Assessment of Contemporary Situation in China's Bond Market

Student: Yanyu Xu
Supervisor of the bachelor thesis: Ing. Kateřina Kořená, Ph.D.

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1. Introduction
2. Principles of Financial Market Regulation
3. Regulation of Global Financial Markets before 2007 Financial Crisis
4. Regulation of Global Financial Markets after 2007 Financial Crisis
5. Conclusion

Bibliography
List of Abbreviations
Declaration of Utilization of Results from the Bachelor Thesis
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Annexes

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Supervisor: Ing. Kateřina Kořená, Ph.D.

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Ing. Iveta Raimanová, Ph.D.
Head of Department

prof. Dr. Ing. Dana Dluhošová
Dean of Faculty
The declaration
"Herewith I declare that I elaborated the entire thesis, including all annexes, independently."

Ostrava dated 7th May, 2015

Yanyu Xu

Yanyu Xu
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1 Introduction

The reform of financial market has been particularly important in the last decades with regards to capital markets, financial instruments and intermediaries. Structural changes have mainly happens on the more traditional operators in banking, but also in insurance companies and investment firms.

Supervision and regulation has also been the object of important change. A number of countries (the USA, UK) are presently radically changing their regulatory system. In other European countries, evolution trends are moving in the same direction. At the same time, the financial crisis started in USA housing market in 2007 and spread across the world, which expose many regulation problems.

The objective of this thesis is to set up an assessment of the financial regulation reform after subprime crisis.

The thesis is organized as follows. In chapter II I describe the principle of financial market regulation. In chapter III I demonstrate the regulation system before crisis, by using the USA and UK as an example. In chapter IV I discuss the reform by in terms of countries and industries. Finally, I summarize my conclusion.
2 Principles of Financial Market Regulation

Regulation of the financial system entails setting rules and establishing an enforcement mechanism designed to control the operation of the system’s constituent institutions, instruments and markets. In this section, there are 3 problems to be solved. Those are: Who regulated the financial market? What are the objects and purposes of financial regulation? And how is the financial market regulated? At the end, there is a bit of regulation history attached, as a background of the regulation.

2.1 Macroscopic View of Financial Regulation

In economic issue, the theoretical principle for public intervention is based on the need to correct market imperfections and unfair distribution of the resources.

Thereby, we can summarize three objectives of public intervention: the pursuit of stability, equity in the distribution of resources and the efficient use of those resources. (O’Hara, 1999)¹

More specifically, traditional economic theory suggests that there are 3 main purposes.
- First is to constrain the use of monopoly power and the prevention of serious distortions to competition and the maintenance of market integrity;
- Second is to protect the essential needs of ordinary people in cases where information is hard or costly to obtain, and mistakes could devastate welfare;
- and third is where there are sufficient externalities that the social, and overall, costs of market failure exceed both the private costs of failure and the extra costs of regulation. (O’Hara, 1999)²

So, it’s an important aspect of public control over the economy to supervise the financial system. Moreover, how to accumulate the capital and allocate the financial resources is becoming an essential part in the process of the economic development of a country. Because of the existence of financial intermediation and the mediation

function performer, it justifies the need of a broader system of controls about other forms of economic activity. That’s why the banks and other financial intermediaries have always been heavily regulated. Many theoretical motivations which based on the existence of particular forms of market failure in the credit and financial sectors have been advanced to support it.

2.2 Statutory Regulation and Self-Regulation

Various forms of regulation include: antitrust enforcement; asset restrictions; capital standards; conflict rules; disclosure rules; geographic and product line entry restrictions; interest rate ceilings; investing and reporting requirements. These rules may be set down in law with enforcement ensured by government officials, or they may be set and enforced by either an association of financial institutions or the firm itself (O’Hara, 1999). Therefore we can draw a conclusion that the executors of the regulation can be the government or the industry itself.

2.2.1 Government Regulation

There are, however, a number of arguments against government regulation. These concentrate on 4 failings of regulation (Howells, Bain, 2007).

Regulation and moral hazard

That is, it causes people to behave in a counterproductive way. This allows organizations that are badly managed or staffed with dishonest people to survive. Equally, if financial institutions believe that they will always be rescued from collapse, they may take greater risks in their lending policies in search of higher returns.

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4 Financial markets and institutions, Peter Howells and Keith Bain, 5th ed
Regulation and Agency Capture

In other words, producers often dominate the regulatory process since the activities of regulators are much more important to each of the relatively small number of producers than to each of the much larger number of consumers. Further, the next career move of regulators is often into the industry they have been regulating and so they may not wish to offend producers. Again, regulators may be ex-practitioners who share the judgments and values of the producers.

Regulation and creation compliance costs for producers

The costs of adhering to the regulations are a little bit higher. If producers are able to pass on the costs to consumers, the result is higher prices and lower output.

The entry fee to the industry

The need to comply with regulations increases the costs of entry into and exit from markets. This helps to preserve monopoly positions and make cartels more stable.

2.2.2 Self-regulation

The argument for self-regulation has 2 elements.

Firstly, the industry has to protect its reputation and members are prepared to pay to fulfill it. Secondly, as a specialist in this field, it’s easier to understand the needs of the industry and is likely to intervene less with its efficient functioning.

Contrary to the industry, the statutory regulators are heavily criticized over the collapse of firms but not praised for actions that lead to lower prices; they are likely to set superabundant safety standards, raising the cost of regulation to both producers and consumers. So these 2 methods can supplement each other.

But there are some problems about self-regulation.

Assumption that self-regulation is lighter than government regulation. If it is not supported by the government regulation, at least to the extent that firms are legally required to join the industry regulatory system. Some firms will have an incentive to be a free rider, hoping to benefit from any increase in reputation of the industry
resulting from the behavior of firms within the regulatory organization without paying the costs of membership.

Moreover, compared to government regulation, self-regulation creates less moral hazard only to the degree that it leaves risk for both consumers and producers. But when there is risk, we need to assess it and then make a judgment whether or not to invest.

Apparently, the professionals have no worries about it, however, the consumers have difficulties in it. When faced with the risk, people are easier to adopt one or other extreme position. The risk-takers or who underestimate the true level of risk makes that untrustworthy firms continue to survive. On the other hand, those who are risk-averters or who overestimate the true risk may loss the opportunities to invest products from which they might have benefited.

Therefore, we can draw a conclusion that self-regulation sets regulation in the hands of the producers and provides an incentive for them to use regulation to increase barriers to entry to the industry; it may help to lower some kinds of compliance costs, but not for all problems.

2.3 Economic Analysis of Financial Regulation

The definition of the term 'financial market' has traditionally included the banking, financial and insurance segments.

- A primary objective of financial market regulation is the pursuit of macroeconomic and micro-economic stability.

Defending of the stability of the system lies in the macro-controls containing the financial exchanges, clearing houses and securities settlement systems. Regarding the ways to maintain the micro-stability of the intermediaries, they can be divided into two categories: general rules assuring the stability of all business enterprises and entrepreneurial activities, which means serious of particular regulations or limitations such as the legally required amount of capital, borrowing limits and integrity requirements; and more specific rules generated for the particular type of financial intermediation, such as risk based capital ratios, limits to portfolio investments and
the regulation of off-balance activities.

- A second objective of financial regulation is the transparency in the market and in intermediaries and the investor protection.

This is linked to the more general objective of equity in the distribution of the available resources because of the instability of one company’s development that the unsound equity allocation may bring. This may also be mapped into the search for “equity in the distribution of information as a precious good” among operators.

At the macro level, the transparency rules levy equal treatment and the spread of the correct information (insider trading and, more generally, the rules dealing with exchanges micro-structure and price-discovery mechanisms).

At the micro level, such rules are aimed at nondiscrimination in relationships among different customers and intermediaries.

- The third objective of financial market regulation is the safeguarding and promotion of competition in the financial intermediation sector.

It is associated with the general objective of efficiency. To achieve this purpose, it demands rules to control over the structure of competition in the markets and beyond that, at the micro level, regulations in the matter of concentrations, cartels and abuse of dominant positions are also required.

2.4 Types of Financial Regulation

All in all, there are 10 basic categories of financial regulation: the government net, restrictions on asset holdings, capital requirements, prompt corrective action, chartering and examination, assessment of risk management, disclosure requirements, consumer protection, restrictions on competition, and macro-prudential supervision.

Government Safety Net

For depositors it can short-cut runs on banks and bank panics and by providing protection for the depositor, it can overcome reluctance to put funds in the banking system.

One form of the safety net is deposit insurance. But it is not the only form. In other
countries, which are absence of explicit deposit insurance, governments have often stood ready to provide support to domestic banks facing runs. One way governments provide support is through lending from the central bank to troubled institutions. This form of support is often referred to as the “lender of last resort” role of the central bank. In other cases, funds are provided directly to troubled institutions, and government can also take over (nationalize) troubled institutions and guarantee that all creditors will be repaid their loans in full.

Bank Regulations

It restricts asset holdings are directed at minimizing this moral hazard. Because banks are most prone to panics, they are subjected to strict regulations to restrict their holding of risky assets, such as common stocks. Bank regulations also promote diversification, which can reduce risk.

Government-Imposed Capital Requirement

It is another way of regulation. Capital requirements for banks take 2 forms. The first type is based on the leverage ratio, the amount of capital divided by the bank’s total assets. And the Basel Accord, which deals with a second type of capital requirements, risk-based capital requirements.

Prompt Corrective Actions

It classifies banks into 5 groups based on bank capital.

Group 1, classified as “well capitalized,” comprises banks that significantly exceed minimum capital requirements and are allowed privileges such as the ability to do some securities underwriting.

Banks in group 2, classified as “adequately capitalized,” meet minimum capital requirements and are not subject to corrective actions but are not allowed the privileges of the well-capitalized banks.

Banks in group 3, “under-capitalized,” fail to meet capital requirements.

Banks in groups 4 and 5 are “significantly under-capitalized” and “critically
“under-capitalized,” respectively, and are not allowed to pay interest on their deposits at rates that are higher than average. In addition, for group 4 and 5 banks, it is required to take prompt corrective actions.

**Financial supervision or prudential supervision**

It is another important method. Regular on-site examinations, which allow regulators to monitor whether the institution is complying with capital requirements and restrictions on *asset holdings*, also function to limit moral hazard.

Bank examiners give banks a *CAMELS* rating. The acronym is based on the 6 areas assessed: *capital adequacy, asset quality, management, earnings, liquidity* and *sensitivity to market risk*. With this information about a bank’s activities, regulators can enforce regulations by taking such formal actions as cease and desist orders to alter the bank’s behavior or even close a bank if its CAMELS rating are sufficiently low.

**Bank examiners**

It give a separate risk management rating as from 1 to 5 that feeds into the overall management rating as part of *CAMELS* system.

4 elements of sound risk management are assessed to arrive at the risk management rating:

- The quality of oversight provided by the board of *directors* and *senior management*;
- The adequacy of policies and limits for all activities that present significant *risks*;
- The quality of the *risk measurement and monitoring systems*;
- The adequacy of *internal controls* to prevent fraud or unauthorized activities on the part of employees.

**Disclosure Requirements**

It is a key element of financial regulation. Basel 2 puts a particular emphasis on
disclosure requirements, with one of its 3 pillars focusing on increasing market discipline by mandating increased disclosure by banking institutions of their *credit exposure, amount of reserves, and capital*. And the regulation of *brokerage firms, mutual funds, exchanges, and credit-rating agencies* to ensure that they produce reliable information and protect investors.

**Consumer protection**

This regulation has taken several forms. Also, there are many legislations to reduce discrimination in credit markets.

**Restrictions on competition**

Governments in many countries have instituted regulations to protect financial institutions from *competition*. These regulations have taken 2 forms. First were restrictions on *branching*. The second form involved preventing *non-bank intuitions* from competing with banks by engaging in banking business.

**Micro-prudential Supervision**

The regulatory engaged in micro-prudential supervision, which focuses on the safety and soundness of *individual financial institutions*.

It looks at each individual institution separately and assesses the riskiness of its activities and whether it complies with disclosure requirements. Most importantly, it checks whether that institution satisfies *capital ratios*, if not, either it engages in prompt corrective action to force the institution to raise its capital ratios or the supervisor closes it down, along the lines.

**2.5 Financial Market Supervisory Models**

There are many theoretical models and practical approaches to the regulation and supervision of financial markets. According to the significant differences between definition and classification of regulatory models and techniques, we can identify 4 approaches: "*institutional supervision", "supervision by objectives", "functional..."
supervision" and "single-regulator supervision".

2.5.1 Institutional Supervision

In the more traditional "institutional approach" (also called "by markets" or "by subjects"), each individual category of the operator is assigned to the different body activities.

In this model, which is following the traditional subdivision of the financial system for the three markets, therefore, we have the three regulatory authorities as regulators, banks, financial intermediaries and mutual funds and insurance companies (and the corresponding market).

There are many ways to control agencies and market, for example, entry selection procedure (e.g., authorization and special registers the admission procedures), ongoing monitoring of the business activities (control, inspection and sanctions), and eventually withdrew from the market (suspensions).

“Institutional” regulation is helpful to control the effective implementation, being performed about the subjects that are regulated as to every part of their activity and as to all the objectives of regulation. The agency and market regulator as their counterpart is only one. In turn, is highly specialized. The result is, to avoid repeated control and regulation of the cost can be reduced.

This approach seems to be particularly effective in cases of intermediaries of a very similar type which operate in just one of the three traditional sections of financial intermediation. Vice versa, the institutional model may emerge; in the existence of more subjects perform the same financial intermediary activities, to cause the different configurations for the same nature performed by different entities of the operation of the supervision of law enforcement activities distort.

The disadvantages of this approach are displayed by the previously mentioned trend toward multiple-sector activities and the progressive de-specialization of the intermediaries. Conversely, these phenomena are connected to both the market and the markets tools, which often leads to the appearance of big financial group. In a context where the boundaries separating the various institutions are progressively
being erased, it is no longer possible to establish whether a particular subject is a bank, a non-banking intermediary or an insurance company; or whether a group is involved more in one or another of such activities.

Therefore, there is the risk that "parallel" systems of intermediaries may be created, reflecting the diversity of the respective control authorities. In this case, the way the controls are set up may become a destabilizing rather than stabilizing factor. Moreover, the intermediaries might be induced to choose their juridical status in a way which is contingent on the different rules that discipline different subjects.

A further possible element of weakness in the model lies in the fact that when a single authority supervises a category of subjects and pursues more than one objective, the result of the control activity might not be effective in the event that different objectives are in conflict.

### 2.5.2 Supervision by Objective.

The supervisory model by objectives (or by finalities) postulates that all intermediaries and markets be subjected to the control of more than one authority, each single authority being responsible for one objective of regulation regardless of both the legal form of the intermediaries and of the functions or activities they perform.

According to this scheme, an authority is to watch over both market stability and the solvency of each intermediary, whether in banking, finance or insurance; another authority will be responsible for the transparency of financial markets and will control the behavior of banks, financial intermediaries and insurance companies toward customers; a third authority will guarantee and safeguard competition over the entire financial market and among intermediaries.

The basic advantage of this regulatory model lies in the fact that it is particularly effective in a highly-integrated market context and in the presence of polyfunctional operators, conglomerates and groups operating in a variety of different business sectors. At the same time, it does not require an excessive proliferation of control units.
The most attractive feature of this scheme is that it provides uniform regulation for the different subjects engaged in the same activities.

Compared to the "institutional" model, a regulatory framework organized by objectives may produce a certain degree of multiplication of the controls. And sometimes it could lead to a lack of certain controls. Indeed, the specific assignment of competencies with respect to the objectives of regulation is not necessarily univocal and all-inclusive in practice.

In such a model, each intermediary is subject to the control of more than one authority, and this may be more costly. The intermediaries might in fact be required to produce several reports relating to supervision, often containing identical or similar information. At the same time, the intermediaries may have to justify the same action to a whole set of authorities contemporaneously, even though for different reasons. Vice versa, a deficit of controls might occur whenever the exact areas of responsibility are not clearly identifiable in specific cases.

2.5.3 Functional Supervision

The third regulatory model is the so-called "functional supervision", or supervision "by activity". It considers as "given" the economic functions performed in the financial system; unlike other lines of thought regarding supervisory activities, this approach does not postulate that existing institutions, whether operative or regulatory, must necessarily continue to exist as such, in terms of both their structure and role. The "functions" or activities undertaken are considered to be more stable than the institutions that perform them. Competition among financial systems is thought to drive existing institutions to evolve in a dynamic perspective in the direction of new and more efficient forms.

According to Merton and Bodie (1995), the financial system is considered to perform 6 basic functions:
- to provide ways of clearing and settling payments in order to facilitate trade;
- to provide a mechanism for the pooling of resources and for portfolio diversification;
- to provide ways of transferring economic resources through time, across borders, and among industries;
- to provide ways of managing risks;
- to provide price information to help coordinate decentralized decision making in the various sectors of the economy;
- to provide price information to help coordinate decentralized decision making in the various sectors of the economy;

In the functional supervisory model, each type of such financial services should be regulated by a given authority independently of the operator who offers it.

Hence, also this approach has the important advantage that it calls for the same rules to be applied to intermediaries who perform the same activity of financial intermediation even though such operators may fall into different categories from a legal standpoint.

For example, activities including investment management, the gathering of deposits, lending, and savings invested in insurance/retirement funds are each subject to homogeneous rules established by individual authorities, which independently supervise such activities regardless of the institutions engaged. And, this approach fosters economies of specialization within the supervisory authorities and it might represent a rather attractive solution for the regulation of integrated, advanced financial markets.

However, it is not without drawbacks. This model envisions an overlapping of bodies controlling the same subject: there is the risk of an excessive division of competencies among the regulatory agencies.

A further disadvantage of the functional approach is that finally what is subject to failure is not the activity performed, but the institution. In case of serious problems of stability, it would be essential to guarantee protection and oversight with regard to the institutions rather than to individual operations (Padoa-Schioppa, 1988).
2.5.4 Single-Regulator Supervision.

The *single-regulator supervisory* model is based on just 1 control authority, separated from the central bank, and with responsibility over all markets and intermediaries regardless of whether in the banking, financial or insurance sector. This authority would be concerned with all the objectives of regulation (stability, transparency and investor protection, maybe competition).

In the regulatory practice, the centralized supervisory model has typically characterized early stages of financial system development, often in periods when the central bank was the only institution that supervised the activity of financial intermediaries.

The *advantages* of this approach lie in the economies of scale that it produces. Fixed costs and logistical expenses, the costs of administrative personnel and the compensation for the top management are all considerably reduced. Moreover, this scheme calls for a unified view which is particularly useful and effective with respect to polyfunctional groups and conglomerates. By the same token, the costs of supervision charged to the subjects regulated and/or to the taxpayer decrease.

However, the validity of this model depends to a high degree on its *internal organization*: if the numerous areas of competence and specialization are not well-structured and coordinated, the risk is to slow the decision-making process. As underlined by Wilson (1989), what counts is a clear definition of the agency's "mission". Also, the presence of a sole regulator might render collusive relations more immediate and direct ("regulatory capture").

Finally, it might exacerbate problems of self-contradiction in the event that the authority should find itself forced to pursue conflicting supervisory objectives. This sort of problem might in part be overcome thanks to an internal organization divided "by objectives", but the fact that there is only one top management would end up in the prevalence of a single objective as final consequence of the decision-making process.
2.6 Financial Market Regulation History

There are almost 4 theories about regulation will be described bellow. Among them, the most important one is the discussion of the last resort power for central bank in the different time period. Others, including: *Alternative theories of regulation, Marxist theories of regulation* and *Post-Keynesian*.

2.6.1 Start and Development of Central Bank

As we know that, financial market regulation is associated with the *start* and *development* of Central Bank.

In a less developed economy, the country relies heavily on *seigniorage* income. *Seigniorage* is the exchange value of the currency over the cost of production. A state monopoly on currency, together with the law, to ensure that the government announced that the local currency, gain profit.

In the more developed system, banks are required to obtain state charters; according to this measure state can limit the competition among suppliers of money, so as to maintain its control over the means of seigniorage as a source of income.

In addition to the need to ensure that the income based, maintain the *liquidity* and prevent *financial panic* are the most important matters of financial supervision.

In the 19th century this concern appeared in a prescription for a central bank with a *lender of last resort* power. Although the term lender of last resort originates with Bagehot (1962 [1873]), the idea comes into the world much earlier.

The first principal architect of this theory is Henry Thornton. In his 1802 classic treatise on paper credit, Thornton recognized the potentially contagious nature of bank runs and recommended that the central bank stand prepared to grant aid to distressed banks. This aid, he suggested, should be judiciously extended. It should be given neither too slowly and scantily so as to jeopardize general interests, nor too promptly and liberally as to exempt banks from the consequences of their own misconduct.

More recently, Minsky (1986) highlights the critical role a lender of last resort can play in promoting the soundness and stability of the contemporary financial system. Alternatively, in a formal model of bank runs driven by the existence of asymmetric
information, Diamond and Dybvig (1983) analyze the circumstances wherein either a lender of last resort or government provision of deposit insurance produces contracts which can prevent bank runs.

2.6.2 Other Regulation Theories

Also, there are some other ways of justification for the regulations are discussed very briefly as below.

*Alternative theories of regulation* applicable to the theory of financial regulation include the producer protection theory of regulation, and those theories based on Marxian value principles. In his construction of the former theory, Stigler (1971) argues that firms demand regulation to promote their own interests. Restrictions on either geographic or product line entry, for example, would certainly limit the degree of competition existing firms face.

*Marxist theories of regulation* claim, in essence, that those with power design regulation exclusively for the purpose of promoting their own acquisitive interest. Aglietta (1976) views financial regulation (using it here in the narrow sense of the term) as simply a part of the whole capitalist structure designed to promote the accumulation of capital. Reform of the monetary and financial system occurs whenever new structural features are needed to “regularize the expansion of a new long-term social demand”. This in turn will support the new relations of exchange required by a new regime of regular accumulation.

*Post-Keynesian* contributions to the issue of financial regulation appear in broader treatments of money and credit. Here, money is a social convention that arises out of the creation of new liabilities in the process of expanding production. Regulation enters insofar as direct credit controls and various laws affecting interest rates enhance the central bank’s ability to influence economic activity. (See, for example, Basil Moore 1988 and L. Randall Wray 1990.)
3 Regulations of Global Financial Markets before 2007-2008 Financial Crisis

It is known to us that, after financial crisis, there will be a financial regulation reform. By describing the crises in history, we can learn about the development process of financial regulation.

3.1 USA Financial Regulation

Prior to the Great Depression, the USA financial system experienced periodic financial panics. Their cause was, in part, the complex and fragmented regulatory system created by the constitutional structure of the USA government.

During the Great Depression, policymakers prohibited all practices that they believed contributed to financial instability. That regulatory structure prevented financial panics from occurring for fifty years.

In the 1990s, the government dismantled the last of the Depression-era restrictions but took no actions to solve the systemic problems that caused financial instability in the past. Unless the problem be solved, we should expect financial panics as regularly in the future as they were before the Great Depression.

3.1.1 History Background

From 1890 to 1930, respond to Financial Panics

The major financial panics happened in 1873, 1893, and 1907. Among them, the panic of 1907 inspired the establishment of the Federal Reserve System.

As a result, state governments continued to be the principal regulators of financial activity. It supervised almost 2 out of 3 commercial banks and all other financial institutions, including insurance companies, trust companies, mutual savings banks, credit unions, mortgage originators, and building and loan societies.

Regulation of Banking

State chartered commercial banks could join the Federal Reserve System. All nationally chartered banks belonged to the system and reported to two federal government authorities: the Fed, which regulated and examined all member banks,
and the OCC, which regulated and examined nationally chartered banks.

**Regulation of financial intermediations**

A series of private entities also supervised financial intermediation.

Financial conglomerates began to purchase shares of stock in large numbers of banks and place directors on the banks’ boards.

Rating agencies and business information providers began to collect and broadcast balance sheet information from most banks operating in the USA.

Stock exchanges operated many cities; such as New York, possessed several. Exchanges regulated transactions in equity, bond, and futures markets, ensuring that those who bought and sold in those venues fulfilled the terms of their contracts.

**From 1929 to 1933, respond to the Great Depression**

In response to this disaster, the federal government changed the structure of financial regulation.

**The Glass-Steagall Act**

Several provisions of it shaped the financial landscape in the USA. First, the act established national deposit insurance. Second, the act separated commercial from investment banking. Third, it imposed stricter regulations on financial institutions. Some of these regulations wanted to reduce conflicts of interest among officers and directors. Other regulations sought to change conditions that caused bank failures, particularly among small banks. Another restriction was the injunction of private banking. Private bankers were individuals that accepted demand deposits.

**Banking Act of 1935**

It contained two key sections. First is modified the deposit insurance system. These changes centralized control of supply of money and credit in the hands of the Federal Reserve Board of Governors. Second is the permission of the Federal Reserve to buy securities issued or guaranteed by the USA government.
The Securities Act and the Securities Exchange Act

In 1933, Congress passed the Securities Act, which established federal regulation of securities issues. In 1934, Congress passed the Securities Exchange Act which established the Securities and Exchange Commission (SEC) to regulate the issuance, purchase, and sale of securities, especially equities and debt instruments. The act required all public companies to hand in periodic financial statements under the risk that be sentenced to perjury.

From 1980 to 1995, the establishment of the Modern Financial System

During this period, the structure of financial regulation in the United States changed dramatically. Most changes reduced restrictions on the operations of financial institutions, allowing them to enter new lines. In next subchapter we will discuss the concrete changes of the regulation.

3.1.2 USA Financial Regulation System before Crisis

Banking Regulation

The federal government of the US has 5 bank regulatory agencies, all performing similar functions, but with different kinds of banks: *The Office of the Comptroller of the Currency* (OCC) for nationally chartered banks. *The Federal Reserve* (Fed) for state-chartered banks that are members of the Federal Reserve System. The Fed also regulates “bank holding companies,” a category of financial institutions that played a role in the crisis and in proposals for legislative change with respect to systemic risk. *The FDIC* for state-chartered banks that are not members of the Fed system. The *Office of Thrift Supervision* (OTS), for so-called “thrifts,” which used to be called savings and loan associations. Not all thrifts, however, are small or local. The *National Credit Union Administration* (NCUA) for credit unions, which are small local banks that usually service only employees of a single employer or members of a union.
The Federal Reserve

The Fed is the central bank of the USA. It is responsible for regulating the U.S. monetary system, for example, how much money is printed, and how it is distributed, and monitoring the operations of holding companies, including traditional banks and banking groups. Widely speaking, its object is to promote stable prices and economic growth.

The Office of the Comptroller of the Currency

The OCC is the basic means through which the Treasury regulates U.S. banks. It is headed by the comptroller of the currency. It is responsible for chartering all U.S. banks and, more widely, for ensuring the stability of the banking system. According to the OCC's website, it attempts the latter task by monitoring: "a bank's loan and investment portfolios, funds management, capital, earnings, liquidity, sensitivity to market risk, and compliance with consumer banking laws." Its responsibilities thus are same, to a degree, with those of the Federal Deposit Insurance Corporation (FDIC), which also monitor banks' capital reserves and sensitivity to risk. If a bank doesn't obey with OCC standards, the agency holds the authority to take many actions. It can force the ouster of senior bank personnel, force the bank to change certain practices, issue fines or penalties, and ultimately issue orders for the bank to close its operations.

The Federal Deposit Insurance Corporation

The FDIC was planed as a financial backstop to provide the broader U.S. population a guarantee that individual savings wouldn't disappear when a bank did. The agency insures holdings in checking and savings accounts at member banks. The FDIC applies regulatory authority in that, to qualify for FDIC insurance, member banks must meet requirements. Banks are categorized based on the extent of their reserves and liquidity. Typically, a U.S. bank holding less than 8 percent of the assets it is managing in reserves is considered "undercapitalized." A bank holding less than 6 percent becomes subject to FDIC regulation-the agency can oust the bank's management or call for other corrective measures.
Regulations of Other Fields

Except regulatory of banking, there are also many fields need to be regulated. For example, the SEC is responsible for the securities markets, and the interagency agency FFIEC, and the NRSPO is a rating agency. I will describe the development of these agencies and figure out the changes of their role in regulation.

The Securities and Exchange Commission

The SEC is an independent government agency overseeing U.S. securities markets, enforcing securities law, and monitoring exchanges for stocks, options, and other securities.

The commission was created by Congress in 1934 and is also responsible for overseeing corporate takeovers. One of the primary tasks set to the commission is the promotion of transparency in securities markets and thus the protection of investors from fraud or corporate malfeasance, in part through requiring that firms file quarterly and annual financial reports.

Then, the SEC is tasked with providing guidance to corporations regarding U.S. accounting rules, and Congress authorizes the commission to bring civil charges against firms thought to have committed fraud or other accounting wrongdoings.

And the commission has subdivisions focused on regulating: corporate finance, trading and markets, investment management, and enforcement. The agency is governed by 5 commissioners, though all decisions ultimately run through the chairman.

The SEC administers the body of financial law established through 7 major acts governing the financial industry, including most recently the Sarbanes-Oxley Act of 2002 and the Credit Rating Agency Reform Act of 2006.

As a means of regulating market behavior, the SEC polices and licenses stock exchanges, and is responsible for regulating credit ratings agencies. The SEC has enforcement authority in that it can bring civil charges against individuals or companies thought to have violated securities law (violations include trading on insider information, committing accounting fraud, providing false information to the
SEC, etc.).

When criminal charges are involved, the commission recommends to the Justice Department whether to prosecute a case. The Justice Department has little direct oversight over financial market regulation, other than the ability to prosecute these cases sent to it by the SEC. In terms of direct jurisdiction, the Justice Department's main purview in terms of corporate governance is limited to anti-trust cases—it cannot independently pursue charges in cases involving securities market violations.

The Federal Financial Institutions Examination Council

The Council is a formal interagency body authorized to prescribe uniform principles, standards, and report forms for the federal examination of financial institutions by the Board of Governors of the Federal Reserve System (FRB), the Federal Deposit Insurance Corporation (FDIC), the National Credit Union Administration (NCUA), the Office of the Comptroller of the Currency (OCC), and the Consumer Financial Protection Bureau (CFPB) and to make recommendations to promote uniformity in the supervision of financial institutions.

To encourage the application of uniform examination principles and standards by the state and federal supervisory authorities, the Council established, in accordance with the requirement of the statute, an advisory State Liaison Committee composed of five representatives of state supervisory agencies. In accordance with the Financial Services Regulatory Relief Act of 2006, a representative state regulator was added as a voting member of the Council in October 2006.

The Council is responsible for developing uniform reporting systems for federally supervised financial institutions, their holding companies, and the non-financial institution subsidiaries of those institutions and holding companies. It conducts schools for examiners employed by the five federal member agencies represented on the Council and makes those schools available to employees of state agencies that supervise financial institutions.

The Council was given additional statutory responsibilities by section 340 of the Housing and Community Development Act of 1980 to facilitate public access to data.
that depository institutions must disclose under the Home Mortgage Disclosure Act of 1975 (HMDA) and the aggregation of annual HMDA data, by census tract, for each metropolitan statistical area (MSA).

**Nationally Recognized Statistical Rating Organization**

NRSPO is a credit rating agency assesses the creditworthiness of an obligor as an entity or with respect to specific securities or money market instruments. A credit rating agency may apply to the SEC for registration as a nationally recognized statistical rating organization ("NRSRO"). The SEC's Office of Credit Ratings administers the SEC's rules relating to NRSROs, in addition to performing various other functions with respect to NRSROs.

**3.2 UK Financial Regulation**

Financial regulation in the UK went through 2 major reorganizations in little over a decade. Among them we can distinguish 3 particular landmarks – the ‘Big Bang’ in equities markets in 1986, with the associated changes in the organization of the bond market; the Financial Services Act of 1986; and the 1987 Banking Act, following earlier changes in 1979 and 1984.

**3.2.1 History Background**

**Big Bang Reform**

The most important part for the Big Bang reforms in securities markets is the acceptance of the dual capacity system that allowed a firm to act as both broker and market-maker, together with the change in stock exchange rules permitting 100 per cent outside ownership of member firms, led to a series of takeovers among City firms and the growth of large financial conglomerates.

To remove the possibility of insider dealing, firms were required to keep their different activities totally separate from each other. This was known as establishing ‘Chinese walls’ between the different types of business: for example, between corporate finance and market-making or fund management, or between
market-making and stock-broking research.

However, it was extremely difficult to police all of the ‘Chinese walls’ and that the costs to large firms of trying to do so were burdensome. In the early years following Big Bang, insider dealing cases arose. The only advantage was that the new dealing services that accompanied Big Bang allowed insider dealing and market manipulation to be tracked down more efficiently. But, the problem itself remained and had threatened to damage the reputation of the markets and to damage investor confidence in them.

**Financial Services Act of 1986**

The aim of the Act was to create a flexible system of regulation that inspired confidence in both market practitioners and investors based on the idea that the best form of regulation was self-regulation.

It established a new principal regulatory authority to supervise the issues of the City of London. This body, the *Securities and Investments Board* (SIB), recognized many *self-regulatory organizations* (SROs), formed of investment practitioners, to supervise their markets. In addition it recognized a group of professional bodies that attempted to keep the standards of *lawyers, accountants, insurance brokers* and *actuaries* who participated in the market and a number of exchanges in which trading occurred.

The SROs, then, were separate from the recognized exchanges in which they operated, introducing the possibility of competitive flab with the regulating authorities who tried to keep high standards, losing out to those who chose to lower standards and reduce the burden of regulation on their members.

### 3.2.2 UK Financial Regulation System before Crisis

Britain adopted a "3 top regulation", the *Bank of England*, the *Financial Services Authority* (FSA) and the *Ministry of Finance* jointly responsible for financial supervision, among them, *the Bank of England* as the central bank, in addition to the
implementation of monetary policy is to maintain stability, the second major functions of the financial system as a whole. FSA is responsible for prudential regulation of banks, housing associations, investment companies and brokers, insurance companies, credit cooperatives and other financial institutions. The Ministry of finance is responsible for the financial supervision system and related legislation, negotiation and coordination between the EU and nationwide.

**UK Financial Regulation System**

The FSA is the single regulator for the financial services sector in the UK. The FSA was formed in 1997, when it took over responsibilities from the Securities and Investments Board (SIB). However, the SIB was responsible for overseeing only the investment industry. The FSA has gradually assumed responsibility for regulating banking, building societies, insurance and the investment industry. In addition the FSA regulates financial exchanges such as the Stock Exchange and Euronext.liffe as well as clearing houses. It is also responsible for regulating the admission of firms to the Official List, through the UK Listing Authority.

**The changes role of the FSA**

The first stage in the further development of the FSA came in 1998, when responsibility for banking regulation and supervision was transferred from Bank of England to the FSA.

The next main stage came with the passing of the financial Services and Markets Act (FSMA) 2000, which came into force in December 2001. This is when the FSA took on its full powers as the single regulator.

Under the FSMA 2000, the FSA is required to pursue 4 statutory objectives (Howells, Bain, 2007):^5

- to maintain market confidence in the UK financial system;
- to promote public awareness and understanding of the financial system;

^5 Financial markets and institutions, Peter Howells and Keith Bain, 5th ed
-to reduce the scope for financial crime;
-to secure an appropriate degree of protection for consumers whilst recognizing consumers’ own responsibilities;

The Regulated Activities Order 2001 sets out all the activities that are regulated by the FSA. These include accepting deposits, effecting or carrying out contracts of insurance principal, dealing in investments, advising on investments and managing investments. The FSA is responsible for both authorizing and supervising firms carrying out regulated activities. Instead there is a Major Financial Groups Division, which looks after 50 largest financial groups operating in the UK, from Barclays through to Prudential Insurance to Goldman Sachs and Deutsche Bank. There is also a Deposit Takers Division that handles smaller banks, building societies and credit unions.

The FSMA 2000 Act

Under the FSMA 2000, which came into full-effect in 2001, the U.K. has moved to a single regulatory agency (the FSA) and one governing statute.

Generally, the FSMA provides a framework of 4 statutory objectives within which the FSA prepares more detailed rules. This reflects the FSA’s evolving approach to supervision. Some new rules are introduced for application commonly across all institutions, while others replace those set by the FSA’s predecessors in individual areas of regulated activity.

The FSA is implementing a general principle that similar risk across regulated entities should, to the extent feasible, be regulated in the same way, regardless of the type of institution. The FSA has also adopted a risk-based operating framework that focuses on the risks to its statutory objectives, taking into account the 7 principles of good regulation that are also listed in the FSMA.

The framework is applied both with respect to the FSA’s own strategic priorities, and to its supervision of regulated individuals and institutions, so that a close and continuous supervisory relationship is maintained for high risk/high impact.
institutions, while lower risk/lower impact entities are subject to more routine oversight.

Another feature is the continued use of institutions’ own internal and external auditors and other “skilled persons” in the supervision process. Supervisory initiatives require preparation of explicit cost-benefit analyses.

The Meaning of the FSMA Act

It authorizes the FSA to be the first integrated regulator in major economy, it is proved to be a milestone in history. Moreover, it changes the legislation and set up the new rules for regulation. Above of these can be explained as a stress on prudential regulation.

Single-regulatory regulator

The role and performance of the FSA as the first fully integrated regulator in a major economy has attracted world-wide attention.

The organizational restructuring involved in combining and regrouping up to 11 predecessor agencies has itself been a major, if still incomplete, accomplishment. The changes in the supervisory regime, however, go well beyond the consolidation of multiple separate agencies into a single organization.

Changes of the Financial Supervision Legislation

The FSMA represents a comprehensive update of U.K. financial supervision legislation. It consolidates authority for financial supervision under the FSA, and it gives the FSA broad new statutory authority to carry out its responsibilities. Statutory regulation has displaced most of the self-regulatory arrangements that had been a traditional feature of U.K. financial markets.

With its 4 statutory objectives and 7 principles of good regulation, the FSMA has also reoriented the U.K. approach to financial regulation. Reducing financial crime and ensuring appropriate consumer protection have been made explicit statutory objectives.
Traditional regulatory objectives such as depositor protection or investor protection are now implicit in the broader, more general objectives of maintaining confidence in the financial system or promoting awareness of and understanding of the financial system. The traditional U.K. emphasis on strong governance by regulated parties and a preference for minimally prescriptive regulation has been retained.

Application of New Rules

The principle that similar risks should be regulated in the same way, regardless of type of institution, is giving a strong impetus to integrating not only FSA rules but also its organization and processes, although this is still at a preliminary stage. Implementation of the FSMA has allowed the FSA to introduce a single enforcement regime applicable to all firms and individuals it regulates.

The new regime sets out which regulated activities require authorization and the FSA authorized firms by giving permissions defining which activities they can carry out. The FSA has developed an authorization process that applies across all sectors, and it includes giving approval to individuals responsible for key designated duties in authorized firms.

Development of the authorized-persons regime is also giving the FSA an important tool for implementing its supervisory strategy which looks to firms' directors and management to take responsibility for compliance with rules and regulations. Conduct-of-business rules have been developed that apply across all the regulated firms.

Prudential Regulation

Prudential requirements across banks, insurance companies, and independent securities firms remain quite distinct, although projects are underway to achieve greater harmonization. Regulation of insurance is undergoing a fundamental review, which may lead to adoption of elements of the risk-based strategies used in the regulation of banks. Reporting requirements are also undergoing a systematic re-evaluation that is likely to lead more commonality across financial sectors.
4 Regulations of Global Financial Markets after 2007 Financial Crisis

The financial crisis of 2007 was the largest and most severe financial event since the Great Depression and reshaped the world of finance and investment banking. The effects are profound and lasting. Below is a brief summary of the causes and events that redefined the industry and the world in 2007 and 2008.

4.1 Financial Crisis

During the American housing boom of the mid-2000s, financial institutions began marketing *mortgage-backed securities* (MBSs) and entangled *derivative products* at unexpected levels. When the *real estate market* collapsed in 2007, these securities declined in value, causing the solvency of over-leveraged banks and financial institutions in the U.S. and Europe.

Although the global economy was already feeling the consequences of a credit crisis that had been unfolding since 2007, things came to a head a year later with the *bankruptcy* of Lehman Brothers, the country’s 4th-largest investment bank, in 2008. The crisis quickly spread to other economies around the world, most outstanding in Europe.

As a result of the Great Recession, the United States alone shed more than 7.5 million jobs, causing its unemployment rate to double. Further, American households lost roughly $16 trillion of net worth as a result of the stock market plunge.

4.2 The Causes of the Crisis

We can group them into 4 common causes and 4 unique causes (see further Reinhart and Rogoff, 2009, Calomiris, 2009, Claessens and Kose, 2014, Eichengreen, 2002 and 2010, and Claessens et al., 2010)

The exact weights of each of these and other causes remain unclear, generating many questions as to why this crisis has been so bad and so long. Other contributing factors including *too loose monetary policy* and *weaknesses in fiscal policy*, such as generous tax deduction of interest, but since these factors have been present in previous cycles it is difficult to conclude that they are much to blame.
Nevertheless, it is generally agreed that the causes were many and the “solutions” to prevent future crises will equally have to be found in a combination of important changes to national and international regulatory frameworks, the conduct of monetary policy and fiscal policies, and legal and institutional environments (see Viñals, et al., 2010 for an overview of the overall policy agenda).

4.2.1 Common Causes

As same as other crisis in history, the overdo of the financial expansion and rapid asset price appreciation, which is part of the reason of subprime crisis.

Financial Expansion

The first common cause stressed in most accounts of the recent crisis is the occurrence of a credit boom or, generally, rapid financial expansion.

Credit booms are often associated with badly lending standards – as displayed in the subprime lending in the United States. Although booms do not always cause crises, they do make them more likely (Dell’Ariccia, et al., 2012) and most financial crises are in some way related to credit extension to borrowers that become non-performing. Moreover, credit booms are generally associated with high leverage, which is why they can be so dangerous.

Asset Price Appreciation

A second, and often related, 'common' cause is rapid asset price appreciation, with housing the most common asset.

House prices in the USA rose more than 30 percent from 2003 to the onset of the crisis. In many other markets, such as Ireland and Spain, prices rose even more. Because houses are used as collateral underpinning mortgage credit, their rising values led to accelerating credit extension, so it often associated with a rapid growth in household credit and increased leverage, all of which further made the risks higher and adverse consequences of a subsequent bust.
New Instruments

The creation of *new instruments* whose returns rely on continued favorable economic conditions stands out as a third frequently cause of crises.

In this instance, the rapid growth of structured credit products – such as *collateralized debt obligations* (CDOs) and the like – depended in complex ways on the payoffs to other assets (see IMF, 2009, and Fostel and Geanakoplos, 2012).

Often the risks associated with the new products are not fully comprehended or appreciated, or are simply explained away by key institutional players such as rating agencies, adding to instability.

Financial Liberalization and Deregulation

*Financial liberalization and deregulation* constitute a fourth commonly identified contributor to crisis conditions.

Such moves are emphasized as the *removal of barriers* between commercial and investment banking in the USA and the greater *reliance of banks* on internal risk management models, all of which occurred without an equally buildup in supervisory capacity.

Conversely, regulation and supervision were slow again to catch up with *new developments*, in part due to *political processes* and *capture*, and failed to *restrict excessive risk-taking*. Risks, especially in the 'shadow banking system' but also at large, *internationally active banks*, were permitted to grow without much oversight, leading eventually to both bank and nonbank financial instability (see Wellink, 2009).

4.2.2 Unique Causes

On the other hand, the households’ leverage and subsequent defaults on (housing) loans, increased leverage, securitization, derivatives and shadow bank also the increasing of international financial integration, these are new factors led to crisis.
Households’ Leverage and Subsequent Defaults on Housing Loans

Of the new causes, the first and most significant was the widespread and sharp rise of households’ leverage and subsequent defaults on (housing) loans.

While other crises have been associated with real estate booms and busts, most of those centered on excessive commercial real estate lending and the rarely on households’.

The collapse of the subprime market and the bad cycle of falling house prices was a catalyst for the crisis in the USA. It caused similar declines in housing markets in many advanced countries (Ireland, Spain) as well as some emerging markets that had seen booms.

By directly involving so many homeowners, this crisis became far more complicated. There are no established best practices for how to deal with large scale households’ defaults and associated potential future moral hazard problems, and equity and distributional issues. What is clear is that restoring households’ balance sheets will take a long time, making the economy recovery period extended.

Increased Leverage

A second new aspect was how increased leverage displayed itself across a wide range of agents, for example, financial institutions, households, and markets.

While a buildup in leverage was not new, the extent of many classes of borrowers’ dependence on finely priced, illiquid collateral limited the system’s ability to absorb even small shocks.

This led to a rapid decline in collateral values (especially in houses and their related structured credit products), which shook confidence. Fear of counterparty defaults in major financial institutions – that were highly leveraged, thinly capitalized, short of funding liquidity and had extensive off-balance sheets exposures – rose dramatically early on in the crisis, freezing market transactions and making valuations of underlying assets even more problematic.

The emergence of systemically important non-bank financial institutions, finance companies, insurance companies (e.g., AIG), and investment banks added to overall
risks, and in some cases required public backstops for the first time. The systemic vulnerabilities that were building up eventually helped turn a liquidity crisis into a solvency crisis.

**Securitization, Derivatives Globally and Shadow Bank**

A third new element has been increased complexity, resulting largely from the U.S. private label securitization of weak credits, the explosive growth in derivatives globally, and the opaque operations of the shadow banking system.

While the originate-and-distribute model of securitized mortgages held the promise of better risk allocation, it turned out that risks were less widely distributed than imagined and incentives to properly assess risks, including by rating agencies, were undermined. The complexity of the securitized products made it much more difficult to know their true value and who incurred the various risks.

As a result, the solvency of financial institutions that were thought to own them quickly became questioned. The complex use of asset-backed commercial paper (ABCP) backed by CDOs and other Mortgage Backed Securities (MBS) – with their differential maturities of liabilities and assets, added the risk of rollovers to a loss of confidence in the values of the underlying assets.

From 2007 to 2008, huge sums from USA and euro area money market funds flowed into bank commercial paper and short-term debt, while extensive use of repurchase agreements and re-hypothecation strategies generated long chains of borrowings for the support of other trading book assets in large, interconnected securities dealers and banks.

These developments fostered excessive use of short-term wholesale funding in various forms that was not well understood, setting the stage for a confidence crisis.

**Increasing of International Financial Integration**

Fourth, international financial integration had increased dramatically over the decade before the crisis.

Global finance no longer involves just a few players, but many from various
markets and different countries.

Many mortgage-backed securities and other USA originated instruments were held in other advanced economies, and by the official sector in several emerging markets, and funded by dollar-based liabilities in other non-dollar-based countries. Cross-border banking and other capital flows had increased sharply, especially for and among advanced European countries.

While these developments undoubtedly had benefits during “normal” times, they quickly translated the turmoil in the USA into a global crisis. Subsequently, turmoil in countries in the euro area led to multiple rounds of cross-border spillovers and further crises.

The various intense links meant not only that disturbances quickly spread, but also made co-coordinated solutions much more difficult to implement. More generally, there may have been “too much finance,” in that finance had grown big and complex, and provided many products which offered little real added value but generated many risks.

4.3 Problems of the Regulation

There are 3 central factors: financial innovation in mortgage markets, agency problems in mortgage markets, and the role of asymmetric information in the credit-rating process.

Financial Innovation in the Mortgage Markets

The process *securitization* made it possible for banks to offer subprime mortgages to borrowers with less-than-stellar credit records. Then the mortgage-backed securities provided a new source of financing for these mortgages.

Also, the *financial engineering*, led to structured credit products that pay out income streams from a collection of underlying assets, designed to have particular risk characteristics that appeal to investors with differing preferences. The most notorious of these products were *collateralized debt obligations* (CDOs).
Agency Problems in the Mortgage Markets

Adverse selection became a major problem. Risk-loving investors lined up to obtain loans to acquire houses that would be very profitable if housing prices went up, knowing they could “walk away” if housing price went down.

The principal-agent problem also created incentives for mortgage brokers to encourage households to take on mortgages they could not afford, or to commit fraud by falsifying information on a borrower’s mortgage applications in order to qualify them for mortgages.

Compounding this problem was lax regulation of originators, who were not required to disclose information to borrowers that would have helped them assess whether they could afford the loans. That makes the agency problems went even deeper.

Commercial and investment banks, which were earning large fees by underwriting mortgages-backed securities and structured credit products like CDOs, also had weak incentives to make sure that the ultimate holders of the securities would be paid off. Large fees from writing financial insurance contracts called credit default swaps, which provide payments to holders of bonds if they default, also drove units of insurance companies like AIG to write hundreds of billions of dollars’ worth of these risky contracts.

Asymmetric Information and Credit-Rating Agencies

The rating agencies advised clients on how to structure complex financial instruments at same time they were rating these identical products.

The rating agencies were thus subject to conflicts of interest because the large fees they earned from advising clients on how to structure products they were rating meant that they did not have enough incentives to make sure their ratings were accurate.

The result was wildly inflated ratings that enabled the sale of complex financial products that were far riskier than investors recognized.
4.4 USA Responses to the Crisis

4.4.1 Responses before 2008

**FED**

The Federal Reserve is the key actor in managing financial problems, it adopted a similar although broader approach by using 3 main tools.

**Chart 4.1 FED Main Tools**

<table>
<thead>
<tr>
<th>Tools</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Interest rate</em> (the traditional central bank tool)</td>
<td>It was of limited use. Although officials could inject liquidity into the financial system, they couldn’t insure that the funds got to the most needed institutions.</td>
</tr>
<tr>
<td>Introduce the <em>Term Auction Facility</em> <em>(TAF)</em> as a means of offering short-term liquidity</td>
<td>It was seen some success in reducing credit spreads in the first few months, although such reductions lasted only for a few days and had no lasting impact on spreads – especially after 2008.</td>
</tr>
<tr>
<td><em>The Term Securities Lending Facility</em> <em>(TSFL)</em></td>
<td>It failed to bring the MBS risk spreads down in the longer term</td>
</tr>
</tbody>
</table>

*Source: The Financial Crisis in the US: Key Events, Causes and Responses, John Marshall, 2009*

In this period, the Fed had focused on increasing *liquidity* for banks. It was treated as a tool for reducing risks in economy. The point is the Fed misunderstanding the problems that it resulted from limited liquidity. If it is counter-party risk, it would have required a different approach.

**Legislation**

Prior to September 2008, 2 pieces of legislation were passed to reduce what was
perceived as a mortgage crisis and recession.

**Table 4.1 Main Legislation**

<table>
<thead>
<tr>
<th>Name of Act</th>
<th>Main contents</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>the <em>Economic Stimulus Act of 2008</em></td>
<td>First is tax rebates for lower-income families; Second is incentives for business investment; Third is a broadening of the mortgages eligible for purchase by Fannie and Freddie.</td>
<td>The effectiveness of the stimulus on the spending of consumer has been disputed.</td>
</tr>
<tr>
<td>the <em>Housing and Economic Recovery Act of 2008</em></td>
<td>Brought together some measures aimed at <em>easing the housing crisis</em>.</td>
<td>It was found low uptake for the scheme: the FHA has insured no loans under the program.</td>
</tr>
</tbody>
</table>

*Source: The Financial Crisis in the US: Key Events, Causes and Responses, John Marshall, 2009*

**US Treasury**

The Department of the Treasury played a limited role in responding to the growing financial crisis, just offering support to various agencies.

**4.4.2 Responses After 2008**

**Troubled Asset Recovery Program of 2008**

The scheme, which devoted to reduce losses at *financial institutions* and unfreeze the *credit markets*, was met with optimism and the Dow index rose many points.

Eligibility for the program required an institution be federally-regulated, and then was broadened to include foreign institutions. Once purchased, the Treasury would employ asset managers to watch over the assets which could be held until maturity. It was hoped that the eventual sale of the troubled assets purchased would get back most,
or perhaps more, of what was initially invested by the Treasury.

The mechanism proposed for making asset purchases was a reverse *auction*. That is an auction where multiple sellers compete to sell to a single buyer. This would apply across many different asset classes, and would seek to involve sellers as many as possible to reduce the risk of un-competitive practices.

In addition, reverse auctions will have the benefit of reducing market uncertainty in the valuation of troubled assets.

The net *impact* of the plan would benefit the economy in various respects (Marshall, 2009):\(^6\)

- The rise in asset prices would reduce the pressure on capital ratios;
- Market liquidity would increase through the removal of illiquid assets;
- Increased information and market certainty on the value of assets would facilitate and stimulate private recapitalization from concerned investors;
- Credit would become increasingly available.

**The Economic Stabilization Act of 2008**

The final version of the EESA in the TARP element authorized the Treasury Secretary to establish intermediaries to purchase, hold, and sell troubled assets and acquire equity stakes in any financial institution by market mechanisms.

The legislation also requires the Treasury Secretary to coordinate efforts with foreign financial authorities and central banks. EESA prevents participants from gain profits from the sale of troubled assets to the Treasury, and establishes many regulation provisions.

The EESA includes rules on *executive compensation for participating institutions*, stating that (Marshall, 2009):\(^7\)

- Incentives should not encourage excessive risk-taking;
- Compensation may be clawed back in case of statements proving materially inaccurate;

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\(^6\) *The Financial Crisis in the US: Key Events, Causes and Responses*, John Marshall, 2009

\(^7\) *The Financial Crisis in the US: Key Events, Causes and Responses*, John Marshall, 2009
• No golden ‘parachute’ payments are permitted.

EESA made many other relevant financial provisions. Federal property managers including Fannie and Freddie were dictated to offer mortgage assistance and encourage servicers to use HOPE for Homeowners. The Fed was allowed to accelerate its payment of interest on bank deposits, it helps to enhancing immediate capital. The legislation also authorized the SEC to compile a report on the continued use of *mark-to-market* accounting.

Finally, the FDIC insurance limit on deposit and share holdings was increased from $100,000 to $250,000.

It is obviously that the US Treasury followed the UK’s example to pursue a strategy of capital injections, rather than purchase troubled assets. The first progress report published by the Treasury showed some grounds for optimism. Its central finding was that:

The first survey of the top 20 recipients of government investment through the *Capital Purchase Program* (CPP) found that banks continued to originate, refinance and renew loans from the beginning of the program in October through December 2008.

**The Federal Reserve**

In this period, the Fed used many tools to release the circumstance. It will be explained detailed in following. On the other hand, the Fed changed the attitude to the big financial institutions, it is also worth of attention.

**For Confidence of the Banks**

The Fed’s decision that not to bail out Lehman Brothers had important reverberations.

It displayed a marked shift from the attitude towards *Bear Stearns* and was explained as that no bank was *too big to be allowed to fail*. It has been argued that this caused a collapse in *confidence of the banks*, which then led to spikes in inter-bank lending rates based upon fears of default.
Interest Rate

The Fed has insisted in reducing *interest rates* as a means of stimulating lending. However, interest rates have failed to increase lending between banks. And in the economy level, it were looked to be an increasingly impotent policy instrument in the environment of the financial crisis. In March 2009, the Fed stated it would keep an extended period, because of the economic condition.

Other Tools

Although interest rates are the standard tool of monetary policy, the Fed also possesses other instruments to solve liquidity and regulatory concerns.

Continuing from its moves to extend short-term liquidity for a wide range of financial institutions before September 2008, the Fed expanded a series of its pre-existing programs, and also permitted participants to gain finance at government rates.

For example, the Fed broadened the list of collateral under the PDCF and TSLF; the funds available at TAF auctions were increased, and two additional forward auctions were scheduled. The swaps of inter-central bank currency continue to be used to solve dollar funding pressures nationwide.

New Programs for Enhancing Liquidity

*First is the Term Asset-Backed Securities Loan Facility (TALF).*

It provides loans determined by auction in exchange for AAA-rated ABSs, and seeks to ease the rise in interest rate extends for increasingly ill-liquid assets. TALF is supported by the Treasury, and it used TARP funds to underwrite the program. TALF expanded to include broader assets with longer maturities and increased in size when it also relaxed asset eligibility guidelines to include MBSs. In order to accept a wide variety of financial assets the Fed began extending TALF credit to households and small business, including ABSs as collateral.

In response to the collapse of the *commercial paper market* – debt issued by firms
to manage their finances – when money market funds experienced problems, the Fed first announced the *Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility* on 19 September. This was designed to provide the loans for primary dealers to purchase high-grade commercial paper from illiquid money market funds.

Many money market funds had suffered from the collapse of Lehman and experienced runs on their holdings, which in turn caused them to cease investing in anything other than Treasury securities (which drove their yield down to zero).

*Second is the Commercial Paper Funding Facility (CPFF).*

It was introduced on 7 October – seeking to address the reluctance of money market funds and others to buy commercial paper, especially with longer maturity periods, the Fed established its own special entity to buy the essential short-term debt notes from eligible firms. The CPFF was unlimited in size, although up to $1.3tr in commercial paper could qualify.

*Third, the Fed created the Money Market Investor Funding Facility (MMIFF).*

The MMIFF created special purpose vehicles for purchasing highly-rated assets such as commercial paper and debt notes from money market funds. In January 2009 the MMIFF extended its coverage to include assets with lower yields from more institutions.

In light of "continuing substantial strains in many financial markets“, liquidity programs were extended late into 2009 in February 2009.

**The Quantitative easing policy**


In addition to purchasing *Treasury securities*, the Fed – like the Bank of Japan – has gradually expanded its balance sheet by purchasing other assets in a move described
as “credit easing”.

**First is the new form of quantitative easing.**

These purchases have been funded by increasing commercial bank reserves, swaps with other central banks and different ways of printing money.

In particular, the Fed significantly expanded its balance sheet in 2009 with the purchase of up to $1.25tr in MBSs and $200bn in agency loans; as of 11 March 2009, the Fed already held $1.22tr in securities. Some analysts have suggested that although the Fed’s expansion of its balance sheet via its various liquidity schemes was not the same approach adopted by Japan in the 1990s, it still represents a form of quantitative easing.

By virtue of Section 128 of the EESA which amended the Financial Services Regulatory Relief Act of 2006, interest payments on deposits held at the Fed were accelerated to be paid on 1 October 2008.

Second is

**Second is the application of paying interest on reserve.**

Next, in order to increase the size of banks’ balance sheets and further support the capacity for banks to lend, the Fed began to pay interest on reserve requirements and excess reserves.

There is no doubt that the Fed’s offer (equals to free cash reserves) proved highly popular with banks, which rapidly accumulated additional excess reserves. Deposits registered at the Fed immediately rose from $118bn to $880bn by early 2009. The ploy designed to stimulate lending backfired as banks preferred to make deposits yielding certain interest.

Consequently, the Fed slowly reduced the incentive to make deposits and reiterated its desire to reduce the size of its balance sheet. By 11 March 2008, deposits had fallen to $629bn.

**Third is the encouraging of becoming a bank holding companies.**

Finally, in its role as a regulator, the Fed approved a number of applications for
financial institutions to become bank holding companies. The desirable capital ratios and easier access to liquidity that comes with the change in status attracted investment banks Goldman Sachs and Morgan Stanley, American Express, CIT Group and General Motors subsidiary GMAC to successfully make the switch.

**US Treasury**

In addition to its leading role in administering the TARP, the US Treasury has instituted a number of additional schemes designed to restore financial stability.

In an effort to secure investment in money market mutual firms, the Treasury unveiled the *Temporary Guarantee Program* on 19 September 2009 to complement the Fed’s efforts to increase their liquidity.

With concerns that money market firms would ‘*break the buck*’ – something the Treasury claims “exacerbated global financial market turmoil and caused severe liquidity strains in world markets” – the Treasury made available $50bn to guarantee investments in money market funds in exchange for a fee.

The scheme, which operated with significant input from the SEC, has successfully stabilized the run on the funds and attracted many participants, and has been expanded and extended. The move has been highly successful, to the extent that the Municipal Securities Rulemaking Board, which works under the auspices of the SEC, has sought a further extension from Secretary Tim Geithner beyond 30 April 2009.

**Other regulatory agencies**

There are many other agencies taking an actions after crisis. For example, SEC, CRAs, Accounting, FDIC.
<table>
<thead>
<tr>
<th>Agencies</th>
<th>Contents</th>
</tr>
</thead>
</table>
| SEC     | Short-term moves: contain negative stock price spirals  
         | Stricter standards of long-term moves |
|         | Voluntary regulation does not work. |
| CRAs    | To avoid the conflicts of interest arising from the ‘issuer pays’ model. |
|         | Not going far enough. |
| Accounting | Section 132 reinstated its authority to suspend mark-to-market accounting if necessary.  
           | Section 133 of legislation the SEC was required to report on the use of mark-to-market accounting. |
|         | Allow banks more discretion in their valuation of toxic assets by moving away from mark-to-market accounting standards. |
| FDIC    | First, increased its deposit insurance for member banks, primarily for ordinary people with relatively small savings.  
           | Second, established the Temporary Liquidity Guarantee Program (TLGP).  
           | Third, expended considerable resources on the takeover of failing banks. |
|         | First, mandated the FDIC to extend insurance a lot.  
           | Second, many institutions choose to opt out of the scheme.  
           | Third, it registered an increase of 81 ‘problem banks’ in the fourth quarter of 2008, |

Source: *The Financial Crisis in the US: Key Events, Causes and Responses*, John Marshall, 2009

---

8 The main contents of the model is:  
• CRAs will not be able to advise investment banks on how to package securities to obtain a certain rating and will not be able to receive gifts worth more than $25;  
• CRAs will also be restricted from providing ratings to companies they have made recommendations to regarding concerning the "corporate or legal structure, assets, liabilities, or activities of the obligor or issuer of the security";  
• additional information and statistics concerning initial ratings and subsequent upgrades and downgrades will be required for all assets, and a random sample of 10% of ratings must be publicly disclosed in detail; and  
• investors will receive detailed information on the ratings process for complex securities.
The Housing Market

Following the downgrading of Fannie and Freddie, the Federal Housing Finance Agency took the GSEs with significant financial support for the mortgage brokers whose collapse threatened financial and housing market stability.

- First, the Treasury will purchase preferred stock such that both companies retain a positive net worth.
- Second, a secured lending facility will be available for Fannie and Freddie if the capital infusion is insufficient.
- Third, the Treasury will gradually purchase MBSs from Fannie and Freddie as a means of releasing liquidity and transferring risk to a body able to bear it.

4.4.3 USA Reform

The reform can be expressed on the Dodd Bill. The main elements of the US reforms here are:

- A Financial Stability Oversight Council;
- Regulation of OTC derivatives by SEC & Commodity Futures Trading Commission;
- Restriction on risk taking by banks using depositors’ funds;
- SEC to regulate rating agencies;
- Restructure US bank regulators;
- Creation of an Office of National Insurance in Treasury; to propose regulation of insurance.

The Dodd-Frank Act

The Dodd-Frank Wall Street Reform and Consumer Protection Act, (Pub.L. 111 - 203, H.R. 4173) known as Dodd-Frank, is a mixture of several unrelated regulations. Passed in July 2010 in response to the financial crisis, Dodd-Frank restructured the regulatory system.

A few highlights from this act include an overhaul of the bankruptcy code, a re-regulation of most derivatives previously deregulated, and regulations disallowing
bailouts in many cases (Davis Polk & Wardwell 2010).

**Changes of the Regulation System**

The act also led to the creation and destruction of many new government agencies. For example, the act led to the creation of the *Financial Stability Oversight Council*, the elimination of the *Office of Thrift Supervision*, the creation of the *Bureau of Consumer Financial Protection*, and the creation of the *Federal Insurance Office* (Davis Polk & Wardwell 2010).

**Chart 4.3 Federal Regulation System before and after Crisis**

![Chart showing changes in the Federal Regulation System before and after the financial crisis.](chart)

Source: *The Financial Crisis in the US: Key Events, Causes and Responses*, John Marshall, 2009
**Volcker Rule**

One prominent aspect of Dodd-Frank is the *Volcker Rule*.

“It prohibits proprietary trading and certain fund activities by bank holding companies and their affiliates and imposes enhanced capital and other quantitative limits on such activities by systemically important nonbank financial companies, including systemically important hedge funds” (Davis Polk & Wardwell 2010). This acts as a repeal of Gramm-Leach-Bliley's deregulation of restrictions on banking activity imposed by the Banking Act of 1933.

**Re-regulation of Derivatives**

As previously mentioned, most derivatives deregulated under the *Commodity Futures Modernization Act of 2000* were re-regulated under Dodd-Frank.

**Derivatives transactions**

“Largely following the historical jurisdictional divisions between the CFTC and the SEC, the Act divides the *derivatives transactions* within its *scope* as either “*swaps,*” which are subject to primary regulation by the CFTC, “*security-based swaps,*” which are subject to primary regulation by the SEC, or “*mixed swaps,*’ which are subject to joint regulation by the CFTC and SEC” (Davis Polk & Wardwell 2010).

**Rating Agency**

*Nationally recognized statistical rating organizations* (NRSROs) have held government backed significance since the Great Depression. During the Great Depression the Comptroller of the Currency ruled that banks needed to hold well-rated assets, but the SEC ruled which organizations were nationally recognized statistical rating organizations.

After Dodd-Frank, Fed investigators are not allowed to use NRSRO ratings at all in their evaluation of the risk of any securities. Additionally, Dodd-Frank “requires each NRSRO [Nationally Recognized Statistical Rating Organization] Board to *oversee:* - policies and procedures for management of conflicts of interest;
- policies and procedures for determining ratings and the effectiveness of internal controls with respect to such policies and procedures;
- and policies and procedures for compensation and promotion” (Davis Polk & Wardwell 2010).

NRSROs are now responsible for their ratings.

“The Act establishes that the enforcement and penalty provisions of the Exchange Act apply to statements made by credit rating agencies in the same manner and to the same extent as they apply to statements made by registered public accounting firms or securities analysts under the securities laws” (Davis Polk & Wardwell 2010).

4.5 European Union Responses

It is difficult for EU to introduce new elements that shaping the implementation and timing of the phasing in of new capital rules. Because all countries are not in the same position, and there are substantial differences between individual firms. So there may be allowing some flexibility in the timetable. Some European banks have less capital and more leverage than their USA counterparts, for example, and the crisis in Europe seems to have lagged behind that in the USA (in both the writing off of losses and in the speed of raising more capital).

4.5.1 The Macro-Economic Environment of EU

Chart 4.4 USA Bank (Q4 2009, USD billions)

<table>
<thead>
<tr>
<th></th>
<th>Assets</th>
<th>Equity less Goodwill</th>
<th>Leverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>BANK OF AMERICA</td>
<td>2,223</td>
<td>145</td>
<td>15</td>
</tr>
<tr>
<td>JPMORGAN CHASE</td>
<td>2,032</td>
<td>117</td>
<td>17</td>
</tr>
<tr>
<td>CITIGROUP</td>
<td>1,857</td>
<td>130</td>
<td>14</td>
</tr>
<tr>
<td>WELLS FARGO</td>
<td>1,240</td>
<td>90</td>
<td>14</td>
</tr>
<tr>
<td>GOLDMAN ASCHS</td>
<td>841</td>
<td>68</td>
<td>12</td>
</tr>
<tr>
<td>MORGAN STANLEY</td>
<td>771</td>
<td>46</td>
<td>17</td>
</tr>
</tbody>
</table>

Sources: Regulatory Reform in the Financial System, Angel Gurria, OECD

This is the top 5 banks in USA. The assets circumstance are shown on the charts. The
best one is Bank of America, and then is JP Morgan Chase, the third one is CITI Group. We can compare with the EU banks bellow.

**Chart 4.5 EU Bank (Q4 2009, USD billions)**

<table>
<thead>
<tr>
<th>Bank</th>
<th>Assets</th>
<th>Equity less Goodwill</th>
<th>Leverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNP PARIBAS</td>
<td>2,950</td>
<td>100</td>
<td>30</td>
</tr>
<tr>
<td>ROYAL BANK OF SCOTLAND</td>
<td>2,740</td>
<td>130</td>
<td>21</td>
</tr>
<tr>
<td>DEUTSCHE BANK</td>
<td>2,152</td>
<td>44</td>
<td>49</td>
</tr>
<tr>
<td>BANCO SANTANDER</td>
<td>1,577</td>
<td>73</td>
<td>21</td>
</tr>
<tr>
<td>SOCIETE GENERAL</td>
<td>1,468</td>
<td>58</td>
<td>25</td>
</tr>
<tr>
<td>UBS AG</td>
<td>1,293</td>
<td>37</td>
<td>35</td>
</tr>
</tbody>
</table>

Sources: *Regulatory Reform in the Financial System*, Angel Gurria, OECD

Among these 2 graphs, we can draw a conclusion that the economic outlook in Europe reflected is weaker than in the USA, and a sovereign debt crisis caused new dislocations that have to be dealt with.

From this perspective it could seem very poor timing to impose new capital raising burdens on European banks struggling to adjust their balance sheets not only for loan losses related to the crisis and the slowdown in activity currently under way, but also because of new pressures related to their exposures to sovereign debt.

**4.5.2 EU Reform**

The main elements of the EU reforms here are:

- Restoring and deepening the EU Single Market in financial services;
- Establishing a Banking Union;
- Building a more resilient and stable financial system;
- Enhancing transparency, responsibility and consumer protection to secure market integrity and restore consumer confidence; and
- Improving the efficiency of the EU financial system.

**Basel III**

The EU reform is associated with the Basel III. The Basel Committee announced enhanced capital requirements for banks as part of what is now known as Basel III on September 12th 2010 (Basel Committee (2010e)) with subsequent changes announced in December 2010 (Basel Committee (2010a)).

**Basel III Capital Requirements**

Basel III involves significant changes to capital requirements, outlined in the chart below.

**Chart 4.6 Basel III Main Contents**

<table>
<thead>
<tr>
<th>Capital Requirement</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Capital Requirement</td>
<td>8% of Risk Weighted Assets (RWA) – unchanged</td>
</tr>
<tr>
<td>Capital Tier 1 Requirement</td>
<td>6% of RWA (up from 4%)</td>
</tr>
<tr>
<td>Common Equity Requirement</td>
<td>Common Equity of at least 4.5% of RWA (plus conservation buffer) – new</td>
</tr>
<tr>
<td>Quality of Capital</td>
<td>Limits on acceptable hybrids for Tier 1, greater required deductions in calculating common equity. Tier 3 capital instruments eliminated</td>
</tr>
<tr>
<td>Leverage Ratio</td>
<td>Minimum non-risk weighted ratio of common equity to exposures of, initially, 3% (new)</td>
</tr>
<tr>
<td>Risk Weights</td>
<td>Increased weights for some activities such as securitization and trading, based on stressed VAR test (for 12 months of stress)</td>
</tr>
</tbody>
</table>

Sources: *Regulatory Reform in the Financial System*, Angel Gurria, OECD

**Features of this Reform**

It improves the *quality of regulatory capital*, reducing the role for *liabilities* other
than common equity.

One lesson from the Crisis was that the capital requirement distinction between “going-concern” capital and “gone-concern” capital (incorporating certain debt/hybrid instruments) was less relevant when Governments and regulators were unwilling to allow failure and losses to be imposed upon holders of those instruments.

The introduction of a leverage ratio is at variance with the prior emphasis on risk weighting and incorporation of off-balance sheet activities into capital requirement measures.

It is sensible on the grounds of limiting bank leverage and as a backstop to deal with problems of model risk and measurement error in risk-weighted approaches. Cross-country compatibility requires comparable calculation including adjusting for differences in accounting standards, particularly because the denominator is a measure of exposures rather than assets calculated using a mix of accounting rules and Basel approaches.

The figure below summarizes the enhancements to risk weighted capital requirements made by Basel II and Basel III.

\[
\frac{\text{Capital}}{RWA_{\text{Credit}} + RWA_{\text{Oprisk}} + RWA_{\text{Trading Book}}} \geq \text{MinimumRatio}
\]

Formula 4.1 Risk Weighted Capital Requirements

Effects

Firstly, it may increase the cost of bank funding and intermediation due to equity capital being a more expensive form of financing.

Secondly, this should be offset by depositors and other providers of funds reducing their required return on funds to reflect lower risk, deposit insurance and perceptions of “too big to fail” for systemically important institutions mean that such marginal changes in bank leverage are unlikely to have significant effects on required returns of other fund providers.

Thirdly, rectifying the distorting, existing, subsidy to bank shareholders (and
management) from perceived or actual government protection is an important part of financial reform. Higher capital ratios etc. do that to some extent, but the extent to which they level the playing field between banks and other financial institutions in performing various economic functions is an open question.

4.6 CHINA

China as the representative of the developing country, its regulation reform is also typical.

4.6.1 Simple Introduction of China Financial Markets

In banking industry, it is still dominated by 5 government-owned commercial banks: the Agricultural Bank of China, the Bank of China, the bank of Communications, the China Construction Bank Corporation, and the Industrial and Commercial Bank of China. After crisis, these banks hold over almost 50% of total assets of all banking institutions. In addition, there is 8800 other banking institutions in China, 29 of them are foreign banks.

In securities market, it is new and continues to develop for China. After Crisis, there are almost 106 securities firms and 59 fund management firms.

In insurance markets, there are 3000 insurance institutions, which have 2.9 trillion RMB total assets.

4.6.2 Regulation before Crisis

Before the market oriented reform in 1998, the People’s Bank of China was authorized as a central bank and as the country’s financial supervisor. We can draw a conclusion that the financial system in China was underdeveloped.

4.6.3 Regulation after Crisis

Through a series of reforms in past years, China has moved to an Institutional
Approach (although its nature is institutional, it displays a functional aspects in the development of economy).

It includes a central bank (PBC) and 3 separating institutional supervisory agencies (CBRC, CIRC, and CSRC), as well as others, as bellow.

**The Ministry of Finance**

The *Ministry of Finance* (MOF) has financial supervision responsibility through both its share holdings in the major commercial banks and its control over the Central Huijin Company, through which it indirectly owns substantial stakes in commercial banks. The Minister of Finance, as a member of the State Council, has input on supervisory aims and matters of coordination among the agencies.

**The People’s Bank of China**

The Chinese central bank, *the People’s Bank of China* (PBC), the Governor of the PBC is a member of the State Council. The PBC formulates and implements monetary policy, relieves financial risks, and protects financial stability.

The main duties and responsibilities of the PBC include issuing and enforcing orders and regulations, issuing Renminbi and administering its circulation, and regulating the inter-bank lending and inter-bank bond markets.

Further more, it controls the State Administration of Foreign Exchange. It manages the exchange rate. It also can serve as a lender of last resort during a financial crisis. But, both the exchange rate and the interest rate limits are actually decided at a higher level, by the State Council, the highest government body.

Since the reforms of the supervisory system and the creation of the CBRC, the PBC no longer has a direct supervisory role, but it retains considerable influence over policy-making.

**The SAFE**

The *SAFE* manages China’s foreign exchange reserves. It is responsible for drafting
regulations and authorizing national and foreign financial institutions in conducting foreign exchange operations. It administers the regulations that China uses to keep its currency convertible on the current account, but closed on the capital account. These systems shield the domestic economy and its banking system from global capital flows. SAFE is an agency within the PBC and is managed by an administrator and four deputies.

**China Banking Regulatory Commission**

Banks are regulated primarily by the *China Banking Regulatory Commission* (CBRC), which is responsible for the supervision of national financial institutions and operations. The Banking Supervision Law is used to the supervision of financial asset management companies, trust investment companies, financial companies, and the financial lease companies established within China, and other financial institutions established within China upon approval of the CBRC.

The duties and responsibilities of the CBRC include approving new banking institutions, formulating prudential rules and regulations, and a wide range of powers of examination, including off-site and on-site investigation. The commission is also responsible for detecting risk in the banking sector and establishing an “early-warning system.”

**China Securities Regulatory Commission**

Securities and financial markets regulated by the *China Securities Regulatory Commission* (CSRC). The CSRC is responsible for conducting supervision and regulation of the securities and futures markets in China. Major functions of the CSRC is supervision of securities and futures firms, stock and futures exchange markets, publicly listed companies, fund management companies, the securities and futures investment consulting firms, and other intermediaries involved in the securities and futures business. The CSRC devotes to protect investors’ rights and interests and to mitigate market risks.

In 2005, the CSRC, MOF, and PBC jointly established the China Securities
Investor Protection Fund Co., Ltd, which is responsible for the collection of fees, daily management, and use of the fund. In 2007, the CSRC and the MOF jointly issued the Regulation on Futures Investor Protection Fund. The CSRC is responsible for the use and daily management of the fund.

The CIRC

Similar to the CBRC’s role in the banking industry, the CIRC supervise the Chinese insurance market. Major responsibilities of the CIRC include formulating insurance industry policies, strategies, and plans; drafting laws and regulations regarding insurance supervision and regulation; examining and approving the establishment of insurance companies; supervising the insurance business operations; and conducting investigations on irregularities and imposing penalties. The insurance supervision system has gradually been established through the CIRC.

In 2005, the China Insurance Protection Fund was established and is under the supervision and management of the Insurance Protection Fund Council.

Chart 4.7 Chinese Financial Regulatory Structure

![Chart 4.7 Chinese Financial Regulatory Structure](source: www.group30.org)

4.7 The Financial Regulation after Crisis

As we know that, the subprime crisis has exposed the serious problems in financial
regulation. In order to solve these problems, the USA and EU has published their own financial reform.

4.7.1 Main Changes after Crisis

In USA, the Fed and the congress and the treasury became key players in the evolution of a responses which involved federal conservatorships, capital injections, credit easing, liquidity measures, various insurance schemes, fiscal stimulus and adjustments to the housing market. And the most representative legislation is the Dodd Bill.

In EU, the main elements of the EU reforms here are: restoring and deepening the EU Single Market in financial services; establishing a Banking Union; building a more resilient and stable financial system; enhancing transparency, responsibility and consumer protection to secure market integrity and restore consumer confidence; and improving the efficiency of the EU financial system. And the EU reform is associated with the Basel III.

We can draw a conclusion that, although the contents of the reform is different from countries, the idea is concentrate on 4 fields: systemic risk and macro prudential supervision; government safety net and problems institutions; securitization and the credit derivatives market; credit rating agencies.

4.7.2 The Importance of Regulation For China

China as the representative of the developing countries, also suffering a lot from the crisis, but the reform of the financial system has been carried out cautiously and slowly. Apparently, there are still many identified gap when compared with USA and EU. And it needs to be improved to keep with the market improvements, just like the USA and EU regulation reform after crisis according to the new act.

However, it is just the beginning. Along with the globalization, it is inevitable that the financial system has become more open and market oriented. In addition, competition will become more severe. So both the developed countries and the developing countries need to catch up the trend by reforming to establish a
well-functioning financial system.
5 Conclusion

In this thesis I compare the reforms in terms of the time and the countries. I have first analyzed the regulation model in the theories. There are four models, institutional supervision, supervision by objectives, functional supervision and single-regulator supervision. Then I introduce the regulation system in reality before crisis. The USA is likely to the complex and fragmented regulatory system. In contrast, in UK, the FSA is the single regulator for the financial services sector. After crisis, the regulation reform concentrates on the four fields, systemic risk & macro prudential supervision, government safety net & problem institutions, securitization & the credit derivatives market, credit rating agencies. Apparently, the regulation is more strictly.

However, there are also many new problems. For example, how to balance the micro and macro supervision, how to balance inter and worldwide regulation, and how to balance the banking and non-banking regulation. Moreover, the shadow bank and the credit derivatives markets are not be solved well in the reforms.
Bibliography

Books


Internet sources


List of Abbreviations

BCCI ................................................. Bank of Credit and Commerce International
CFTC ............................................. Commodity Futures Trading Commission
CSBS ............................................. Conference of State Bank Supervisors
CSEs ................................................ Consolidated Supervised Entities
FASB ............................................... Financial Accounting Standards Board
FBIIC .............................................. Financial and Banking Information Infrastructure Committee
FDIC ............................................... Federal Deposit Insurance Corporation
FFIEC .............................................. Federal Financial Institutions Examination Council
FINRA ............................................. Financial Industry Regulatory Authority
GSE ................................................... Government-sponsored Enterprise
ISDA ............................................... International Swaps and Derivatives Association
NAIC ............................................... National Association of Insurance Commissioners
NASD ............................................... National Association of Securities Dealers
NASDAQ ........................................ National Association of Securities Dealers Automated Quotation System
NCUA ............................................... National Credit Union Administration
NCUSIF ........................................... National Credit Union Share Insurance Fund
NYSE .............................................. New York Stock Exchange
OCC ................................................... Office of the Comptroller of the Currency
OTS ................................................... Office of Thrift Supervision
PCAOB ............................................ Public Company Accounting Oversight Board
PWG ............................................... President’s Working Group on Financial Markets
SEC .................................................. Securities and Exchange Commission
SIFMA ............................................. Securities Industry and Financial Markets Association
SROs ............................................... Self-Regulatory Organizations
BSC ............................................... Banking Supervision Committee
CEBS ............................................... Committee of European Banking Supervisors
CRD .................................................. Capital Requirements Directive
ECB .................................................. European Central Bank
ECOFIN .......................................... Economic and Financial Affairs Council
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Herewith I declare that

- I am informed that Act No. 121/2000 Coll. – the Copyright Act, in particular, Section 35 – Utilisation of the Work as a Part of Civil and Religious Ceremonies, as a Part of School Performances and the Utilisation of a School Work – and Section 60 – School Work, fully applies to my diploma (bachelor) thesis;
- I take account of the VSB – Technical University of Ostrava (hereinafter as VSB-TUO) having the right to utilize the diploma (bachelor) thesis (under Section 35(3)) unprofitably and for own use;
- I agree that the diploma (bachelor) thesis shall be archived in the electronic form in VSB-TUO’s Central Library and one copy shall be kept by the supervisor of the diploma (bachelor) thesis. I agree that the bibliographic information about the diploma (bachelor) thesis shall be published in VSB-TUO’s information system;
- It was agreed that, in case of VSB-TUO’s interest, I shall enter into a license agreement with VSB-TUO, granting the authorization to utilize the work in the scope of Section 12(4) of the Copyright Act;
- It was agreed that I may utilize my work, the diploma (bachelor) thesis or provide a license to utilize it only with the consent of VSB-TUO, which is entitled, in such a case, to claim an adequate contribution from me to cover the cost expended by VSB-TUO for producing the work (up to its real amount).

Ostrava dated 7th May, 2015

Yanyu Xu

Yanyu Xu
<table>
<thead>
<tr>
<th>Annexes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annexes 1</td>
<td>USA Mortgage Debt Outstanding</td>
</tr>
<tr>
<td>Annexes 2</td>
<td>Stock of Derivatives Negotiated on OTC Markets</td>
</tr>
<tr>
<td>Annexes 3</td>
<td>TED Spread</td>
</tr>
</tbody>
</table>
### Annexes 1 US Mortgage Debt Outstanding (by type of property and holder)

US$ billion / at the end of the period

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008 (a)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>12,101</td>
<td>12,912</td>
<td>14,603</td>
<td>14,804</td>
</tr>
<tr>
<td><strong>By type of property</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One-to four-family residences</td>
<td>9,392</td>
<td>10,452</td>
<td>11,198</td>
<td>11,254</td>
</tr>
<tr>
<td>Multifamily residences</td>
<td>688</td>
<td>741</td>
<td>837</td>
<td>875</td>
</tr>
<tr>
<td>Nonfarm, nonresidential</td>
<td>1,393</td>
<td>2,210</td>
<td>2,490</td>
<td>2,565</td>
</tr>
<tr>
<td>Farm</td>
<td>102</td>
<td>208</td>
<td>117</td>
<td>109</td>
</tr>
<tr>
<td><strong>By type of holder</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major Financial Institutions</td>
<td>4,296</td>
<td>4,783</td>
<td>5,067</td>
<td>5,114</td>
</tr>
<tr>
<td>Commercial Banks</td>
<td>2,988</td>
<td>3,403</td>
<td>3,646</td>
<td>3,662</td>
</tr>
<tr>
<td>Savings Institutions</td>
<td>1,053</td>
<td>1,074</td>
<td>1,095</td>
<td>1,116</td>
</tr>
<tr>
<td>Life Insurance Companies</td>
<td>385</td>
<td>394</td>
<td>326</td>
<td>396</td>
</tr>
<tr>
<td>Federal and related agencies</td>
<td>667</td>
<td>689</td>
<td>728</td>
<td>796</td>
</tr>
<tr>
<td>Farmers Home Administration</td>
<td>75</td>
<td>76</td>
<td>78</td>
<td>80</td>
</tr>
<tr>
<td>Federal National Mortgage Association (Fannie Mae)</td>
<td>367</td>
<td>385</td>
<td>404</td>
<td>421</td>
</tr>
<tr>
<td>Federal land Banks</td>
<td>55</td>
<td>60</td>
<td>67</td>
<td>77</td>
</tr>
<tr>
<td>Federal Home Loan Mortgage Corporation (Freddie Mac)</td>
<td>61</td>
<td>66</td>
<td>90</td>
<td>88</td>
</tr>
<tr>
<td><strong>Mortgage pool or trusts (b)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government National Mortgage Association</td>
<td>5,775</td>
<td>6,575</td>
<td>7,382</td>
<td>7,549</td>
</tr>
<tr>
<td>Federal Home Loan Mortgage Corporation (Freddie Mac)</td>
<td>1,909</td>
<td>1,451</td>
<td>1,717</td>
<td>1,802</td>
</tr>
<tr>
<td>Federal National Mortgage Association (Fannie Mae)</td>
<td>1,207</td>
<td>1,272</td>
<td>2,298</td>
<td>2,445</td>
</tr>
<tr>
<td>Private mortgage conduits (c)</td>
<td>2,182</td>
<td>2,758</td>
<td>2,918</td>
<td>2,787</td>
</tr>
<tr>
<td>Individual and others (d)</td>
<td>1,365</td>
<td>1,467</td>
<td>1,428</td>
<td>1,385</td>
</tr>
</tbody>
</table>

Source: *The Financial Crisis in the US: Key Events, Causes and Responses*, John Marshall, 2009
## Annexes 2 Stock of Derivatives Negotiated on OTC Markets (US$ billions)

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Notional value</th>
<th>Gross market value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>516,476</td>
<td>595,341</td>
</tr>
<tr>
<td><strong>Exchange Market</strong></td>
<td>483,843</td>
<td>56,238</td>
</tr>
<tr>
<td><strong>Reporting Dealers</strong></td>
<td>19,173</td>
<td>21,334</td>
</tr>
<tr>
<td><strong>Other financial institutions</strong></td>
<td>19,144</td>
<td>26,357</td>
</tr>
<tr>
<td><strong>Non-financial institutions</strong></td>
<td>10,529</td>
<td>10,548</td>
</tr>
<tr>
<td><strong>Interest Rate Market</strong></td>
<td>347,312</td>
<td>395,258</td>
</tr>
<tr>
<td><strong>Reporting Dealers</strong></td>
<td>148,558</td>
<td>157,345</td>
</tr>
<tr>
<td><strong>Other financial institutions</strong></td>
<td>153,371</td>
<td>196,207</td>
</tr>
<tr>
<td><strong>Non-financial institutions</strong></td>
<td>45,359</td>
<td>42,326</td>
</tr>
<tr>
<td><strong>Stock Market</strong></td>
<td>8,359</td>
<td>8,469</td>
</tr>
<tr>
<td><strong>Reporting Dealers</strong></td>
<td>3,118</td>
<td>3,011</td>
</tr>
<tr>
<td><strong>Other financial institutions</strong></td>
<td>4,473</td>
<td>4,598</td>
</tr>
<tr>
<td><strong>Non-financial institutions</strong></td>
<td>999</td>
<td>861</td>
</tr>
<tr>
<td><strong>Commodity Market</strong></td>
<td>7,567</td>
<td>8,455</td>
</tr>
<tr>
<td><strong>Gold</strong></td>
<td>426</td>
<td>595</td>
</tr>
<tr>
<td><strong>Others</strong></td>
<td>7,141</td>
<td>7,861</td>
</tr>
<tr>
<td><strong>Credit derivatives</strong></td>
<td><strong>42,584</strong></td>
<td><strong>57,894</strong></td>
</tr>
<tr>
<td><strong>Simple</strong></td>
<td>24,239</td>
<td>25,246</td>
</tr>
<tr>
<td><strong>Multiple</strong></td>
<td>18,341</td>
<td>25,643</td>
</tr>
<tr>
<td><strong>Others</strong></td>
<td>61,713</td>
<td>71,346</td>
</tr>
<tr>
<td><strong>Gross credit exposure</strong></td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: *The Financial Crisis in the US: Key Events, Causes and Responses*, John Marshall, 2009
Annexes 3 TED Spread

-Risk Prize among US Short-term Bonds and the Libor Rate (in %)

Source: The Financial Crisis in the US: Key Events, Causes and Responses, John Marshall, 2009