lower subsequent financial development and lower growth of per capita income and productivity (La Porta et al., 2002; Sapienza, 2004).

<sup>14</sup> Huizinga and Laeven (2009) show that banks used accounting discretion to conceal true losses when in distress and especially during the 2007–2009 financial crisis.

U.S. experience). In addition, a strictly defined threshold may be too low (or less likely too high). In these cases, relying on strict thresholds is insufficient and a certain level of discretion may be given to the regulator.<sup>15</sup> Discretion gives the regulator the power to close down a problematic bank even if the bank has not (yet) breached formal requirements. Discretion may be abused unless it is accompanied by transparency and clear accountability, and by clear institutional allocation of the intervention responsibilities.<sup>16</sup>

A pre-insolvency phase is a regime, one step before an insolvency regime, which is appropriate for a weak bank before it is severely undercapitalized or even insolvent. A typical example is prompt corrective action under the U.S. bank bankruptcy law. A pre-insolvency phase gives the regulator time to put a weak bank on the right track. It serves as a commitment device for the regulator to intervene in a weak bank in a timely manner. Timely intervention through a pre-insolvency phase may preclude insolvency of a bank and make bank shareholders (and not bank creditors) responsible for bank losses. By insulating bank creditors from losses, the threat of a systemic crisis is mitigated.

The regulator intervenes easily once problems can still be contained. Therefore, a pre-insolvency phase makes the threat of regulatory intervention credible. Banks that anticipate timely intervention refrain from excessive risk-taking. A pre-insolvency phase also serves as a mechanism to preclude weak banks from gambling for resurrection, paying out dividends, excessively remunerating bank management, or pursuing risky investment strategies (e.g., mergers and acquisitions). The banking regulator should have an option to request a capital increase or convert contingent capital into equity, demand divestment of certain risky activities,

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<sup>15</sup> Based on evidence from recent events, Honohan (2008) identifies the limits of rule-based regulation.

<sup>16</sup> Several characteristics make the regulator the most suitable to trigger bank bankruptcy. First, insured and uninformed depositors may trigger bankruptcy too late with a substantial cost for the deposit insurer and public funds. Second, bank management could manipulate accounting figures to postpone bank liquidation.



impose limits on lending activities, and require a reduction in wholesale funding. An assessment based on detailed quantified criteria should trigger mandatory intervention by the regulator.<sup>17</sup>

*Proposal 2: A pre-insolvency phase should exist.*

The distressed bank creditors could already obtain partial control through corporate governance mechanisms in a pre-insolvency phase. The creditors could have a member appointed on the board of directors of the failing bank. This would give them access to information about bank governance and prevent potential risk-shifting problems such as dividend payments and payment of large bonuses to management of a bank in the pre-insolvency phase.

*Proposal 2a: In a pre-insolvency phase, corporate governance control should be shifted to bank creditors.*

It is important that a pre-insolvency phase may be implemented for any systemically important financial institution. Clear rules should determine which financial institutions are systemically important. When multiple regulators are involved in the process of supervision and intervention, a clear and effective framework should assure coordination and information sharing. Otherwise, a single authority should be in charge in order to avoid inefficiencies and delays.

We have analyzed why timely intervention (through pre-insolvency phase) is crucially important in bank bankruptcy law. Similar arguments also support the intuition that bank bankruptcy law should be more creditor-friendly than corporate bankruptcy law.

### *2.3.2 Ex-ante and ex-post optimality*

The liquidity provision function of banks requires bank bankruptcy law to be more creditor-friendly than corporate bankruptcy law. First, creditor-friendly bank bankruptcy law increases the expected repayment to bank creditors, weakens their incentives to withdraw funds and

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<sup>17</sup> Measuring the distance to default of a bank is a complex task (see Demyanyk and Hasan 2010, Fethi and Pasiouras 2010, and Kumar and Ravi 2007 for reviews).

therefore (partially) mitigates bank runs. Second, creditor-friendly bank bankruptcy law decreases the riskiness of deposits, which augments the value of liquidity provision and enhances the supply of deposits (Gorton and Pennacchi, 1990).

The presence of government guarantees, opaqueness of bank assets and acute asset substitution problem calls for a bank bankruptcy law that is creditor friendlier in comparison to corporate bankruptcy law. Government guarantees limit the pressure of depositors to run on a bank and give clear incentives to a bank manager to take excessive risk. Creditor-friendly bank bankruptcy law may partially mitigate the negative distortions of the government safety net.

An extensive prudential regulatory framework is presumed to mitigate bank risk-taking ex-ante. If ex-ante regulation is effective, bank bankruptcy law may be needed less to set correct ex-ante incentives but more to allow for efficient ex-post restructuring of a failed bank. In this sense, bank bankruptcy law may be debtor friendlier than corporate bankruptcy law. This shows that bank bankruptcy law should not be evaluated and redesigned in isolation, but together with the assessment of the effectiveness of the prudential regulatory framework. However, the regulatory structure is usually fragmented and influenced by political pressures making regulatory interventions less effective. Making bank bankruptcy law creditor-friendly then helps.

The perspective may change ex-post, when the bank is already insolvent. If the bank manager has proprietary information about bank operations and he is crucial for successful bank restructuring, it may be optimal to leave him on the board of directors. This may also be true because the failure of a bank may not necessarily indicate bad management. Interconnections in banking are far-reaching and a systemic failure can bring down a perfectly stable and well managed bank. In such case, firing a good manager is inefficient and debtor-friendly bank bankruptcy law may be optimal. Careful evaluation of the causes of a bank failure is therefore necessary.

One can also argue that expropriating shareholders may not be optimal because then the creditors or the regulator have to run the bank with neither creditors nor the regulator being efficient

owners. However, the same concerns appear in the case of corporate failure where the court has as little knowledge (or less) to restructure firms as the bank regulator has to restructure banks.

Creditor-friendly bank bankruptcy law is also needed ex-post for systemic reasons: if bank creditors are exposed to a substantial “haircut,” confidence in the stability of the entire banking system may be derailed. Depositors at perfectly stable banks may fear the same will happen to them. In addition, other banks may be exposed to the failed bank either through bank deposits or through normal operations within the payment system. Creditor-friendly bank bankruptcy law that promises high repayment to bank creditors partially mitigates systemic concerns. Hence, bank bankruptcy law should be stricter to bank shareholders than corporate bankruptcy law.

*Proposal 3: Bank bankruptcy law should be less debtor-friendly than corporate bankruptcy law.*

### *2.3.3 The design of bank bankruptcy law and its relation to corporate bankruptcy law*

Bank bankruptcy law should further deviate from corporate bankruptcy law in several respects.

*Objectives:* Objectives in bank bankruptcy differ substantially from those in corporate bankruptcy. In the latter, the main objective is to maximize the total value of the firm. In bank bankruptcy, the main objective is to contain negative externalities of bank bankruptcy and to maintain financial stability and confidence in the financial system. The potential problem of this financial stability objective is that systemic risk is hard to identify and quantify. It is difficult to answer when the failure of an individual financial institution (or, e.g., a “haircut” for bank creditors) presents a threat to financial stability. Hard quantifiable measures for systemic risk could be defined, but some discretion could also be given to the regulator to respond to the threats against systemic risk. Safety measures should preclude the regulator from overusing the financial stability objective.<sup>18</sup>

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<sup>18</sup> For example, the Dodd Frank Act of U.S. bank bankruptcy law requires a 2/3 majority vote of the Financial Stability Oversight Council when deciding that the financial company poses a “grave threat” to financial stability.

An additional objective of bank bankruptcy law is to maximize the value of a bankrupt bank. This ensures efficiency of bank bankruptcy process. Bank bankruptcy law should minimize the exposure of public funds to bank failures. This is important for containing potential spillovers between bank failures and sovereign defaults. In particular, costly bank failures can make the levels of public debt unsustainable and may trigger sovereign defaults and currency crises, leading to additional pressure on the stability of the financial system.

The last objective of bank bankruptcy law is to respect the priority rights of different bank claimants. This objective gives bank investors a level of certainty regarding their expected returns. Consequently, the cost of funds for banks should decrease.

*Proposal 4: An explicit objective of bank bankruptcy law should be to prevent a systemic banking crisis. It should also (if possible) minimize costs for taxpayers, maximize the value of a bankrupt bank and respect priority rights of bank claimants.*

By explicitly outlining objectives and priorities, the regulator obtains clear guidelines on how to respond to various threats to systemic stability that derive from bank bankruptcy.

*Automatic stay:* Restructuring a failing bank can only be successful if coordination problems between bank creditors and the information opacity of bank loans are correctly addressed. Corporate bankruptcy law mitigates coordination problems by imposing an automatic stay on debt repayment. An automatic stay on all bank liabilities (e.g., a “bank holiday”), however, may have severe consequences, including high liquidity costs, contagion to other banks, and wider

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Only then the Fed can take drastic measures such as restrictions on the ability to offer a financial product, termination of activities, selling assets, or transfer to unaffiliated entities.

systemic problems with high costs for the economy at large. Hence, bank bankruptcy law has fewer options to use an automatic stay than corporate bankruptcy law.<sup>19</sup>

To prevent contagion, an automatic stay (i.e., debt freeze) cannot apply to all creditors. In particular, insured depositors should be dealt with in a matter of a few days. They can be either paid out by the deposit insurer or transferred to a healthy bank. Freezing uninsured deposits may prove to be problematic because it may propagate a liquidity shock to otherwise healthy financial institutions. The regulator should have powers to impose a haircut to uninsured creditors without freezing them and then later compensate them if the proceeds of the asset sales are sufficient.<sup>20</sup> However, the impact on systemic risk needs to be assessed.

*Proposal 5: An automatic stay may be overridden.*

*Who should lead the resolution:* The resolution of bank bankruptcy can be led by bankruptcy courts or by the regulator.<sup>21</sup> A court-led process corresponds more to corporate bankruptcy, reducing potential distortions and arbitrage arising from an uneven treatment of banks and other financial institutions. However, giving the lead to the regulator has several advantages. The regulator has knowledge, information and incentives to properly address all the externalities involved in bank bankruptcy (Hupkes, 2003). The regulator operates much more quickly than the court, which is crucial for mitigating bank runs and containing systemic risk. The judicial procedure might neglect the financial linkages and the threat of contagion. The majority of countries have implemented a regulator-led bank insolvency process (IMF and World Bank, 2009).

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<sup>19</sup> Despite adverse economic consequences, freezing bank liabilities still occurs. While rarely used in the case of individual bank failures, it is used as a last resort policy in the case of a systemic banking crisis (see Ennis and Keister, 2009). For example, deposits were frozen for three months in Argentina in 2001.

<sup>20</sup> The example is the rescue of all depositors and even bondholders of Continental Illinois to prevent spreading the risk to other banks. Continental Illinois was considered too big to fail (see Morgan and Stiroh, 2005).

<sup>21</sup> We use the term regulator for the banking authority that both regulates and supervises banks.

*Proposal 6: The regulator should lead the restructuring and not the court.*

In some countries, several banking authorities that could lead the restructuring of a weak bank exist. The prudential regulator has substantial knowledge of bank operations and of systemic risk, and may therefore optimally trigger and efficiently lead the bank bankruptcy process. The deposit insurer (if separate from the prudential regulator) may also be involved in the resolution of the failed bank. Beck and Laeven (2006) provide empirical evidence that banks are more stable in countries where a deposit insurer can intervene in failing banks and revoke their membership in the deposit insurance scheme. However, this effect only persists if the deposit insurer is insulated from political pressures and has access to supervisory information.

*Proposal 6a: The regulator should have stronger powers in bank bankruptcy than the court has in corporate bankruptcy. It should have the authority to remove management and shareholders (and to impose a “haircut” on bank creditors), and to transfer contracts.*

Due to the absence of an automatic stay and due to severe coordination problems between bank creditors, the bank bankruptcy must be resolved much faster than corporate bankruptcy. First, the regulator needs powers to swiftly remove bank management and shareholders in the case of bank bankruptcy; otherwise, bank management can oppose timely restructuring. Second, the banking authority must be able to take control of the bank to maintain vital functions (e.g., functions connected to payment systems). It is important that the transition of the controlling rights from the existing management to the authorities is swiftly made to prevent periods without control that may result in substantial dissipation of the value of bank assets (IMF and World Bank, 2009). Due to the acute asset substitution problem, expedite transfer of control is more important in bank bankruptcy law than in corporate bankruptcy law. Third, the regulator has to have powers to swiftly move the fragile contracts to another healthy bank (private or government-owned entity). For example, financial derivative contracts may be prone to abrupt termination. The regulator has to have powers to prevent their unwinding and to move them to safety. Also the regulator needs to move (or repay) deposits.

*Proposal 6b: The regulator needs to have tools for efficient reorganization.*

A reorganization procedure should be implemented and, if unsuccessful, the final step of closing the insolvent financial institution must be taken. Optimal reorganization and liquidation can be implemented only if a comprehensive set of tools is available. The four resolution procedures around the world to address bank failures are categorized into: (1) liquidation, (2) recapitalization either by the stockholders, lender of last resort or government, (3) a voluntary or forced takeover of the whole or a part of the failed bank by a healthy financial institution (a purchase and assumption transaction), or (4) implementation of a “good bank/bad bank” scheme (Cihak and Nier, 2009; Goodhart and Schoenmaker, 1995; van der Zwet, 2011).

During the 2007–2009 financial crisis, there were many discussions regarding the implementation of “good bank/bad bank” schemes.<sup>22</sup> The idea is to take the troubled assets off the balance sheet of financial institutions and to put them into a “bad bank” together with capital infusion. The reason for doing this is twofold. First, it leaves cleaner banks, which can function normally without the uncertainty regarding the value of their assets. The “good bank” will find it easier to raise private capital. Second, this separation takes advantage of specialization. Employees at a “bad bank” can focus on restructuring bad loans. They can be allowed to sell distressed loans gradually over time and as a result the recovery rates will be higher and the cost to taxpayers will be lower. Employees in a “good bank” can concentrate on the basic functions of intermediation without the distraction of dealing with underperforming loans.<sup>23</sup>

The regulator needs to weigh the threat to systemic stability against the benefits of a clean start. If the amount of bailout injected by the banking authorities is too large, the bank will be induced to believe that future bailouts are very likely. On top of this, illiquid or even insolvent banks with poor management are allowed to compete with strong banks at the taxpayer’s expense. This will reduce the likelihood of prudent investment by banks’ managers in the future. The manager responsible for the failure may try to cover up problems. In order to mitigate the above problems,

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<sup>22</sup> See Gros (2009) and Holmes (2009).

<sup>23</sup> Sweden implemented this strategy in the late 1980s. After a credit-fueled economic boom, Sweden’s economy dived into a deep recession. Troubled bank assets were 15% of the GDP but the implementation of the “good bank/bad bank scheme” limited the exposure of public funds (The Economist Staff, 2008; Molin and Ingves, 2008).

any recapitalization by banking authorities should be carefully structured. To minimize the cost for taxpayers, the bank's shareholders should suffer severe losses on their investment, and even junior debtholders should suffer a "haircut" (IMF and World Bank, 2009).

*Proposal 6c: A restructuring fund should be established.*

To expedite restructuring and prevent systemic crisis, the regulator needs to have funds available for intervention. Banks should establish a restructuring fund and contribute to it in times of economic growth. Such a restructuring fund would also act counter-cyclically. An ex-ante established cross-country restructuring fund would also contribute to more efficient restructuring of a cross-border bank. An ex-ante burden sharing agreement would prevent coordination problems between different national regulators and expedite mutual intervention.

*Optimal bank governance in restructuring:* The regulator should have clear management objectives for the case when it overtakes the control of the failed bank and its daily operations. The regulator should control the risk of the bank in restructuring otherwise the troubled bank exploits government guarantees in competition with healthy banks. Since troubled banks receive (and anticipate in the future) more support than healthy banks, they may even be in a better competitive position and may retain or even increase their market share. Preserving competition in the banking system despite government support is therefore crucial. This can be achieved by thorough application of competition policy (Carletti and Vives, 2009).

*Regulatory arbitrage:* Even though special features of banks call for separate bank bankruptcy law, its alignment with corporate bankruptcy law is important. Excessive differences between both regimes may spur regulatory arbitrage where banks may try to circumvent the regime of bank bankruptcy law. For example, banks may establish affiliated non-banking corporations that would not abide to bank bankruptcy law for the sole purpose of avoiding bank bankruptcy law. The current crisis has demonstrated that banks escaped regulatory standards and supervision by being involved in securitization through special-purpose vehicles (SPVs) (Caprio et al., 2008). Bank supervision should prohibit bank activities and subsidiary structures whose sole purpose is regulatory arbitrage and tax avoidance.



*Differences among national insolvency regimes and regulatory frameworks:* Banks are still competing in countries with different deposit insurance schemes, different (and sometimes even conflicting) rules for the priority of bank claimants and different failing bank governance rules. Different rules may facilitate regulatory arbitrage and push banks towards avoidance of tough legislations and cherry picking of the most suitable legislations.

*Proposal 7: Bank bankruptcy laws and regulatory frameworks (e.g., deposit insurance schemes) should be harmonized across countries (as much as possible).*

*Closeout netting of financial derivatives contracts:* The combination of closeout and netting has exposed derivatives contracts to abrupt unwinding with a clear threat to stability at large. The closeout netting that derivative contracts enjoy gives even higher special protection than netting. Closeout permits the immediate termination of contracts and demands immediate payment in the event of default. Netting, also called set-off or offset, allows for simultaneous settlement of multiple contracts between the same two parties. In addition, realization on collateral is exempt from the automatic stay in the case of derivative contracts. Closeout netting may actually increase systemic risk in the derivatives market rather than limit it. Bliss and Kaufman (2006) argue that closeout netting has led to high concentration with only a few large investment banks in the derivatives market. A failure of one of these huge players may result in uncontrolled unwinding of derivative positions and may lead to a systemic failure. The liquidity problems of major investment banks in the aftermath of the collapse of Lehman Brothers confirm this intuition (see Duffie, 2010). One way of addressing this problem is to impose different capital requirements on exposures from financial derivative contracts traded through organized exchanges and those traded over the counter.

Alternatively, a bank could decide whether it wants to use netting for the over-the-counter financial derivative contracts. Capital requirements should be higher with netting than without. This would be particularly valuable in the case of over-the-counter derivatives. In the case of

trading through organized exchanges, closeout netting could still be allowed because there the major counterparty risk could be cleared through the central clearing providers.<sup>24</sup>

*Proposal 8: In the case of derivative contracts banks may opt for closeout netting with closer regulatory scrutiny or for closeout without netting with lower regulatory scrutiny.*

## **2.4 Effectiveness of the main features of proposed bank bankruptcy law**

We now analyze the strength of the proposed features of bank bankruptcy law. See also Table 1.

The first attribute of optimal bank bankruptcy law is its stance toward bank creditors. Creditor-friendly bank bankruptcy law may partially mitigate the danger of bank runs by giving creditors high priority in bankruptcy (in terms of the expected amount and timing of returns, or control over the bank). Consequently, the liquidity provision function of banks is enhanced. However, bank bankruptcy can be so costly that creditors are not repaid even though bank bankruptcy law is creditor-friendly. Therefore, systemic risk cannot be completely eliminated. Such a danger is exacerbated in the absence of timely intervention that may occur due to regulatory forbearance, regulatory capture, and the presence of fragmented regulatory structure.

The second attribute of optimal bank bankruptcy law is a pre-insolvency phase. A pre-insolvency phase facilitates timely intervention and forces the shareholders to absorb losses. This mitigates bank runs, spurs liquidity provision and partially prevents systemic risk. However, losses can be substantial and can occur instantaneously. In such a case, a pre-insolvency regime does not eliminate systemic risk. A pre-insolvency phase also effectively mitigates coordination problems between several regulators by giving them sufficient time to respond.

The third attribute of optimal bank bankruptcy law is strong regulatory power in bank bankruptcy. Strong power of the regulator (e.g., the access to emergency funding) may prevent bank runs and systemic risk, especially if the regulator also insures deposits and if its explicit

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<sup>24</sup> However, regulators should evaluate the systemic effects of a failure of such a central clearing provider.

objective is to guard systemic stability. However, strong regulatory power exacerbates regulatory forbearance, regulatory capture and coordination problems between multiple regulators.

The last attribute of optimal bank bankruptcy law is a carefully designed deposit insurance scheme and the consequent special treatment of depositors. Deposit insurance with extensive coverage mitigates the threat of bank runs by depositors and facilitates bank liquidity provision to depositors. However, bank runs can be triggered by other bank creditors. Hence, deposit insurance does not prevent systemic crisis. Deposit insurance encumbers depositors' control over bank risk-taking, which exacerbates the agency and information asymmetry problems and increases regulatory forbearance and regulatory capture.

TABLE 1: THE EFFECTIVENESS OF THE ATTRIBUTES OF BANK BANKRUPTCY LAW

Special feature of banks	Creditor-friendly bank bankruptcy law	Pre-insolvency phase	Strong powers of the regulator	Deposit insurance
Bank runs	4	4	5	4
Bank liquidity provision	5	5	5	5
Regulatory forbearance and regulatory capture	4	4	1	1
Systemic risk	3	3	5	3
Fragmented regulatory structure	3	5	1	2
Information problems	5	4	3	1

Note: 5 = most effective; 1 = least effective

### 3 Current bank bankruptcy regimes and recent developments

We now review the general characteristics of bank bankruptcy laws around the world. Then we compare the most economically significant features of the bank bankruptcy regimes in the UK, Germany, and the U.S., including the provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act, and the recently implemented EU framework for cross-border bank supervision and bank bankruptcy.

### 3.1 General overview of bank bankruptcy frameworks around the world

To describe the main characteristics of bank bankruptcy frameworks around the world we use the WorldBank (2008) database gathered in 2003 and 2008 and used in Barth et al. (2001a, 2001b, 2003). The database encompasses 143 countries and analyzes the entire regulatory framework. We limit ourselves to the issues related to bank bankruptcy proceedings.

Figure 1 depicts the frequency of different methods of restructuring distressed banks. In terms of numbers, the most frequent restructuring method used was bank closure and liquidation (988 cases as reported in 2008 and 940 in 2003), followed by transfer of assets and liabilities (e.g., purchase & assumption transactions) or mergers and acquisitions (172 cases as reported in 2008 and 602 in 2003). The least frequently used restructuring method was intervention (e.g., taking control) and open bank assistance (e.g., liquidity support; 66 cases as reported in 2008 and 313 in 2003). However, in terms of percentage of banking system assets, the most important restructuring method was transfer of assets and liabilities or mergers and acquisitions followed by intervention and open bank assistance and the least important was closure and liquidation.

Figure 1 shows that closure and liquidation was predominantly used for small banks, whereas transfer of assets and liabilities, mergers and acquisitions, interventions and open bank assistance were mainly used for large banks. This is understandable. Liquidation of a large bank may be unsuitable because it may trigger severe systemic repercussions. This indicates that systemic concerns affect the method of restructuring used by the regulator and calls for implementation of bank bankruptcy framework.

Figure 1 also shows how the relative importance of different restructuring methods changed from 2003 to 2008, while the number of bank liquidations and closures increased. In contrast, the number of interventions, open bank assistance, transfers of assets and liabilities and mergers and acquisitions decreased during these years. In terms of percentage of banking system assets, the importance of closures and liquidations *and* interventions and open bank assistances increased from 2003 to 2008. The importance of transfers of asset and liabilities and mergers and acquisitions declined over the same period.

Table 2 describes the characteristics of an average bank bankruptcy framework around the world. More than half of the reporting countries have mechanisms of cease and desist type orders with automatic civil and penal sanctions on the bank directors and managers upon infraction. Only in one-fifth of the reporting countries are regulators required to announce enforcement actions. In 95% of the reporting countries, the regulator has the power to order bank directors or managers to build provisions for actual or pending losses. The regulatory powers to suppress dividend payments (in 89% of the sample in 2008; 78% in 2003), bonuses (in 63% in 2008; 58% in 2003) and management fees (in 64% in 2008; 53% in 2003) became more frequent from 2003 to 2008.

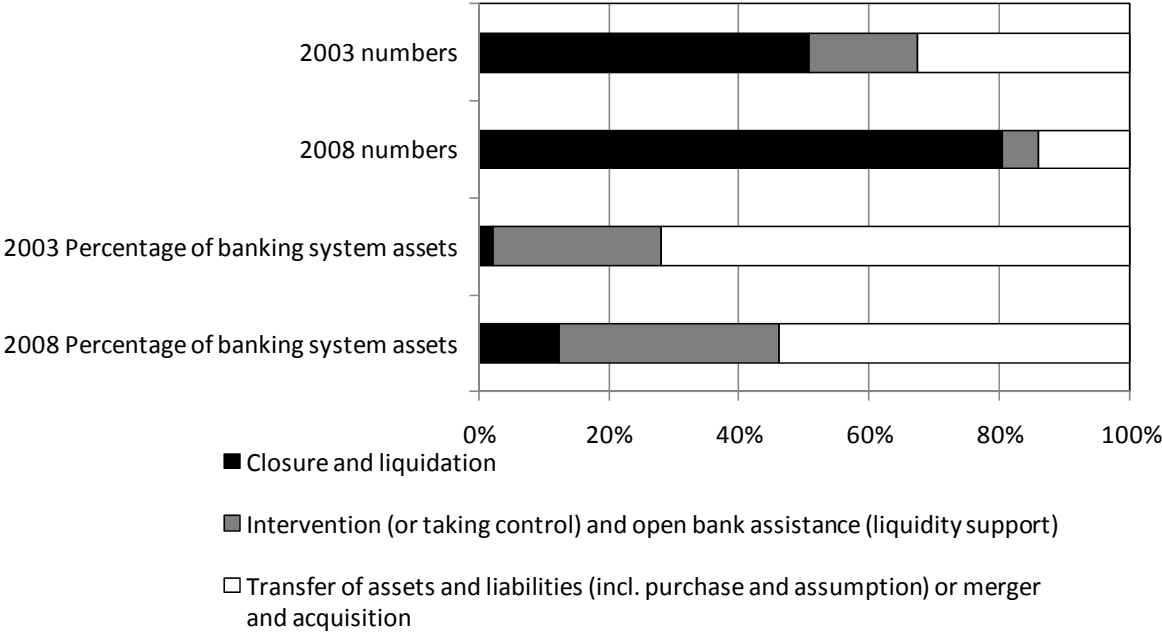
Special bank bankruptcy law was relatively infrequent in 2008. Only 18% of the reporting countries had it. Automatic triggers for insolvency procedures were implemented in 54% of the reporting countries. Court approval was rarely needed (only in 4% in 2008 and 14% in 2003) for undertaking supervisory actions such as removing management and/or shareholders, replacing directors, or revoking a bank license. However, the court usually had power in appointing a liquidator (in 53% of reporting countries). Shareholders could usually appeal to the court if they disagreed with the bank supervisor (in 87% of the sample in 2008 and in 86% in 2003). The resolution techniques lasted for a substantial period (on average 8.7 months in 2008) although the average time of interventions decreased from 9.9 months in 2003.

The responsibilities of several regulatory bodies in different resolution techniques are shown in Figure 2. The bank supervisor has the greatest power in bank restructuring. It is the most likely regulatory body with power to: (1) insure liabilities beyond any explicit deposit insurance scheme, (2) forbear certain prudential regulation, (3) remove and replace directors, (4) remove and replace management, (5) supersede shareholder rights, and (6) suspend ownership rights of a distressed bank. The court and not the bank supervisor has the highest authority in (1) appointing and supervising a bank liquidator/receiver and in (2) legally declaring that the bank is insolvent.

The comparison between 2003 and 2008 in Figure 2 shows that the supervisors less likely have power to appoint and supervise a bank liquidator/receiver, to supersede shareholder rights, and to legally declare bank insolvency. The responsibilities of the court have slightly decreased as well. The court less likely has power to forebear prudential regulations, to remove directors, and to

legally declare bank insolvency, but is slightly more likely equipped with the authority to supersede shareholder rights. The responsibilities of the deposit insurer have mostly increased.

FIGURE 1: FREQUENCY OF VARIOUS RESTRUCTURING METHODS IN 2003 AND 2008 (IN TERMS OF NUMBERS AND ASSETS)



Source: Authors’ computations based on data from WorldBank (2010).

TABLE 2: CHARACTERISTICS OF AN AVERAGE BANK BANKRUPTCY FRAMEWORK AROUND THE WORLD (AVERAGES ACROSS COUNTRIES, NO = 0, YES = 1)

	2008	2003
Are there any mechanisms of cease and desist type orders, whose infraction leads to the automatic imposition of civil and penal sanctions on the banks directors and managers?	0,61	0,59
Are bank regulators/supervisors required to make public formal enforcement actions, which include cease and desist orders and written agreements between a bank regulatory/supervisory body and a banking organization?	0,24	0,28
Can the supervisory agency order the bank's directors or management to constitute provisions to cover actual or potential losses?	0,95	0,94
Can the supervisory agency suspend the directors' decision to distribute dividends?	0,89	0,78
Can the supervisory agency suspend the directors' decision to distribute bonuses?	0,63	0,58
Can the supervisory agency suspend the directors' decision to distribute management fees?	0,64	0,53
Have any such actions been taken in the last 5 years?	0,54	0,56
Is there a separate bank insolvency law?	0,18	
Does the Banking Law establish predetermined levels of solvency (capital or net worth) deterioration that forces automatic actions (like intervention)?	0,54	0,52
How many months did each of these resolution techniques take on average, from the moment of intervention by the responsible authority to the moment of resolution?	8,74	9,92
Is court approval required for supervisory actions, such as superseding shareholder rights, removing and replacing management, removing and replacing the director, or license revocation?	0,04	0,14
Is a court order required to appoint a receiver/liquidator in the event of liquidation?	0,53	0,52
Can the bank shareholders appeal to the court against a decision of the bank supervisor?	0,87	0,86

Source: Authors' computations based on data from WorldBank (2010).

FIGURE 2: RESTRUCTURING POWERS OF VARIOUS REGULATORY BODIES (AVERAGES; NO = 0, YES = 1)



Source: Authors' computations based on data from WorldBank (2010).

### **3.2 Brief comparison of U.S., UK, and German bank bankruptcy laws and assessment**

One of the main differences between the U.S. and UK bank bankruptcy law is in the approach towards systemic risk. In the U.S., the bank in receivership is legally closed and its charter is revoked under the Bankruptcy Code. However, its operations are not terminated. It is the role of the FDIC to prevent termination of operations that may lead to systemic risk.<sup>25</sup> Examples pertain to the treatment of insured deposits and derivative contracts: the FDIC may sell the insured deposits to a healthy bank and may repudiate derivative contracts to avoid their termination and payoff. The Dodd-Frank Act establishes a new Orderly Liquidation Authority, which is responsible for all financial companies that present a systemic threat and not only for banks.

In contrast, under the UK bank bankruptcy law, the failing bank that enters the special resolution regime (SRR) is not legally closed. The Bank of England can move systemically important contracts to a new bank (either a bridge bank, a private sector purchaser or temporary public sector ownership). Such a transfer does not present an event of default and on its own cannot trigger the default and consequent termination of the contracts. Only the residual bank may then be liquidated. The regulator therefore prevents the liquidation of contracts and assets that may lead to fire sales and may impose systemic concerns.

Table 3 summarizes the main provisions of bank bankruptcy laws in the U.S., UK, and Germany. All three bank bankruptcy laws contain mitigation of systemic risk as an explicit objective. There are other objectives (such as minimizing public funds exposure, protection of depositors, and respecting the priority rules) written in the laws. Stemming from our Proposal 4, explicit objectives should be spelled out in bank bankruptcy law and should be ranked in priorities. The financial system stability objective should be the most important one.

A pre-insolvency phase is most explicitly determined in U.S. bank bankruptcy law. In the U.S., the triggers for a bank pre-insolvency and insolvency regime are precisely determined by hard

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<sup>25</sup> This is the usual situation; however, the FDIC can be appointed as a conservator and can rehabilitate a failing bank without revoking its license. The FDIC can also provide unconditioned liquidity provision through assistance transactions if this is necessary due to systemic concerns.



and simple accounting ratios. The U.S. case demonstrates the importance of clear triggers that force the regulator to act when a still solvent bank is approaching distress. The UK and German bank bankruptcy laws see prudential regulation as a tool to be used instead of pre-failure intervention. In UK and German bank bankruptcy law, the trigger for bank bankruptcy is more vaguely defined and depends on the perception of the regulator. Adding clear triggers may improve pre-insolvency intervention in both countries (see Proposal 2).<sup>26</sup>

All three bank bankruptcy laws give numerous options to the regulator in the case of bank bankruptcy. The regulator has the power to remove management and shareholders of a failing institution and to restructure its assets and liabilities such as move (or sell) assets and/or the deposit book, repay (insured) deposits, and, as a final resort, liquidate the failed bank. This is in line with Proposal 6, Proposal 6a, and Proposal 6b.

An automatic stay is limited in all three bank bankruptcy laws. For example, all three bank bankruptcy laws allow for special treatment of insured deposits. All three bank bankruptcy laws also allow for closeout netting of financial derivative contracts that effectively exempt financial derivative contracts from an automatic stay. This is in line with Proposal 5.

The roles of regulatory bodies in the three bank bankruptcy laws differ. In the U.S., the FED (or the FDIC) triggers bank bankruptcy but the FDIC leads the restructuring. In Germany, the same regulator triggers and leads the restructuring. In the UK, the Financial Services Authority triggers the SRR but the Bank of England leads the restructuring. The question is whether such separation is suitable. Another question is which regulator should be in charge of restructuring: the deposit insurer, the lender of last resort, or the central bank in charge of monetary operations. A potential conflict of interests between different regulators may arise and the legislatures should study them carefully, considering the institutional settings in each country. In all three bank bankruptcy laws, the structure of the process is administrative with limited ex-post judicial review and appeal. This is in line with Proposal 6.

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<sup>26</sup> Partially, this will be implemented through Basel III requirements on Minimum Common Equity Capital Ratio, Minimum Tier 1 Capital and Liquidity Coverage Ratio, <http://www.bis.org/press/p100912.htm>.

TABLE 3: COMPARISON OF U.S., UK AND GERMAN BANK BANKRUPTCY LAWS

	U.S. bank bankruptcy law for systemically unimportant banks	U.S. bank bankruptcy law (Dodd-Frank Act's provisions) for systemically important financial companies	UK bank bankruptcy law	German bank bankruptcy law
Objective	Minimize losses to the FDIC at the systemic risk exception	Address the systemic risks posed by large financial groups and prevent taxpayer-funded bailouts	<ol style="list-style-type: none"> <li>1. Protect the stability of the financial system</li> <li>2. Protect public confidence</li> <li>3. Protect depositors</li> <li>4. Protect public funds</li> <li>5. Avoid interfering with property rights</li> </ol>	Prevent undesirable developments in the banking system that: <ol style="list-style-type: none"> <li>1. Endanger the safety of the assets entrusted to institutions;</li> <li>2. Adversely affect the orderly execution of banking transactions;</li> <li>3. May substantially prejudice the economy as a whole</li> </ol> Prevent liquidity shortages and improve the capital position of financial institutions
Pre-insolvency phase	Prompt corrective action by the regulator	Early remediation and mitigatory actions by the regulator	In the scope of standard regulatory supervision	The regulator makes a recommendation to the bank to correct the problems within a strict deadline, if the bank fails to comply with prudential standards
Trigger	Failure to comply with the regulatory standards (with the most critical one of being undercapitalized)	Failure of systemically important financial companies to comply with enhanced regulatory requirements (e.g., risk-based capital, leverage, liquidity, credit exposure reporting, resolution plans)	Failure to satisfy threshold conditions (capital requirements, liquidity and leverage ratios, and perceived inability to repay debt)	Violations of regulatory standards regarding adequate capital and liquidity and a bank's failure in correcting these problems following the regulator's recommendations
Options in bankruptcy	<ol style="list-style-type: none"> <li>1. Purchase &amp; assumption (loss sharing transaction, bridge bank)</li> </ol>	<ol style="list-style-type: none"> <li>1. Purchase &amp; assumption</li> <li>2. Liquidation</li> </ol>	<ol style="list-style-type: none"> <li>1. Transfer to a private sector purchaser</li> <li>2. Transfer to a bridge bank</li> <li>3. Transfer to temporary</li> </ol>	<ol style="list-style-type: none"> <li>1. Restructuring by the depositor insurance scheme or by the private liquidity supplier</li> <li>2. The provisional</li> </ol>

	2. Deposit payoff 3. Assistance transactions		public sector ownership 4. The bank insolvency procedure 5. The bank administration procedure	administration procedure 3. The bank insolvency procedure 4. The bad bank procedure
Creditor stays	Less general, major exception is insured depositors		Entering special resolution regime (SRR) does not present a legal event of default	The regulator can impose a full or partial suspension of payments and a legal stay against creditor action
The treatment of claimants	Insured deposits are repaid (or transferred to a healthy bank) Absolute priority rule is honored The FDIC has the same priority as uninsured deposits	There is no priority rule for any deposit claims over the claims of the general creditors Amounts owed to the U.S. have priority over the claims of general creditors	Insured deposits are repaid (or transferred to a healthy bank). Other claimants should obtain at least the amount they would in liquidation	Unlimited depositor protection is offered by the deposit insurer
The roles in bankruptcy	The FED (or the FDIC) initiates bank bankruptcy, the FDIC is in charge of restructuring Management is ousted	Under the new orderly liquidation authority, the Treasury Secretary has the power to appoint the FDIC as receiver; the determination of the financial institutions covered is made by the Treasury Secretary, upon the recommendation of two-thirds of the Fed board and two-thirds of the FDIC board	The FSA initiates the SRR. The BoE leads it in consultation with the Treasury in the case of involvement of public funds Management may be removed	The BaFin initiates the insolvency procedures and leads the provisional administration The BaFin makes the resolution decision in cooperation with the German Bankers Association representing the deposit insurer Management may be removed
Structure of process	Administrative Limited ex-post judicial review and appeal	Administrative Limited ex-post judicial review and appeal	Administrative Limited ex-post judicial review and appeal The government can modify bankruptcy legislation by order with a retroactive effect	Administrative Appeals against regulatory measures are excluded by law

### **3.3 Cross-border bank bankruptcy framework: The case of EU**

In most European Union countries corporate bankruptcy law applies to banks, whereas special rules are used to address the special features of bank insolvency. Some countries rely on special court-administrated bankruptcy proceedings under the banking law (i.e., Austria, Greece, Luxembourg, and the Netherlands), whereas in other countries banks are subject to general court-administrated bankruptcy proceedings (i.e., France, Hungary, Germany, Ireland, and Spain).<sup>30</sup>

The national laws governing the bank bankruptcy regime have been revised lately or are in the process of being revised in many EU countries as a result of strong demand for harmonization of bankruptcy codes at the EU level. The key legal aspects on which bank resolution regimes differ across the EU are the ability of bank authorities to initiate the proceedings, rights, and powers granted to provisional administrators, the role played by the deposit insurer, the set of tools available in the reorganization process, the rights of bank shareholders during the reorganization process and the role played by the bankruptcy court (Cihak and Nier, 2009).

The recent financial crisis has illustrated that this lack of uniformity between resolution regimes, together with the absence of a legal framework that may allow for an effective and rapid winding-up of troubled EU cross-border banks, creates significant pressure at the level of national authorities. These difficulties were addressed in the European Commission's Directive 24/2001 on the Reorganization and the Winding-Up of Credit Institutions. An important step forward following from this directive was the decision to grant increased power to national authorities in the reorganization and closure process. The unity and mutual recognition principles are implemented by Directive 24/2001 for bank insolvency proceedings, with home country authorities retaining the control for regulation and supervision activities. National authorities are only able to initiate the bankruptcy process and to implement restructuring measures at the domestic bank level, as well as at the level of a bank's foreign branches (within EU countries).

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<sup>30</sup> The diversity among bank resolution frameworks within the EU was documented by Garcia et al. (2009) and by Hupkes (2003).

The directive stipulates that, with respect to these foreign branches, the actions of the domestic authority will be applied automatically, without requiring the consent of the foreign host banking authority. Nevertheless, the directive does not grant any power to domestic authorities over bank subsidiaries in other EU countries. Subsidiaries are treated as separate legal entities falling under the jurisdiction of foreign banking authorities. As a result, upon bank insolvency, a cross-border bank is split up into many legal entities, with foreign banking authorities applying measures available in their jurisdictions.

Several problems with Directive 24/2001 were identified. Cihak and Nier (2009) argue that the directive fails to address the negative spillover effects of the failure of a large foreign subsidiary on the financial stability of a foreign host country. If domestic authorities decide to let the foreign subsidiary fail, then the foreign authority will have the responsibility to protect the interests of foreign creditors. If the relative size of the subsidiary in the foreign banking system is large, the foreign authorities may not have sufficient funds for restructuring it, leading to a huge increase in the fiscal burden and negative consequences for the foreign economy.

Second, the directive is concerned only with credit institutions, while ignoring the issue of other cross-border systemically important financial institutions such as insurance companies. Even though the directive proposes a single-entity approach and equal treatment of creditors in liquidation, it fails to stipulate a common threshold for the initiation of bank insolvency proceedings. Thus, the directive does not resolve the issue of the existing heterogeneity among bankruptcy regimes in the EU. It fails to achieve the desired harmonization of national legislations and leaves the decision of when to intervene at the discretion of national authorities.

Third, the reorganization of a complex cross-border bank might be difficult to attain in the absence of clear agreements between national authorities regarding the resolution of foreign subsidiaries. The interests of domestic and foreign authorities are not aligned. Although domestic authorities care about the bank, as well as about the bank's branches and subsidiaries, the foreign authority is only concerned about the particular subsidiary under its jurisdiction. If the losses generated by the failure of a foreign subsidiary are considered small, the foreign regulator may decide in favor of liquidation to the benefit of local creditors, in order to avoid a lengthy

restructuring process led by the banking authority of a different country. Such actions will limit the ability of a national authority to effectively resolve the failure of the foreign subsidiary.

European Directive 213/2001 on Financial Conglomerates proposes a way of resolving these coordination issues. It recommends the mandatory appointment of a supervisor for any cross-border bank. The banking authorities of all countries in which the bank is present through branches or subsidiaries should provide timely information to the delegated supervisor. Upon insolvency of either the main bank or one of its branches or subsidiaries, the supervisor will lead the restructuring and winding-up process, whereas local authorities will have legal responsibilities in their respective countries according to prearranged agreements.<sup>31</sup> EU Commission communication 561/2009 recognizes the necessity for providing an integrated resolution for cross-border financial institutions by a single resolution authority. This proposal stipulates that the problems related to coordinating the actions of different national regulators can be avoided by establishing a single authority responsible for coordinating proceedings of cross-border banks, and a harmonized bank insolvency code in all EU member states.<sup>32</sup>

Another relevant legislative proposal of the European Commission is the creation of bank resolution funds.<sup>33</sup> The purpose of such funds is to ensure sufficient resources such that the insolvent banks can be wound down in an orderly manner, irrespective of their size and complexity, avoiding contagion effects and with a minimum impact on public money. Resolution funds are seen as a critical component of the new framework regarding bank insolvency process at the EU level. They will ensure that national authorities across the EU have access to common tools and will facilitate prompt actions in a coordinated manner by different national banking regulators. Appropriate tools that might be financed through these funds include (but are not limited to): the creation of a bridge bank, partial or total transfer of assets and/or liabilities, and

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<sup>31</sup> See Dewatripont and Rochet (2009) for a discussion on why in economically integrated areas such as the EU, there is a strong demand for the emergence of an independent European supervisor.

<sup>32</sup> European Commission, 2009, Communication 561/2009 on EU Framework for Cross-Border Crisis Management in the Banking Sector.

<sup>33</sup> European Commission, 2010, Communication 254/2010 on Bank Resolution Funds.

the split of an insolvent bank into a good and a bad bank. In some EU countries, the first step has already been taken. In Germany and Sweden, a fee on the systemic impact of banks and on bank liabilities, respectively, was proposed in order to create a stability fund that might help in counteracting the risk of financial instability created by the failure of credit institutions.

In the aftermath of recent financial turmoil, the European Commission is trying to complement these reforms by introducing a unified framework for reorganization and liquidation of troubled financial institutions. Communication 561/2009 of the European Commission covers three critical areas of interests: early intervention, resolution, and insolvency. Three proposed measures stand out as having greater importance for pre-insolvency intervention. First, extensive power should be granted to all national authorities in order to be able to implement prompt actions against bank management, and to appoint a representative or an administrator whose sole objective will be to restructure the failing bank and to restore the financial situation. Second, national authorities should initiate the legal procedure based on common indicators and thresholds across the EU countries, and they should follow a pre-agreed framework. Third, the proposal recognizes that special attention should be given to the supervision of cross-border banks and that a special regime for intra-group assets transfers should be provided. It is recognized that intra-group financial support could help stabilize the group as a whole.

Several steps have been already taken towards the creation of a European supervisor. The European Commission has set up two proposals (one of them recently approved by the European Parliament) to establish two bodies: one to conduct micro-prudential supervision, the European System of Financial Supervisors (ESFS),<sup>34, 35</sup> and one to conduct macro-prudential supervision, the European Systemic Risk Board (ESRB).<sup>36</sup> These two newly created bodies will have

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<sup>34</sup> European Commission, 2009, Communication 501/2009 on Establishing a European System of Financial Supervisors.

<sup>35</sup> European Parliament and Council, 2010, Regulation on Establishing a European Supervisory Authority (European Banking Authority). See also regulations 41/2010, 42/2010, and 43/2010.

<sup>36</sup> European Commission, 2009, Communication 499/2009 on Community Macro Prudential Oversight of the Financial System and Establishing a European Systemic Risk Board. See also regulations 39/2010 and 13694/2010.

complementary roles. On the one hand, the ESRB's role will be to monitor and assess risks to the stability of the financial system. It will provide early warnings regarding systemic risks and make macro-prudential recommendations for actions to deal with these risks. On the other hand, the ESFS' role is to supervise individual financial institutions.

The ESFS is composed of national supervisors and the following three newly established European Supervisory Authorities (ESAs) which will constitute legal entities under the EU law: the European Banking Authority (EBA), the European Securities and Markets Authority (ESMA), and the European Insurance and Occupational Pensions Authority (EIOPA). Their powers include the following: (1) securing coordination between national supervisors in emergency situations; (2) facilitating communication, and mediating and resolving cases of disagreement between national supervisors; (3) developing proposals for technical standards and ensuring that a single set of harmonized rules is applied by the national authorities of all EU member states. Having legal identity under the EU law, the ESAs can, under certain circumstances (e.g., breaches of the EU law by a financial institution and subsequent failure of the national regulator to implement the ESAs' recommendation), impose their decisions directly on an individual financial institution. They can require a necessary action to be taken such that the financial firm complies with its obligation under the EU law. Any such intervention by ESAs will contribute to ensuring consistent application of the EU rules. However, they will be subject to review by the EU courts. Likewise, in situations when disagreements among national authorities cannot be resolved, the ESAs should settle the matter by making a decision considering the views of all national regulators involved.

The creation of ESAs was a necessary step in overcoming the existing shortcomings of financial supervision in the EU, like a lack of convergence among European countries on technical rules, and a lack of coordination between national supervisors in the case of failure of cross-border financial institutions. Coordination between national supervisors is much more important for the EU member states than in other parts of the world because they share a single market; there is increasing political and financial integration among member states, and as a result, a higher number of financial institutions operate across borders. Although daily supervision of financial institutions will be conducted by national supervisors, the new ESAs will complement their



supervisory activity by having a pivotal role in developing a common rulebook for financial service regulation and ensuring that supervisory activities are consistent for each cross-border financial institution.

## **4 Bank failures from the 2007-2009 financial crisis**

We now evaluate our proposals in light of two failure cases from the 2007–2009 financial crisis.

### **4.1 The Lehman Brothers bankruptcy**

The Lehman Brothers group was a non-bank global financial services firm that consisted of 2,985 legal entities, operating throughout the world. Lehman faced huge losses from mid-2007 to mid-2008 as a result of large positions in the subprime mortgage market and other lower-rated securitized mortgage tranches. On 15 September 2008, the firm filed for bankruptcy protection under Chapter 11, with a total debt of \$613 billion and assets worth \$639 billion. Lehman's bankruptcy was the largest failure in U.S. history, and the first investment bank collapse since Drexel Burnham Lambert.

Lehman's bankruptcy demonstrated the perverse effect of leverage based mainly on short-term funding. Lehman had accumulated large positions in real-estate related products, most of these positions being financed with borrowed funds in the tri-party repo market. The leverage ratio at the end of 2007 was 31:1, making the firm extremely vulnerable to minor declines in the mortgage market.<sup>37</sup> Although the firm enjoyed a steady and high stream of profits up to mid 2007, it incurred huge losses during the continuing subprime mortgage crisis. As a result, the share price plummeted and the firm's assets were devalued by credit-rating agencies. A private solution to the imminent failure was sought with state-controlled Korea Development Bank, and later Barclays and Bank of America, considering acquisition of the financial group. However, none of these deals went through.

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<sup>37</sup> See Lehman Annual Report for 2007.

In the days following the bankruptcy filing, the group was split and sold to different entities as follows: North American investment banking unit and trading divisions were bought by Barclays, Nomura Holdings purchased the units in the Asia-Pacific region, as well as investment banking and equities units in Europe and the Middle East, and the investment management unit was sold to its management, making it the fourth largest private employee-controlled asset management firm globally. In late 2010, a new business called LAMCO was created in order to manage Lehman's remaining assets and operations such as real estate, private equity, corporate debt and derivatives assets. Skeel (2009) argues that the Lehman experience suggests that investment banks are more likely to be sold than reorganized, with Chapter 11 proceedings being effective for achieving this goal.

A critical aspect of Lehman's bankruptcy is that Lehman, like all other investment banks, was not subject to the same regulation applied to commercial banks. The firm was supervised by the Securities and Exchange Commission, but many of the international units were subject to foreign regulation in their host country. This episode demonstrates that, for large cross-border financial institutions, the existence of a framework for orderly resolution is extremely important, as is the existence of emergency funds that can provide liquidity such that a firm's orderly liquidation can be achieved without causing any damage to the firm's key operations or to ongoing trading commitments (see Proposal 1 and 6c). In the Lehman case, the Federal Reserve provided liquidity by swapping lower quality assets in exchange for loans to a group of Wall Street firms, which in turn agreed to provide capital such that the failing Lehman could seek an acquirer (Sorkin, 2008). Cooperation among different regulators supervising different entities of the group was also required during the Lehman debacle, because different entities of the bankrupted cross-border firm ended up in different national insolvency proceedings: the holding company of the Lehman group filed for bankruptcy in the U.S., while in the UK PricewaterhouseCoopers was appointed as administrator of the British subsidiary, and in Japan the branch was subject to court reorganization. In line with our Proposal 7, a harmonization of bankruptcy laws across countries would have helped in restoring quickly public confidence and in reducing the negative spillover effect of Lehman's failure.

Another special feature of the Lehman bankruptcy is that the group successfully evaded the brokerage exclusion when it filed for bankruptcy. The bankruptcy code excluded brokerage firms from Chapter 11, troubled brokerages being liquidated under Chapter 7. However, Lehman managed to put the holding company in Chapter 11, while foregoing bankruptcy for brokerage subsidiaries, with the main goal being a quick sale of the brokerage operations to Barclays. They were allowed to do so (and to impose an automatic stay on contracts and their underlying collateral), even though the brokerage subsidiaries did not file for bankruptcy and the contracts should have been allowed to be executed.<sup>38</sup> This episode demonstrates that the special treatment given to derivatives and other financial contracts should be abolished because this will allow for the efficient and rapid winding up of a large non bank financial firm (see Proposal 8).<sup>39</sup>

#### **4.2 The Fortis bankruptcy**

The Belgian-Dutch financial group Fortis was one of the largest businesses in the world by revenues at the onset of the financial crisis in 2007.<sup>40</sup> As a result of serious liquidity problems, the company was nationalized by the Belgium government in late 2008 and subsequently sold in parts to the Dutch government and French financial group BNP Paribas.

The Fortis collapse (one of the largest failures during the financial crisis) highlighted the need for stronger cooperation between different national regulators and for harmonization of bank bankruptcy laws across countries (see Proposal 7). The cross-border implications of a large bank failure, the negative impact of shareholders' power on timely restructuring and conflicts of interests between national regulators were demonstrated in the Fortis case.

Fortis, as a member of a consortium formed together with Royal Bank of Scotland and Spain's Santander, won a hostile bidding war against the top management of Dutch bank ABN AMRO (supported by Barclays Bank) in October 2007 and took over the Dutch bank. Fortis issued extra

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<sup>38</sup> Skeel (2009) provides a detailed discussion of the brokerage exclusion from Chapter 11.

<sup>39</sup> Counterparties to repurchase transactions, credit default swaps and other derivative contracts enjoy certain exemptions from the Bankruptcy Code provisions, such as the avoidance of an automatic stay.

<sup>40</sup> See Fortune Global 500 (2007).

shares to finance the amount of €24.2 billion, as part of the €70 billion (\$110.4 billion) deal. The takeover, the largest-ever in banking history, came at an unfortunate time, just two months after the eruption of the credit crisis in the U.S. subprime mortgage market, which put a lot of pressure on banks' finances. As a result, one year later, in June 2008, Fortis announced a new share issue and cancellation of dividend payments, measures taken in order to strengthen the bank's capital position which was seriously affected by the write-downs linked to the U.S. mortgage market. However, the elimination of dividends came amid repeated statements by the bank's officials, who assured shareholders that the year's dividend would not be affected by either the acquisition of ABN AMRO nor by the turmoil in the U.S. mortgage market. The Fortis share price dropped continuously in September and reached a 15-year low, driven down by liquidity concerns.

On September 28, following large withdrawals by business and institutional clients and the collapse of interbank lending, the Belgian government had to step in and inject capital in order to stabilize Fortis. The joint intervention together with the Netherlands and Luxembourg helped Belgium bail out its largest bank and saved Fortis from bankruptcy. A total of €11.2 billion (\$16.3 billion) was injected, with Belgium, Luxembourg, and the Netherlands investing €4.7 billion, €2.5 billion, and €4 billion, respectively. Each Benelux member received a 49% stake in Fortis banking business in their respective countries as part of the plan.<sup>41</sup> At the same time, the integration of ABN AMRO business units into Fortis was stopped and the intervention plan stipulated that the ABN AMRO would be sold to the Dutch government.

The coordinated intervention worked well, at least at the first glance. However, it did not calm down the markets and also revealed the long debate between Belgian and Dutch regulators over the issue of who should be the main supervisor for the Belgian-Dutch company. Because the company's headquarters were located in Belgium, the Belgian regulator was the main supervisor of the group's activities, although, after acquiring ABN AMRO, the size and the importance of business units located in the Netherlands had been increased considerably.

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<sup>41</sup> See van der Starre and Meera (2008).

In early October, the Belgian government decided to sell the entire banking-insurance group to the Dutch government and to French BNP Paribas. The decision came under market pressure, with significant withdrawals and falling stock prices following the first stabilization attempt, which forced the national banks of Belgium and the Netherlands to provide extensive emergency credit. As part of the new deal, the Dutch government acquired banking and insurance activities of Fortis in the Netherlands, including ABN AMRO business units still held by Fortis at a steep discount (i.e., €16.8 billion). One may claim that Dutch authorities took advantage of this situation and regained control over banks assets located in the Netherlands.<sup>42</sup> In fact, the Belgian and Dutch authorities assessed the situation differently (i.e., with the Belgium part being interested in saving the group as a going concern and the Dutch counterpart mainly interested in the situation of Fortis' units located in the Netherlands) and this complicated the resolution process. On the other hand, the French financial group BNP Paribas agreed on acquiring 75% of Fortis Bank together with 100% of Fortis Insurance Belgium. However, Fortis shareholder groups opposed to the agreement signed by the Belgian government and BNP Paribas, and the Brussels Appeal Court suspended the transaction and ordered that the Fortis deal should have shareholder approval. The finalized deal between the Belgian and the Dutch governments was also affected by the ruling although the transaction took place under Dutch law.

After months of arduous negotiations, Fortis shareholders agreed in the end on a transaction under which the French BNP Paribas acquired 75% of Fortis Bank from the Belgian government, together with only 25% of Fortis Insurance Belgium. The acquisition created the largest euro zone bank in terms of deposits (e.g., €540 billion in total).

This episode revealed that banking authorities in Belgium (and in the Netherlands) did not have sufficient legal power to respond to banking distress in a timely and efficient manner. The regulators could not override the rights of shareholders, not even in an urgent situation in which financial institutions needed to be stabilized rapidly (see Proposals 6 and 6a). Although an efficient solution for timely restructuring was immediately designed, implementation was not possible due to the court decision, which ruled against the selling of different business units to

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<sup>42</sup> See Dewatripont and Rochet (2009) and Beck et al. (2010).

BNP Paribas. The shareholders' action was also successful because the bankruptcy threat was not credible. The government was not able to let the bank go bankrupt, leaving the shareholders without anything, because of the disastrous impact on financial stability such an action would have had.

In addition, Belgium's financial resources proved insufficient in a time of crisis, and this demanded international cooperation at an unfortunate moment, when national regulators can be expected to pursue national objectives and to ring fence the assets within their reach. The existence of a cross-country restructuring fund (see Proposal 6c) would have mitigated the liquidity problems by providing a temporary guarantee on Fortis' funding sources to ensure sufficient liquidity, in order to buy time for implementing a viable restructuring plan and to avoid ad hoc intervention with unforeseen inefficient outcomes.

## **5 Conclusions**

This paper explores the specific characteristics of banks and shows how these features are neglected by corporate bankruptcy, highlighting the need for a special insolvency regime for financial institutions.

We identify several principles guiding the design of the optimal bank bankruptcy law. First, we argue that there is a need for a separate bankruptcy law for banks because of negative externalities of bank failure and opaqueness and the asset substitution problem of bank operations and bank liquidity provision. Second, we show that a pre-insolvency phase should exist with a carefully developed and transparent trigger for bank bankruptcy. Third, we argue that timely intervention of the regulator can mitigate excessive ex-ante bank risk-taking and limit the ex-post losses in case of a bank failure. Fourth, we show that the effective bank bankruptcy law should be less debtor friendly and the bankruptcy process should be led by the regulator. Finally, successful restructuring can be realized under an explicit objective of bank bankruptcy procedure. Successful restructuring should prevent distortions in competition and should also preserve confidence in the stability of insured deposits, by putting in place clear governance mechanisms, and by limiting legal stay, respectively. We confront our proposals for optimal

bank bankruptcy law with U.S., UK and German bank bankruptcy laws and with Fortis bank and Lehman Brothers failure cases.

In addition, we acknowledge that there is a strong demand for convergence of banks insolvency regimes across countries, such that the failure of a cross-border bank can be addressed in an efficient manner. An effective mechanism for sharing losses, supervisory duties and responsibilities between national authorities during the resolution process should be implemented in order to make the costs associated with the failure of a cross-border bank less dramatic. The European path towards the cross-border bank bankruptcy framework is analyzed.

Bank bankruptcy law should be aligned closely to the corporate bankruptcy law to prevent potential regulatory arbitrage. As evidence from financial crisis of 2007 has shown, banks escaped regulatory standards and supervision by being involved in securitization through special purpose vehicles. Thus, if excessive differences between corporate and bank bankruptcy regimes existed, banks might try to circumvent the special bank insolvency regime.

The introduction of a special bank bankruptcy regime can provide an efficient framework for the restructuring and liquidation of an insolvent bank, while maintaining financial stability and reducing moral hazard and the fiscal cost associated with bank failures. Banking regulators throughout the world can use the lessons from the recent financial crisis to deal with the demanding task of designing a proper and efficient bank bankruptcy regime.

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