

## Risk Assessment in Banking Reorganization

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### *Abstract*

*Risk assessment in the banking system is a practice that helps banks to manage different types of risks they face in the course of their reorganization. While risks adversely affect a bank's business and development, within the practice of risk management banks identify the emerging risks, measure and assess them. All these risk management functions are vital to eliminate adverse effects of risks on banking capital and financial outcomes of banks' operations and can help managers to decide which kind of banking reorganization instruments to choose in order to restore the financial stability of the bank.*

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### **Introduction**

Financial turmoil over the past decades has shown that systemic banking and corporate sector crisis are partly due to the last financial crisis. Governments apply multiple approaches to resolve systemic bank and corporate crises.

The process assumes the deployment of combined policy recommendations on macroeconomic level (tightening monetary and fiscal policies) and microeconomic level (corporate governance requirements and capital adequacy rules), capable of eliminating the effects of financial crises on public funds and speeding up overall recovery (Caprio and Klingebiel, 1999). All these options assume huge fiscal resources to cope with a crisis.

Financial experts deem consistency in banking reorganization as a core factor for success. The strategically important consistency helps banks to maintain enough resources to absorb losses and handle restructuring. Banks ensure the sustainability of restructuring by implementing changes and deep structural reforms that generate different types of risks.

Risk management in banking is a practice that helps banks to manage different types of risks they face in the course of their operation. While risks adversely af-

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fect a bank's business and development, within the practice of risk management banks identify the emerging risks, measure and assess them. All these risk management functions are vital to eliminate adverse effects of risks on banking capital and financial outcomes of banks' operations. Usually, special organizational unit performs the functions of risk management within a bank.

## 1. Types of Banking Risks

### A. Clasification

The commonest risks faced by most banks are operational risks, strategic risks, credit risks, liquidity risks, reputation risk, market risks, (including foreign exchange risks, interest rate risks, security price risks, and financial derivatives), investment risks, exposure risks, country and legal risks.

### B. Operational Risks

Operational risks assume adverse effects on a bank's financial performance and capital due to irrelevant internal processes and procedures, staff omissions, improper technology and information systems management, as well as force major circumstances. The Basel Committee on Banking Supervision refers to operational risk as the risk of loss due to failed or inadequate internal processes or external events.

As such, operational risk concerns all banking transactions. In practice, mostly all banks face operational risks because of flaws in daily banking activities. This means that the causes of operational risks are many usually arriving from unexpected or unknown sources such as:

1. Human factor risks (incompetency and misuse of powers);
2. Technology risks (system failures, programming errors, and outside hacker attacks on computer networks);
3. Process-related risks (flaws in data transmission, information processing, data retrieval, and inaccurate outputs).

Given the nature of operational risks, they often cause a bank's collapse (Schoenmaker, 2013).

### C. Liquidity Risks

Liquidity risks arise when a bank is unable to meet due obligations. This particular risk is due to investment deficiency and lack of marketability. Such insufficiency prevents a bank from buying or selling enough instruments that would save it from losses. Liquidity risk is a core one for it disables a bank (Northern Rock, for

example) from performing its routine cash transactions. This is when a bank is incapable of meeting payment obligations. Thus, sufficient liquidity is a critical precondition for maintaining a bank's reputation and defining bond prices on financial markets.

#### **D. Credit Risks**

Credit risks assume negative effects on bank's capital and financial output due to borrowers' default to perform their obligations to the bank. Credit risk occurs when counter-parties and borrowers of a bank fail to meet the obligations and set terms. Acceptances, loans, trade financing, interbank and foreign exchange transactions, swaps, futures, bonds, options, and equities are the major drivers causing credit risks to a bank.

Hence, to minimise the credit risk on the bank's end, the rate of interest will be higher for borrowers if they are associated with high credit risk.

The borrowers are primary triggers of credit risks that emerge because of their insufficient low credit score, unsteady income, and collateral assets. In addition, there are external factors affecting credit risks related to outside banking transactions. These are due to delays in settlements resulting in the loss of investment opportunities. Finally, deliberate fraud is often borne by the banks that use credit cards (Schoenmaker, 2013).

#### **E. Market Risks**

Market risks assume losses in a bank's trading book caused by alterations in interest rates, equity prices, foreign exchange rates credit spreads, commodity prices and other values circulated on public markets. Market risk is a risk of losses in on- or off-balance sheet positions due to fluctuations in market prices. This type of risk mainly concerns investment-banking players (e.g. Morgan Stanley, Bank of America, JPMorgan, and Goldman Sachs) that operate on capital markets. There are four types of market risk:

- (1) Equity risk due to stock price fluctuations;
- (2) Interest rate risk due to interest rate fluctuations;
- (3) Currency risk due to changes in international currency exchange rates; and
- (3) Commodity risk due to commodity price fluctuations (Schoenmaker, 2013).

#### **F. Reputation Risks**

Reputation risks arise due to adverse effects on the market positioning of a bank.

This way, a bank is prone to losing its reputation capital. The potential loss of a bank's reputation grounds on real or perceived losses due to improper banking activities, spread of fake information about a bank, its non-compliance with regulatory requirements, manipulations with data, improper customer service, and poor customer experience. At that, stakeholders, opinion leaders, and customers judge every step taken by a bank. Every bank should also care about media coverage of its activities, the way it performs corporate social responsibility (CSR) commitments and serves wider communities. All these constituents influence the reputation and good name of a bank. Sound public standing is of critical importance while over time it turns a bank into acknowledged and recognized brand that enables an organization to internationalize and penetrate global markets. Thus, every bank's management takes according measures to avoid any wrongdoing and prevent negative publicity.

Otherwise, a bank risks to lose public confidence and trust that are crucial constituents of generating customer base. To enhance customer experience, most banks use creative advertisements and promotional campaigns aimed at trust cultivation. Banks spend huge budgets to maintain their brand names on a competitive market of financial services, which indicates a crucial importance of reputation and avoidance of due risks. In case a bank fails to honour its commitments to regulators, government, and communities, it risks losing its reputation among the existing and potential clients alike. Providing that, every bank's management is serious about managing internal and external operations properly, eliminate instances of mismanagement, and adhere to the moral codes of conduct subject to corporate governance (Schoemaker, 2013).

#### **G. Business Risks**

Business risks arise from a bank's long-term business strategy. They occur when a bank loses market share over time or is incapable of complying with competition dynamics. Business risks also occur when a bank is about to close or acquired. Furthermore, business risk is a case when banks opt for erroneous strategy eventually leading to its failure. Once under business risk, a bank becomes prone to losses while its profits shrink.

This means that a bank's long-term strategy does not work any longer while a bank cannot estimate its revenue in a long run. To avoid business risks, banks adopt flexible strategies enabling them to better adapt to dynamically changing market conditions. While it is necessary for a bank to implement its long-term strategy, it should be enough flexible to change its operational tactics depending on market conditions, competition trends, and any external factors that affect its affairs.

The ability to change permanently changes and respond to challenges in flexible manner is fundamental precondition of dynamically developing and successful banks. While the banking industry is hardly predictable, banks should deploy backup plans to support and implement their long-term strategies and avoid business risks. The global financial crisis of 2007-2008 provoked the collapse of many banks, whereas many managed to survive. The core reason of the collapse of so many banks over the crisis was due to the lack of business risk management strategy (Taylor, 2009).

#### **H. Systemic Risks**

Systemic risks are the global risks associated with sporadic losses. However, such risks may lead to the collapse of national or even global financial systems. Over the 1990s and early 2000s, many banks took excessive advantage and managed to earn cosmic profits. However, the 2007–2008 financial turmoil made the same banks to experience severe losses. Most of those super players would depend on government bailouts to keep afloat, while many simply closed down.

Most of the closures were due to mismanagement of core banking risks outlined above. Conversely, the banks with sound strategies were more flexible to face the challenges and respond to the risks. The problem was that too many banks wanted to grow too soon and too fast by disregarding their real capabilities. The 2008 crisis had best shown the enormous losses suffered by international banks due to systemic risks. At that, systemic risk are not the ones that affect a single, rather they are much more global affecting the entire financial industry.

Essentially, the notion of systemic risk assumes a domino effect while evolving failures of a single financial institutions result in a failure of other players in the industry. Systemic risks lead the entire financial system to a standstill and threaten its overall stability. Banking experts compare systemic risk to an anthrax attack requiring the application of serious safeguards. At that, larger banks are the major drivers of high systemic risk due to huge number of counter-party transactions and their size. In their turn, smaller banks are the main scapegoats affected by systemic risks while they do not enjoy wide access to money markets and their capital bases are much weaker compared to large financial institutions (Borio C; Drehman M, 2009).

## **2. Managing Bankig Risks**

While responding to banking risks, a bank's board of directors should supervise risk management functions and offer respective remedies if needed. Reckless high-risk-taking should be avoided due to the implementation of a well-designed com-

pensation policy capable of reducing such risks. A bank should apply lead international practices of financial management to maximise a bank's value by identifying, quantifying, and monitoring a bank's risk profile.

At that, internal banking analysis should consider the context of macroeconomic indicators and specificities of a country's financial system. In order to operate in a stable and viable environment featuring solid financial and regulatory infrastructure, a bank should (1) conduct risk-based financial analysis within a framework for transparent disclosure; (2) deploy sound analytical techniques that would facilitate the comprehension of internal banking interactions and external operations of a bank; and (3) analyse interrelated ratios, which combination serves as a source of invaluable risk information (Schoenmaker, 2013).

Further strategically important component is corporate governance. It ensures a well-disciplined internal organisation of a bank enabling the latter to clearly set its objectives, determine the means of their achievement, and monitor the performance of those objectives. The arrangement of effective corporate governance safeguards a bank with safe operational environment and efficient use of internal resources. Key players within the corporate governance structure (regulators, supervisors, lawmakers, directors, executive managers, shareholders, internal and external auditors, and public) are accountable for managing financial risks. When one of the key players fails to manage a certain dimension of a risk, other players within the governance system should compensate for the gaps and flaws.

Capital risk management is vital to prevent a bank from unexpected losses. While capital involves shareholders' equity and disclosed reserves, it cannot substitute for inadequate risk management practices. At that, the 8-percent ratio is a minimum requirement set for regulatory capital and risk-weighted assets by Basel II international standards regulating the assessment of capital adequacy.

Credit risk management affects overall survival of a bank. Banks eliminate credit risks through the implementation of policies that restrict large exposures and connected-party lending to related parties. At that, a bank's capacity to manage credit risks is an essential precondition of overall quality of its risk management practices.

Liquidity management is another core function while it constitutes an integral part of the asset liability management. Most banks are rather vulnerable to liquidity issues while the fund volatility makes most creditors sensitive to market and credit changes. As an adequate response, banks opt for diversification of funding sources and maturities disable the abundant concentration of funding from a single source. Hence, banks integrate their liquidity management policies within a broader risk management structure to design advanced funding strategies, restrict

liquidity risk exposures, and ensure liquidity planning scenarios capable of responding to critical situations and crises.

In its turn, investment management aims at maximising the return on a portfolio by addressing liquidity and volatility of market value. Therewith, a bank's liquidity portfolio is a source of prudential liquidity covering short-term liabilities whenever a bank lacks access to normal sources of funding. In addition to this, banks utilise liquidity portfolio a source of return and a means of generating a feasible dissemination over the cost of funds.

Banks set a minimum size of the liquidity portfolio by applying sound liquidity policies to cover their short-term liabilities. Banks control credit risks by applying liquidity policies and setting risk limits. They also take control over foreign currency risks to ensure enough liquidity that would enable the protection of their capital and revenues.

Market risk management is important direction allowing banks to react to volatility of bank's positions in equities, interest-sensitive debt securities, commodities and currencies. These volatilities make a bank exposed to the effects of fluctuating marketable financial instruments. Providing that a bank operate within a sophisticated market environment, it hedges against market volatility. At that, banks apply available capital to cover potential losses generated by market risks.

Currency risk come from fluctuations in exchange rates and cause mismatches between the values of assets and liabilities subject to denomination in different currencies. Currency risks often assume settlement risks, counter-party risks, liquidity risks, as well as interest rate risks. While estimating their currency risks, banks differentiate between the risks generated by political decisions, the risks from trading operations, and the risks that occur due to normal banking operations.

Commonly, banks manage currency risks by establishing position limits, in particular a net effective open position. This is a position of all currencies that aggregate an absolute value that serves as expressed percentage that qualifies capital not exceeding a predetermined value. Banks manage currency risks within the framework of a broader asset-liability management process.

Interest rate risk management is among the core functions of asset-liability management applied by the banks to protect capital and income from interest rate risk. The goal of interest rate risk management is to maintain interest rate risk exposures on appropriate levels. Banks measure the risk and its impact by identifying and quantifying exposures with advanced simulation and valuation models and gap analysis.

### 3. Restructuring Risks

The process of restructuring can be described as a feasible procedure applied to corporate structure, operations and debts. This action applies to a given bank which faces serious problems that can lead to financial hazards and cause serious damage to its business. Thus, banks refer to restructuring as a proper way to eliminate financial harms and risks and enhance the business. After restructuring a debt, the payments on debt become more manageable while a bank is capable to make payments to its shareholders. Banks mostly restructure their corporate structure and operations by cutting costs and selling assets. This is risky though inevitable measure to avoid bankruptcy. Similarly, banks reduce to refinancing as a final effort to avoid going bankrupt and keep their business afloat. Whether the company is actually refinancing or restructuring is lost in translation.

Nonetheless, the two processes are not the same. Both involve debt reorganisation processes strengthening corporate financial outlook. While utilising debt refinancing, banks initiate new contracts to pay off loans. In essence, debt restructuring puts debtors at risk of defaulting and make them alter the applicable contracts. Both processes are vital while they enable banks to save on bankruptcy costs. At that, banking experts consider refinancing as a more liberal option compared to restructuring for it is faster and enables to qualify the amount of indebtedness easily. Banks opt for refinancing to consolidate debts, reduce interest rates on loans, free up cash, and change their loan structure. In its turn, debt restructuring applies to more dire conditions when banks alter the existing contracts. Restructuring occurs when a bank becomes financially unstable and fails to adhere to its debt obligations. In addition, restructuring negatively affects a bank's reputation and credit score. Restructuring enables banks to maintain greater liquidity allowing them to restore their cash flow sources and repay the renegotiated loan contracts (Goldberg, 2009).

### 4. Banking Restructuring Tools

When a financial crisis occurs, public authorities intervene in improving the situation and rescuing the banking sector. The following factors are of particular importance to describe a comprehensive picture of instruments that improve the situation of the banking sector:

- 1) the systematic or selective use of financial instruments;
- 2) instruments that allow the bank to remain on the market (wholly or in part);
- 3) tools that identify and separate troubled assets.



Financial support can be considered a systemic support tool. Such central bank operations allow banks to access liquid funds by providing collateral financial support (eg government securities). After the collapse of Lehman Brothers, the banking sector was in a panic and the banks refused to lend each other funds. In this context, the central banks have taken measures to maintain the liquidity level of the banking sector by granting secured loans in line with central banking principles and using non-standardized instruments. Actions taken in the form of government programs or packages (eg France and Denmark) are a similar type of financial support. The government announced that it has the possibility to provide financial support (in the EU after approval by the European Commission), and banks that are interested in it and who meet the specified criteria had the right to join the initiated programs.

These types of tools include several types of rescue operations, such as recapitalization or nationalization, aimed at solving the problems of a specific entity. The proceeding of market operations by a bank is possible when its restructuring is economically justified. This applies in particular to large banks on a particular market whose bankruptcy could not be managed by the deposit-guarantee institution or by the State Treasury. Instruments that allow banks to continue its market operations include: recapitalization, bond guarantees, open bank support (collateral for assets and/or liabilities, loans), separation of troubled assets (balance sheet clearance), sale of specific business units to improve the financial situation and to limit the range of operations of a specific entity as well as to cover the financial loss of equity or financial aid from a particular bail-in group.

The resolution of a bank, in addition to the bankruptcy procedure, must be associated with instruments such as bank liquidation or a dedicated resolution authority. The resolution is accompanied by the sale of carefully selected assets, such as a branch network, together with customer accounts and the loan portfolio. Another tool is to take a bank in danger of bankruptcy by another bank in a better financial position, or to merge several banks facing serious financial problems and to provide support and comfort to the newly established banking institution.

Separation of non-performing assets usually has one of two forms:

- 1) Transferring the loan portfolio to a dedicated institution that will manage it (eg: asset management company); It is necessary to provide capital support and ensure that the institution is continuously financed so that it can function effectively on the market. Such a solution proved to be very successful during the crisis in Sweden in the 1990s;
- 2) Divide the bank into two parts: "good" and "bad"; The "good" part - most often after obtaining financial support - continues to operate on the market and

sells, while the "bad" side is planning for liquidation or bankruptcy. The "good" bank takes over the commitments, including guaranteed deposits and debts to be saved, as well as good assets. The „bad” bank takes over the remaining debts and inappropriate assets.

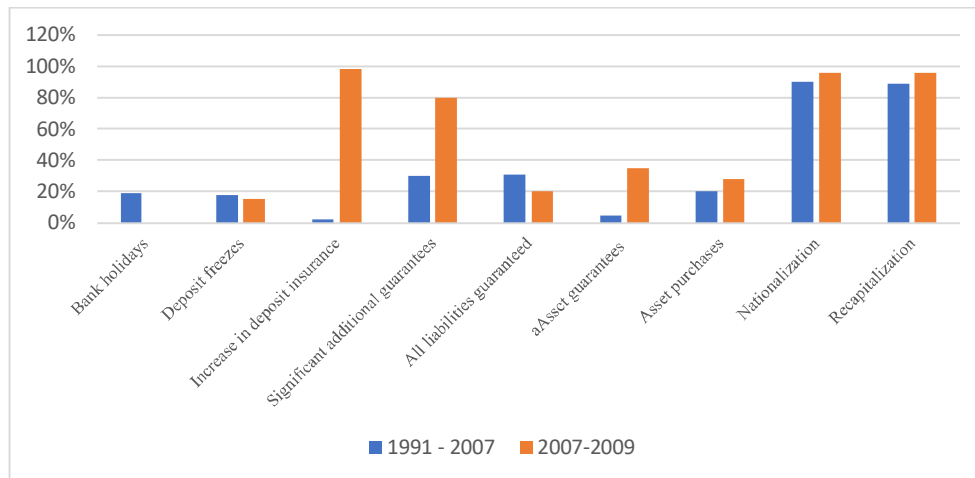
The main purpose of applying these tools is to maximize incomes from bad assets, to "clean" the bank's balance sheet and provide a new business perspective for the bank. Taking into account the events that took place before the recent financial crisis, we can show both the instruments applied and the frequency of their use. Laeven and Valencia (2013), who analyzed 42 financial crises from 1970 to 2007, conducted such an analysis. In addition to bank crises, they took into account the monetary crisis and the sovereign debt crisis. Following the works of Honohan and Laeven (2005) and Hoelscher and Quintyn (2003), Laeven and Valencia (2008) continued to distinguish between instruments used during the phase of the financial crisis isolation and those used during the resolution phase. During the isolation phase, the public authority uses systemic instruments such as the suspension of deposit payments, applies more regulatory tolerance, provides liquidity support, and government guarantees to depositors. During the resolving phase, which is aimed at restoring the banking system and restoring its operations, the following tools can be used (in a selective way): the creation of companies for the management of bad loans, the waiving of debt, the government-backed sale of the banking institution (for example to a foreign investor) and government-backed capital support. Capital support could be granted to banks in cash, government securities, in the form of subordinated loans, through the purchase of preferential or ordinary shares, the purchase of bad loans, the takeover of the bank's liabilities or the opening of a credit line.

Studies led by Laeven and Valencia highlighted a diverse range of individual tools used to combat the negative effects of crises on the banking system. During the crisis isolation phase, the most used instruments were: support for liquidity (71% of cases) and regulatory tolerance (67%). Less commonly used instruments included unlimited government guarantees (29%), with an average of about four and a half years, and the least used were freezing deposits (12%). During the crisis resolution phase, the government intervened extensively in 86% of cases. The most commonly used tools were mentioned: recapitalization (76%), mergers (61%) and nationalization (57%). These tools were not used one by one, but in specific configurations. At the same time, companies responsible for the management of non-performing assets (almost 60% of cases) and companies managing the banking restructuring process (48% of cases) were created.

One of the first attempts to diagnose the use of restructuring instruments in the context of the recent financial crisis was made by Claessens et al. (2011). Their

analysis, however, ended in 2009 and covered 12 countries (Austria, Belgium, Denmark, Germany, Iceland, Ireland, Latvia, Luxembourg, the Netherlands, Ukraine, the United Kingdom and the US).

**Figure 1**  
**Restructuring tools applied before 2007 vs tools used during the financial crisis in 2007-2009**



Source: Claessens et al, 2011

Claessens et al (2011) shows the differences identified between the instruments used to combat the negative effects of the financial crises specific for the period 1991-2007 and the restructuring instruments used in the period 2007-2009. Compared with the events prior to 2007, they became more important additional government guarantees (including asset guarantees) and increased collateral on deposits. At the same time, recapitalization and nationalization remained significant. According to Claessens et al. (2010), the typical intervention tools used during the recent financial crisis were:

- 1) Supporting liquidity through secured loans (over 10% of GDP of developed countries);
- 2) Increased guarantees for creditors;
- 3) Purchase or exchange of non-performing or illiquid assets (around 3.5% of GDP);
- 4) Recapitalization of banks (around 2% of the country's GDP).

## Conclusion

On external level, a multitude of government policies is of ultimate importance, namely: provision of liquidity support to financial institutions, safeguarding liabilities of the financial system at the beginning of a financial crisis, and establishment of a public asset management companies on a restructuring phase. The aggregation of these measures facilitates faster and more sustainable recovery of financial institutions and corporate sector from adverse effects of a crisis. The implementation of some of these policies requires large fiscal costs and leads to tradeoffs.

A large-scale corporate and financial distress over a short time is the best characterization of a systemic crisis in banking system and corporate sector. Systemic financial crises occur partly due to considerable shocks in interest and foreign exchange rates as well as due to overall economic meltdown. Consequently, corporate and financial sectors become prone to increased defaults while they are not able to repay contracts timely and cope with the increasing amount of non-performing loans.

Given weak regulatory environment, insufficient supervisory resources, and deficient data indicators for financial solvency on emerging markets, interventions should come within a framework of a rehabilitation program to save undercapitalized financial institutions. This will help failing banks with designing feasible plans to meet capital adequacy requirements, ensure sound government oversight and provide quality financial statements. Alternatively, regulatory authorities may apply marginal reserve requirement on deposit inflows and all new liabilities to deter a failing bank from reallocate resources in any inappropriate manner (Krueger and Tornell, 1999).

Strengthening of financial discipline and elimination of moral hazard necessitate a government to allocate losses on existing shareholders, creditors and depositors who failed to monitor a failing bank's affairs. In this case, a government may cover all losses of a bank by imposing guarantees. The best solution for a government, however, is to impose losses on a bank's depositors without causing adverse macro-economic consequences to economy and national currency. In this case, economic recovery is rapid while financial intermediation helps to restore household deposits in a short time. Another feasible solution in the course of effective reorganization is to solidify financial discipline within a bank, change bank management, and ensure operational restructuring (Caprio and Klingebiel, 1996).

During a financial crisis failing banks cope with tradeoffs between fiscal costs and re-establishing confidence (Honohan and Klingebiel, 2000). Governments that apply blanket deposit guarantees and open-ended liquidity support considerably increase fiscal costs to resolve financial crisis. In weaker institutional settings, such

costs are larger. At that, there are no apparent tradeoffs between fiscal costs and subsequent economic recovery.

The countries that deploy liquidity support, forbearance policies and blanket guarantees (that are all rather costly to the national budget) failed to ensure fast recovery from financial crisis. They erroneously bet on the extension of liquidity that made output losses larger and crisis recovery longer (Bordo et al., 2001). Consequently, the two critical policies during the initial containment phase consist in restricting liquidity support avoiding guarantee extension. Assuming, in weaker institutional settings, governments apply simpler approaches to cope with failing banks and loss of confidence in them to avoid extra pressures on fiscal costs and contingencies.

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