

# Structural Changes in Banking Industry after the 2008 Financial Crisis

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**Abstract.** The 2008 financial crisis is an evolution phase of the financial market in the thorough financial deregulation procedure that started at the end of the 1970s. After that, the bank capital requirements of the US have been revised in various significant ways, the goal of which is to support the banking system and decrease the potential of another crisis. The notion is that banks change to follow the business model of securitization and embrace social corporate responsibility more rigorously. Given what happened during the crisis, the Basel II Accord has been criticized. This paper will analyze the changes in the internal management and supervision of banks from the perspective of Basel reform, and explore the causes of the financial crisis and the deficiency in bank governance. Apart from that, three areas of banking industry, including capital structure, assets management and administering of credit risk, are demonstrated. According to the results, the banks have raised capital requirements, increased bank liquidity, reduced bank leverage, constantly evolved and found new ways to keep adequate performance level. At the same time, corruption in bank lending is effectively controlled. This paper further discusses the post-crisis measures in the banking sector, and demonstrates that the regulators need to consider the banks' expansion and the increase of their capital level.

**Keywords:** Banking Industry, 2008 Financial Crisis, Capital Adequacy Management, Bank Asset Management, Credit Risk.

## 1. Introduction

The financial crisis started in 2007 and spread in 2008. By the early 2009, the financial system and the world economy seemed to be in a downward spiral. Under this background, the government was forced to provide bailouts and policies to prevent a prolonged recession like the Great Depression. In addition to the well-known approval of \$700 billion by congress, the Federal Reserve also tried to invest all kinds of risk assets of \$1.3 trillion to help institutions and markets, including the purchase of bankruptcy institution's loans and the collateralized debt obligations backed by subprime mortgages [1]. In order to solve the problem and avoid similar incidents in the future, it is necessary to analyze the root causes of this "huge failure". Beyond that, the origin of the crisis should be traced much further. Currently, there are many different views on the underlying causes. As argued by James (2009), this evolution takes the form of a cycle: deregulation is accompanied by quick finance innovation, which triggers a great financial prosperity and ends in a crisis. In other words, a relaxed regime is the beginning of the climacteric [2]. It has been widely believed that since the credit standards for US mortgages were not precise in the early 2000s, the rise in delinquency and foreclosure rates exerted a severe impact on a series of US financial institutions [3]. However, the excuse of attributing the failure of financial rules to poor regulation seems to be perverse. From the perspective of banking, the reasons leading to the instability of the financial system are also found out. Banking plays a crucial role in the economy, which not only transfers resources to borrowers from savers, but also allocates them to productive investment chances [4]. However, over the past ten years, the dangers of permitting the financial industry to "get very big" have been highlighted. In doing so, negative developments such as rent-seeking, herding and bubble-creating tendencies, misaligned motivations, and the sharp increase of complicated financial instruments are likely to outweigh the financial benefits [5]. In fact, the main reason is that the financial institutions fail to follow the business model of securitization. To be more specific, banks often hold very little capital, but higher capital decreases the risks of failure. Apart from that, it tends to be more expensive than

debt. Although bankers also fear bankruptcy, they do so less than policymakers think. First of all, banks' creditors, especially insured depositors, do not penalize banks for risk-taking, so that banks are able to gain benefit from risky assets and make very risky investments. Secondly, there is a perception that the failure of a large bank could generate a broad economic impact, which banks do not factor into their decisions. As demonstrated by most policymakers, the bank failures, especially those of large banks, could trigger an economy-wide (systematic) catastrophe. For example, a lot of financial institutions, which held many mortgage-backed securities, suffered big losses when the value of those securities plunged. With the passage of time, the size of financial markets grows larger and larger, significant financial products get increasingly complex, and the surge in the leverage ratio of the whole system makes the financial crisis more threatening. Thus, the reform and perfection of banking industry in the financial system play a crucial role in the future development of the global economy.

Basel III, which was enacted after the 2008 financial crisis, is some proposed changes to global capital and liquidity demands and a few other relevant regions of banking supervision. In fact, everyone could accept that the financial system and banks will become safer due to these changes. Therefore, in the next part, this paper describes the key structural flaws in banking sector and practices, and analyzes the changes and contribution in the banking industry after the reform of agreement from three perspectives. Firstly, this paper examines the reforms of the Basel agreement, such as tightening the definition and quality of capital, and raising the minimum capital adequacy requirement. Secondly, it analyzes the weakness of capital bonds and how to manage assets more effectively. Finally, this paper further explores in which ways banks can reduce credit risk more effectively from the perspective of anti-corruption.

## **2. The structural changes in banking industry**

### **2.1. Policies on liquidity and capital adequacy management**

After the financial crisis in 2007 and 2008, the capital requirements of the World Bank have been revised in several important ways, the purpose of which is to better support the banking system and reduce the likelihood of another crisis. In addition, the global financial crisis reinforces the perception of the Basel II's weaknesses, namely relying on the rating agencies and determining regulatory capital requirements using the internal models [4]. Because of the lax regulatory requirements for banks, banks have removed a lot of risky assets from their balance sheets through credit derivatives, thereby drastically lowering their capital occupancy. Thus, Basel-III has been put forward, which introduces a variety of regulatory changes, such as higher funding standards, and the introduction of new liquidity and leverage ratios. To be specific, the first change is the more stringent requirement for capital, which refers to the part of a bank's asset that it does not have an underlying contractual commitment to repay. Thus, when the bank's asset value drops or its liability increases, it can act as a cushion. The second is the requirement for increased liquidity, which represents the capacity to sell or change assets into cash without inducing much loss. Moreover, the new Basel leverage ratio is also focused on the ratio of Tier 1 capital (consisting primarily of shareholders' equity in common equity and retained earnings) to total assets, rather than taking risky assets [6]. In order to conform to the regulatory criteria, banks need to enhance their capitalization and adjust their balance sheet structures to improve their assets' liquidity and their funding's stability. Finally, the most particular change of Basel III is creation of a system-wide set of macroprudential measures [7]. In fact, the rules of Basel II are specifically targeted at the micro-prudential supervision at the level of bank. By contrast, Basel III has introduced some tools and criteria at the macro-prudential level to deal with systemic risks in the global financial system. Apart from that, Basel III introduces the idea of raising capital requirements in boom and lowering them in contraction. This will serve a counter-cyclical purpose, which indicates slowing banking activity when the sector is overheated and stimulating lending when the economy is struggling. The crisis has revealed that there is often a period of excessive credit growth prior to an economic downturn. If this signal is captured timely and sufficient countercyclical

excess capital is built up accordingly, the potential losses of the banking sector from the climacteric can be effectively addressed. Moreover, this decision-making mechanism will also restrain the credit demand, thereby creating a counter-regulation of systemic risk. For example, in order to respond to the sudden loan losses, the bank often rebuilds their net worth by rapidly increasing the lending rate. However, if there is the countercyclical capital buffer, it will lead to the temporary relief under the macroeconomic stress and slow rise of the interest rate. After that, the real economy will better address the systemic risk, without being seriously affected by the market interest rate fluctuation.

## **2.2. Efficient approaches to managing bank assets**

Unlike most of the commercial firms, the commercial banks typically make profit by managing the investment and financing decisions, trade off expected profit by managing the liabilities and assets' maturity, and increase interest rate according to the risk. It is considered that higher capital requirements will crimp profitability of banks. However, a study shows that after the 2008 financial crisis, banks become slightly more profitable than before [8]. At the same time, banks in the developed world are increasingly making more of their profits from the non-interest sources. For instance, the development of securitization finances all kinds of loans, leading to an increase in service charge for banks and a decline in interest income. Recently, the benefits of reviving the damaged securitization market of EU has been emphasized [9]. Although the relationship between securitization and bank risk is controversial, the economic benefits of securitization are not negligible. Indeed, illiquid assets can be converted into liquid securities through securitization, which permits banks to adopt asset-backed securities (ABS) as a financing tool for short-term financing transaction, and thereby triggers an increase in lending. After the change of regulations, financial institutions diversify the approaches of managing bank assets. Besides, more commercial banks simultaneously run both the covered bond and asset securities financing plan, because they complement each other and allow the sponsors to effectively manage financing and risk by connecting the local asset market with the global financial capital markets. Asset backed securities are issued by special-purpose vehicles, which transfer risks from the issuer to investors in the financial capital markets and offer them on highly competitive pricing terms. Apart from that, they are separated from the company's credit rating. Therefore, the balance sheet of the sponsor will not be affected by the securitized assets. After transferring the risk from their assets, banks will have no incentive to regulate and will not undertake the fees of these declines in loan qualities. In the specific situation, financial organizations do not follow the securitization business model, which leads to the financial crisis. However, covered bond, as an alternative form of financing, has the potential stabilizing effect. Like the characteristics of ABS, long intermediate chains are inherently unstable. Thus, the use of covered bonds, which have a short intermediary chain, can make the financial system more resilient. What's more, the guaranteed bond transaction is closer to the simulation of the bond issuance of the guaranteed company, as the underlying asset pool has not been transferred to the special purpose company. This gives the holder of the insured bond the right of recourse against the mortgage loan arising from the security interest. In conclusion, the combination of covered bonds and assets-based securities is an appropriate approach for banks to expand the profits.

## **2.3. Management on bank loans and credit risk**

It is important for the financial institutions to manage the credit risk properly in that the banks' ability to absorb loan losses is limited. On the other hand, the financial crisis is an effect of the high non-performing loan in the banking industry, because the rise of the non-performing loan ratio will directly reduce the income of the bank. For example, a study analyzed among 162 failed banks in the US and pointed out that 98% of banks go bankruptcy because of asset quality problems. As demonstrated by Bermpei et al (2021), the public corruption is likely to promote information asymmetry in the loan market, which may result in more low-quality loans and impede local development [10]. Although this kind of unethical behavior may result in certain effectiveness in the short term, these outcomes are not sustainable and do not benefit society, organizations, and

individuals. In areas with high levels of local government corruption, companies can adopt more secrecy measures, so as to reduce the information transparency. This could represent an attempt by managers to conceal the corruption-related activities from shareholders. Therefore, after the crisis, banks focus more on changing the degree of disclosure and increasing social corporate responsibility. This is because sufficient disclosure level can be used as an external mechanism to monitor the behavior of senior management. Most importantly, it is helpful to maintain the trust of stakeholders and investors. Hence, banks involved in corruption should provide more disclosure of corruption information to restore their institutional legitimacy. Meanwhile, the banks that have not been implicated in corruption will signal to investors that there is no corruption by increasing the level of disclosure. On the other hand, banks have further studied that the sharing of information is favorable to decrease non-performing loans and decline the discretion of evaluating loan applicants [11]. In many countries, banks share the borrowers' credit information more frequently through private agencies and public credit registries. In short, information sharing not only facilitates the supervision of loan officers, but also improves the probability of finding out corruption. For instance, owing to imperfect information in the process of lending, loan officers have a great deal of discretion in lending through the loan rate, term, etc. Without doubt, this creates opportunities and motivations for officers to accept bribes. Apart from that, more comprehensive information sharing could contract the discretion in the process of evaluating loan applicants. In addition, the supervision of loan officers has been facilitated and strengthened, which increases the likelihood of detection of corruption and thereby further reduces corruption. Moreover, information sharing is likely to remove the information rents, which enhances competition in the lending market and decreases the possibility of lending corruption. Lastly, banks' enhanced disclosure and greater use of information sharing will accelerate economic recovery and stabilize the economy.

### 3. Discussions

There is no doubt that the revised framework of Basel Committee represents a significant step in the correct direction. However, some people consider that the above reforms will impede economic recovery to a certain extent. In order to conform to the regulatory criteria of Basel III, banks need to enhance capitalization and adjust the structure of their balance sheets to enhance their assets' liquidity and stability. Then, some activities of banks, particularly their credit activities, will be influenced. Due to the fact that the lending carries a higher risk weight than securities trading, banks may have to scale back this activity. In general, bank loan is the main source of external financing for enterprises. It is difficult for the real economy to recover if the lending sources are unstable. Therefore, more efforts are needed to improve the imperfect capital market. In terms of the assets management, covered bonds also have a few limitations. For example, they are more susceptible to the bankruptcy risk of the issuer in particular. Thus, banks will manage in the active approach which continuously replaces the low-quality loan with the high performing one. This will affect the overall quality of the assets that are not collateralized. Unlike asset-backed securities, the issuing amount of covered bonds is restricted by the size of the issuer's balance sheet. If a financial institution needs to combine a lot of covered bonds to effectively manage financing and risk, it should be more diversified in its assets management and fully understand the limitations of covered debenture. What's more, countries need to implement the reforms in a timely and consistent manner, underpinned by sustainable bank profitability, to ensure that the banks could enjoy the financial stability benefits of the reforms. However, experience has demonstrated that the timetable agreed upon by member economies is difficult to achieve and progress will lag. Thus, monitoring progress is important. As shown by the regulatory indicators, banks have already made most of their adjustments to the standards ahead of schedule, yet some market indicators cast doubt on the extent to which banks have transitioned to viable new business models. There are several ways to help banks make the transition, such as removing legal or structural impediments to bank adjustment.

## 4. Conclusion

All in all, the reinforcing of new capitals and liquidity requirements under Basel III should make the financial system safe. Despite that the cost of banks to hold extra capital and liquidity will rise, this is at the price of slower economic growth in most years, as credit is more expensive and less available. The countercyclical buffer, which is a macroprudential measure, will push the banking sector to become more secure, but it will exert a contractionary effect on the economy. However, the extent of these effects is controversial, and people's perceptions of trade-offs are different. With these changes, banks and the financial system will become safer, as capital is there to protect against risks. Obviously, more capital is required to take on more risks. If the requirements of Basel III are not strictly implemented, the financial crisis will often be accompanied by a lot of corporate failures, increasing unemployment, and even social unrest or national political turmoil. In addition, banks' efficient approaches to managing assets have become more diversified. Some researchers argue that higher capital requirements will curb bank profitability. Nonetheless, banks are generating more revenue from various sources other than interest-earning instruments. Through an adequate mix of covered bonds and asset-based securitization, banks can reduce risk and increase fee income. It is important for banks to manage credit risk, properly because their ability to absorb loan losses comes first from the income generated by the profitable loans. As pointed out by some scholars, the nationwide corruption is positively correlated with bank credit risk, which seriously affects the accumulation of non-performing loans in the commercial banks. In the aftermath of crisis, banks' regulatory strategies that enhance private monitoring can decrease lending corruption. All in all, the change in banks exerts a stabilizing effect on the world financial markets.

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