An Analysis on Supervision of Financial Innovation Risk

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ABSTRACT

Financial innovation is the motive for financial market. How to unify financial innovation and financial stability is an important issue in establishing a modern financial system. Undoubtedly strengthening financial risk regulation is an important way out. Through analyzing the nature of financial innovation, the article concludes that the nature of financial innovation is a process of continuously launching financial derivatives, thus transferring financial risks and consequently indefinitely extending them. Further analysis is made on what contributes to financial risks and what the phenomena are. Suggestion is put forward that an integrated regulating system including pre-event prevention, in-the-event monitoring and post-event disposal should be set up in order that financial risks can be expected measured, prevented and controlled.

INTRODUCTION

In 2008, subprime crisis originating in America swept the whole world. It has not completely dissipated until now. Having thought painfully people reflect on the reasons that lead to the financial crisis. How to regard financial innovation? Does China need financial innovation after thirty years of reform and opening to the outside? Some people blame the financial crisis on excessive financial innovation. They think financial derivatives have magnified risks. Then finally this rare financial crisis has sprung up. Mr. Yang Mingsheng, vice chair of insurance regulatory commission, said “excessive financial innovation is one important reason that leads to the global financial crisis. The shortage of financial regulation and the imperfect corporate structure reform is another reason. Financial innovation is a double-edge sward. Innovation itself is not bad. Without innovation financial industry will lack the power of development or lack a kind of spirit. Without innovation financial industry development is not sustainable. But excessive innovation will go to the opposite. It can even bring about severe disaster.” [1] Comparatively speaking, financial crisis has not occurred in our country. But this does not mean the financial system in our country is more reasonable. On the contrary this represents a lag. Financial innovation is the motive for financial market development. How to seek the unification of financial innovation and financial stability
are important issues in establishing a modern financial system. Strengthening financial regulation is undoubtedly an important way to prevent and solve financial risks.

THE IMPLICATION OF FINANCIAL INNOVATION AND ITS CHARACTERISTICS

There is no universal definition for financial innovation until now. Generally speaking, the concept of innovation was first put forward by American Austrian economist J.A. Schum Pet in his book *Economic Development Theory* in 1912. And in this book innovation is defined as establishing a new productive function. That is to introduce a new combination concerning production factors and production conditions. [2] Financial innovation as its name suggests is the innovation in financial field. That is a new combination of various factors and a creative reform or introduces a new thing. It has broad term and narrow term. In broad term, it includes all the innovation in financial system and financial market. It includes new system, new market, new tool, new business, and new organization. It even covers new organization form and managing methods. [3] In narrow term, it concerns what will be discussed below, that is the innovation in financial products and financial tools. Financial innovation is a process of constantly producing new financial products. In American financial crisis, Subprime mortgage, Subordinated bonds, U.S. mortgage-backed securities, CDO, Credit default swaps are all financial products innovation. What is going to discuss below is only focused on financial innovation in narrow term, making financial derivatives as an example. Financial innovation, broadly speaking, has the following basic characteristics.

The Derivative Feature in Financial Innovation

Derivative feature means new financial derivative tools deriving from basic financial products such as currency, exchange rate, interest rate, and stock index. Financial derivative products which are defined as: “business or contract whose value depend on nominal value deriving from asset or indices.” in Statement of American Financial Accounting Standards No. 119. In China in accordance with the promulgation of the “Interim Measures for financial institutions dealing with derivative business ” item No.3 enacted by Banking Regulatory Commission “Derivative financial products are a kind of financial contract whose value depends on one kind or several kinds of basic asset or indices. Basically a contract includes forward, future, swap and option.” Financial derivative products also include structural financial tools that have one or several characteristics of forward, future, swap and option. In accordance with different basic asset, financial derivatives can be divided into equity derivatives, interest derivatives, currency derivatives, commodity derivatives and credit derivatives. In accordance with the nature of the contract, financial derivatives have more and more manifestations including forward, future, swap and option as well as new financial derivatives combined from the four basic contracts. Even though the concrete form of financial derivatives can be combined and changed into countless other forms, the basic forms being forward, future, swap and option.
Structural Feature of Financial Innovation

Structural Feature can be generalized into “commodity + future” which can be regarded as its nature. That is to combine fixed revenue with financial derivatives (such as future, forward, and swap) for the purpose of increasing revenue stability or make investors forecast for future market trend a product. After ten years development structural financial derivatives have more forms and its structure is more flexible. It can even be overlapped into extremely complicated trading products. To a certain degree this is beneficial to enriching the sorts of financial products and supply more investing offers. It can also deepen risk allocation for financial market. But objectively structural financial products are OTC products. It is difficult to count its trading scale. This has set great challenges to the setting-up and innovation of financial regulatory system.

The Leveraged Nature of Financial Innovation

The common characteristic of financial derivatives is deposit trading. That is to pay a certain proportion of deposit and then the whole transaction can be done. It is not necessary to transfer the possession right.

The Endogenous Nature

Financial innovation is a financial product that is invented to increase capital liquidity, spread risk and avoid regulation by financial organization on the basis of traditional business. Thus financial innovation is not able to dissipate risk. Or from another aspect, financial innovation can only dissipate the “original” risks and trigger new risks. Financial risks become more hidden and more concentrated. Practically speaking, once banks engaging in subprime mortgage business can transfer out risk and make themselves less riskier by packaged sale through asset securitization, not only banks that have made profits from it continue to invest more in subprime mortgage business, those banks that previously are not willing to involve in this business also begin to engage in subprime mortgage business. Thus compared with pre-asset-securitization period, subprime mortgage business occupies a larger proportion of the whole financial loan. Even the risk for one subprime mortgage is lessened; the increased risks brought about by increasing scale of subprime mortgage can offset the risks that have been transferred out through asset securitization. So the overall risks of the banks have not been lessened. They still exist in the financial market. So this increases the systematic risk of the whole financial system.

FINANCIAL INNOVATION RISK PHENOMENA AND THE ANALYSIS OF ITS CAUSES

The Phenomena of Financial Innovation Risks

Financial innovation products have the function of transferring and spreading risk though, it can not dissipate the risk in the whole financial industry. Microscopically they have lessened the risks. But macroscopically risks have been combined in a new way and become more complicated. Risk system of financial innovation is a complicated chain in which various risks are woven together and a constraint to each other. All the financial innovation risks connect and affect each other. In accordance
with *Derivatives Risk Management Guide* issued by Basel Committee on Banking Supervision on July 27th, 1994, financial innovation risks have been divided into the following sorts. [4] Firstly, market risk. Another name is price risk. Usually it refers to the fact that the financial innovation price or value changes negatively which will bring risks to the trading of financial derivatives. Factors that contribute to market risks of financial derivatives business include nature environment factor, social environment factor, political legal factor, technological factor and psychological factor. Secondly, credit risk. It refers to the risk that has been caused by opponent traders unable to keep a contract. In a modern financial derivative business although the exchange house has an independent settlement system, the probability of credit risk is quite small, enough attention should be still paid to it. If the exchange house cannot control risks favorably or business is done in OTC way, traders are also faced with severe credit risk. Thirdly, liquidity risk which refers to the risk that caused by insufficient trading volume and traders unable to obtain a market price. If this is the case, investors can not sell their stock at their buying price. Fourthly, operation risks. Operation risks refer to the accidental risks that are caused by the imperfection of information system or internal system of mechanism. Operation risks are usually due to human factors, such as the failure of computer system, the mistake in operating process, a breakdown in the system or internal control. Fifthly, legal risks. Legal risks refer to the content of a contract clashing with related legal system (tax system, bankruptcy system) and the contract unable to be kept. So economic revenue cannot be obtained. Even though factors that contribute to financial derivatives risks have various forms and are very complicated, generally speaking they are divided into objective factors and subjective factors. It is necessary to analyze its causes deeply in order to be aware of financial innovation risks. Only in this way can risk control system be set up.

### Causes for Financial Innovation Risks

Financial innovation is the kind of product that is produced by financial institutions to increase liquidity, spread risk and avoid regulatory supervision on the basis of traditional business. [5] Thus it depends heavily on cash flow. The subprime crisis in America is a good case in point. Because of the subprime borrowers’ inability to pay back the loans cash flow has been interrupted. Credit risks creep into every link in the whole financial market. So the financial institutions holding related financial derivatives plunge into bankruptcy.

The purpose of financial innovation is to spread risks. Thus the design of financial innovation products is highly risk hidden. Normally financial institutions sell part of its asset in a packaged way for the purpose of liquidity and spreading risks. In the subprime crisis in America, big problems exist in the original mortgage asset on which financial innovation depends heavily. The risk hidden nature of financial innovation has concealed the subprime mortgage asset risks, thus providing a natural protection to the highly risky asset. Theoretical speaking, risk chains can be lengthened limitlessly by the way of creating various bonds or overlapped bonds through financial innovation. Consequently investors mistakenly think risks have been dissipated. In fact, through financial innovation and securitization risks can be transferred but can not be lessened, not to mention to be dissipated. [6] The function of financial innovation is to transfer out risks. But risks can not be dissipated. In the American subprime crisis the financial innovation products are created like a chain. Through securitization real estate institutions transfer mortgage risks into capital market. Investors who invest in the
housing mortgage securities will take on related risks. Then these investors will pay insurance premium and purchase CDS. In which way risks have been transferred to insurance company. But risks have not been really dissipated. In fact financial innovations have scattered risks to the whole world. Like invisible plague risks of subprime creep into every corner of the world and infect the global investors and institutions. Because of its nature of high leverage financial innovations not only produce new risks, they also magnified their original risks. Too many innovations in American asset securitization have lengthened American financial trading chains.

Financial derivatives have become more and more complicated. Through package, division and combination virtual economic bubbles grow by geometric figures. The original loan of one dollar can be magnified into several dollars or even tens of dollars. Financial risks are constantly concentrating and are magnified abruptly. When changes occur in financial market, risks break out in concentration thus additive effect is created.

Participants in financial innovation have little sense of risk. Financial institutions as the main body of financial innovation are not fully aware of the financial risks in the process of financial innovation. Thus crisis results. On one hand, inaccurate judgments on macro economy and financial policy result in blind optimism in the development of real estate market. On the other hand, insufficient risk management and prevention measures for basic assets and incomplete assessment of financial innovation products easily cause improper risk management measures for financial innovation. Financial institutions having produced increasingly complicated financial innovations, regulatory organizations constrained by technology and human resources are inclined to believe that financial institutions have enough ability in dealing with all kinds of risks. But in reality they usually seem incapable. Especially they can do nothing about OTC financial derivatives. Necessary regulation processes are lacked. Consequently financial innovations bring about more regulatory dilemma. [7]

Risks of financial innovation are objective and inevitable. Mr. Denis, President of American Securities Clearing Corporation says: “There are no risks in the markets where trading does not exist.” [8] That is to say as long as trading is going on, there are risks. Or speaking differently, market itself brews risks. Originally financial innovation is a breakthrough from the convention. Risks exist objectively. From another point, risks of financial innovation are caused by people, which means they are subjective and controllable. In the process of financial innovation causes of risks must be fully aware of. The relationship between financial innovation and financial regulation should be properly dealt with. Financial innovation is the motivation for financial development. Financial regulation is the guarantee for financial development. Financial innovation is like a running wild horse. Financial regulation likes reining the wild horse making it run along the right road. It is necessary to control accurately the extent or degree of financial innovation and to establish a matched system of risk control and risk prevention.

FINANCIAL INNOVATION RISK PREVENTION AND CONTROL

At the same time of financial innovation, a perfect risk control mechanism should be set up. Inspiration is obtained from the financial crisis: Establishing risk prevention mechanism is the premise and foundation for financial innovation. Without innovation financial industry will lose its vitality and motive. Without risk control mechanism
financial innovation will be destructed in madness. Therefore the relationship between financial innovation and risk control should be properly dealt with. In accordance with the systematic control principle of financial project financial innovation systematic risk prevention can be divided into three links. They are pre-event risk prevention, risk monitor in the event, post-event risk dealing and corresponding system must be set up. These three links are related and complemented. They are a systematic project.

Perfecting Pre-event Risk Prevention System

By establishing various related system, risk prevention mechanism can be formed. Risk germination can be prevented in a maximum degree. This is the first firewall for financial innovation risks. The development of financial innovation has its specific environment including market environment and system environment. On one hand from the point of view of market environment, financial innovation is derivative business which developed on the basis of primary market including bond market, securities market and foreign exchange market. If financial innovation is going on in the not fully developed primary market, risks easily occur. Because they are not properly matched. At the same time, risks in the primary market can also infect financial derivative market. On the other hand, because of the risky nature of financial innovation it doesn’t fit all the financial institutions and investors. Therefore establishing market admission regulation system is the key to innovation regulation and risk prevention. Innovation is not laissez-fair. Something should be done from the point of view of market access: Firstly, formulate investors by specifying their qualification and approving access procedure. Presently, in our country security companies and future companies are managed according to their sorts. This is a good try in this aspect. Through sorting regulation innovation businesses are given to those security and future company that are rich in capital and regulated in operation. This can lower innovation risks in a maximum degree. Secondly, define financial products to be innovated. Thirdly, standardization of regulation. Strengthen the overall regulation for OTC financial derivatives. Give a guide to participant institutions to propel financial derivative innovation in a good order. Fourthly, establishing and perfecting internal control system for the trading of financial derivative innovation. Specifying internal decision procedure for financial trading, establishing authorizing and reporting system and constraint mechanism. Avoid the great losses occurring in Barings Bank and Lyon Bank because of the lack of control over internal traders. Fifthly, establishing investing system for suitable investors. Financial derivative products are quite risky. So only those with good economic foundation and strong risk undertakers can be participants. Threshold should be made for investors who hope to participate in the financial derivative markets. Only those who can conform to market admission conditions and have experienced risk tests can enter the financial derivative markets. Avoid the risks caused by investors entering into derivative markets blindly. In this way social stability can be maintained.

Establishing in-The-Event Monitoring System

Financial innovation risks are shown by financial products being traded and operated in the financial process. How to recognize and discover risks and control the spreading of risks is another key to preventing financial innovation risks. Therefore risk plans should be made for the purpose of controlling risks within certain limits and try to
kill risks in bud. Establishing in-the-event monitoring system should consist of several steps. Firstly, establishing risk recognizing and risk warning system. Financial derivative market is a highly speculative and risky market. Various risk-prepared cash is constantly changing with time going on. Even though financial derivative institutions themselves operate well, credit risks triggered by accidental events can also endanger the existence of financial market. Draw on the successful experiences of the developed countries in financial risk prevention, combine the practical situation in financial industry and risk feature in China, financial innovation risk warning system should be composed of state financial risk warning system, regional financial risk warning system, local financial warning system, government department concerned and financial institutions. Communication and coordination should be enhanced between these institutions. [9] Secondly, perfecting information disclosure system. Sunlight is the best preservatives. Perfecting information disclosure is the most effective way to maintain the stability of financial system, prevent systematic risks and lower supervising costs. In financial derivative business, participants are unable to obtain enough information from financial statements in the financial institutions. Because in financial derivative business financial statements are not needed to be handed in. Even financial supervising institutions can not get accurate information. Not to mention the execution of effective supervision. To ensure that investors obtain plentiful information and dissipate the leaks caused by information asymmetry, financial derivative products traders should be informed of their obligation to disclose information. In the information disclosure process contents and formats are to be uniform. The range, standard and the time of information disclosure should be specified. The transparency of financial derivative markets should be increased. Thirdly, establish perfect credit rating and credit system. The subprime crisis in America exposes the problems in the credit rating system. Because of the complexity of financial innovation investors mainly depend on the rating given by credit rating institutions. Some financial derivative products that are given the title “A” by credit rating institutions can not escape bankruptcy. Credit rating institutions have plunged in unprecedented credit crisis. How to make sure that credit rating institutions make an objective, neutral and fair assessment of the financial institutions and the financial derivative products issued by them, to set up perfect credit rating and credit system and to rebuild the credibility of credit rating institutions are important tasks in the post-crisis time. It is also necessary to provide a good market environment for the operation of financial derivative products by strengthening the supervision of credit rating institutions, increasing the credibility of the credit rating institutions, setting up credit system for enterprises and individuals and perfecting related legislation.

**Perfecting Post-event Risk Dealing System**

From a certain sense, innovation means risks. Financial innovation is not an exception. Risk of financial innovation is objective. Financial innovation is created with the purpose of avoiding and scattering risks. Risks can only be transferred but can not be dissipated. Therefore even though we have pre-event prevention and in-event monitoring, some risks still occur under such circumstances. So post-event risk dealing system should be set up. Only in this way can the harmful impact that financial innovations make on financial institution and the negative influence they have on the society be minimized and risks can be controlled in an acceptable range.
Requirements are: Firstly, set up risk protection fund for financial derivative traders in the way of establishing special accounts and form risk fund perfection system to respond unexpected event. Secondly, establish investor’s protection system to provide certain degree of protection to investors. Thirdly, improve financial bankruptcy system. Creating alerting effects by merging, rectifying those financial institutions in which big risks occur. These financial institutions can even go bankrupt. Fourthly, perfect accountability system by giving a severe punishment to those who are responsible for the risky event because of neglecting their duties. Fifthly, establish state rescuing system for state financial institutions. When risks happen in those financial institutions that are related to the stability of national financial industry, national government should give a hand to help the financial institutions go through the crisis. In this way the chained effect of the risks in the whole financial industry can be prevented and the stability of the whole financial industry can be maintained.

CONCLUSION

In short, financial innovation is a double-edged sword, without which financial markets will lose its gear and bound to a pool of stagnant water, however, financial innovation also has risks, which needs to strengthen financial supervision and improve supervision mode, by altering from regulatory compliance to risk supervision, from external supervision to internal control, so as to prevent and control the systematic risk. Upon the background of global economic integration, Chinese financial system will face even greater risk, if compelling to old pattern without innovation. But ways to accelerate our pace of financial innovation can draw lessons from the subprime mortgage crisis and the corresponding European sovereign credit crisis. Chinese financial innovation should be standardized ahead of development, legislation first and trials next. Risks of financial innovation could be defused by systematic innovation, to achieve the maintenance of our financial security.

REFERENCES