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The Causes and Countermeasures Research for International Financial Crisis in Recent Years

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Abstract: This article analyzes the reasons, the environment and conditions that lead to the recent international financial crisis. On this basis we derived some strategies to prevent the crises, as well as some approaches to be taken after the occurrence of the crisis.

Keywords: financial crisis, subprime crisis, European debt crisis

1. Introduction

In August 2007, the U.S. subprime mortgage market turmoil triggered a financial crisis [1]. The financial turmoil swept the world's major financial markets. It is usually referred to as “subprime crisis”.

In October 2009, as the subprime crisis storm proceeds, the European debt crisis fully broke out [2]. The crisis gradually reaches many other countries, bringing out a variety of serious problems.

The market participants believe that government negligence, excessive debt, and cumulative effects of system defects are the major factors that eventually led to the financial crisis. However, the reason why these problems remain unsolved and finally result in the crisis is not clear. In addition, how do we prevent such crises from happening again in the future? Once the crisis happened, how do we correctly resolve it? These topics need careful examination and analysis. In this article, we will focus our discussions on these issues.

2. The Situation of International Financial Crisis in Recent years

The direct cause of the U.S. subprime crisis is that the raise of U.S. interest rates and the cooling of the housing market. In June 2006，U.S. Federal Reserve Board increased the federal funds rate from 1% to 5.25%. Later, as the real estate prices start falling, the buyers became more difficult to repay the debt through selling their houses. As a result, many borrowers of the subprime mortgage market are not able to repay the debt on schedule. The financial problems spread rapidly to the world through the international financial system. In this case, the Europe's debt crisis also appeared.

The direct cause of Europe's debt crisis is the long-term over-indebtedness behavior of some European countries. In Greece, for example, the Greek ratio between foreign debt and GDP was as high as 115% in 2009. The country that was accustomed to luxury living gradually lost debt source. In addition to Greece, these problems are also prevalent in the other countries that are in crisis.

For the Europe sovereign debt crisis, it is not difficult to conclude that the real cause of the crisis is in the real economy. As the countries with under-developed real economies are holding a large amount of debt, during the outbreak of economic crisis, these countries are unable to repay the debt, as it is more difficult for them to recover. We will provide more detailed analysis in the following section.

3. The Causes and the Environment of Producing the Financial Crisis

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By detailed analysis of the financial crisis in Europe and USA, we can find that financial crisis can be resulted from these three basic elements: “the debtor with high risk could raise a lot of debt”, “debtors have raised a lot of debt”, and “the debtors were unable to repay”. When these factors act together, economic crisis will happen. The pattern of the above is prone to form in market economic hot spots.

When investing in a particular trade or field can result in high profits in the economic system, it will attract the attention of many investors. In order to obtain higher profits, the investors continue to increase investment and production quantity, and the overheated industry chain is thus established. The overheating economic spot will lead to large-scale debt behavior of the investor, aiming at gaining more profit by investing more into the overheating spot. If there are defects and problems in risk evaluation of the financial system, the first situation “the debtors with the risk got a lot of debt” will be formed.

We set the investment attractiveness of an industry(i.e., total revenue) as A, the price of the product as P, the product cost of the project as C, and the number of product sales of the projects as N. As a result, the investment attractiveness can be computed as: $A = (P - C)*N$

In other words, as N increases, A will also increase to attract investment in short of supply. Such an investment is divided into two parts, one part is to increase production capacity, i.e. to increase N for profit; another part is to sell for profit after increasing the demand to raise price through buying the product of the project at a lower price (i.e., increase in P).

Let D be the total demand of the project, and Q be the total supply of the project. So: $D = D1 + D2 + D3$

In the above formula, the $D1$ is inelastic demand of the project, $D2$ is the elastic demand of the project, and $D3$ is the investment demand of the project. We know that in certain environments and conditions, the number of $D1$ is essentially fixed; the number of $D2$ is negatively correlated with P within a certain range. And $D3$ was positively correlated with A. From an economic hot spots chart [3], we can see that the trend of $D3$ was increasing at the highest speed as the hot spot industry close to its peak.

When $D >= Q$, $Q = N$, It is in short of supply; When $D < Q$, $D = N$, It is in oversupply.

According to the price expression, $P = D / Q$, or $D = P * Q$, $A = (D / Q - C) * N$.

When $D >= Q$, $Q = N$; i.e., when demand exceeds supply, $A = D - N * C$.

Therefore, the investment attractive (all profits of the hot project) is the result of the market demand minus the total project cost. According to the herding behavior of investment, as A increasing, most investors will expect a medium-or long-term increasing trend, which would greatly stimulate the $D3$ to sharp increase. From the investment psychological point of view, the majority of the investors, in the formation of herding, rarely consider the real value of the overheating industry. As long as the real profit is able to meet the expected profit, it will result in further investing desire.

In the time most investors will use various financial methods to raise funds and invest into the overheating industry. The direct effect of increasing $D3$ is to increase A, form a strong positive feedback, and result in sharp increase of P. Sharp increase of P will result in sharp increase of A, which will greatly stimulate the attractiveness in increasing N to profit, i.e. by increasing the production capacity to increase N.

The increase of N will limit the increase in P, and it will lead to the increase in variable costs.

The sharp increase of P will produce another two consequences: first, great decrease of $D2$; and another is to cause the project alternatives to divert part of the $D1$.

We set the maximum value of D as Dm, so: $Dm = \Sigma Gm * Fm$

Gm is the individuals with demand of the project, and Fm is the maximum amount of funds of the individual. In specific period, despite the Dm is great, but it is still a finite value. Therefore, when N increased rapidly, the $N*C$ will soon be approaching the Dm.

When $N*C$ exceeds Dm (the maximum of total social demand), an opposite effect would happen, i.e. A would show a downward trend. This trend will lead to the gainers’ panic behavior and decrease the investment demand. This will form a strong positive feedback effect and accelerate the decrease of P. According to the statistical data after the burst of economy bubble industry [3], the decreases of P and N are generally more than 60% of the highest value. At this time, the loss of investment funds caused by excess product will be extremely large.

Above all losses will cause severe crisis of the financial institutions that have lent a lot of money during the industry's bubble peak, and the debtor fail to repay the loan as they have lost much money as the economic bubble is broken. Once the above factors act together, it will lead to the substantial losses of the financial system and result in financial crisis. The "subprime crisis" in US is a consequence of this situation, whose causes are shown in Figure 1.

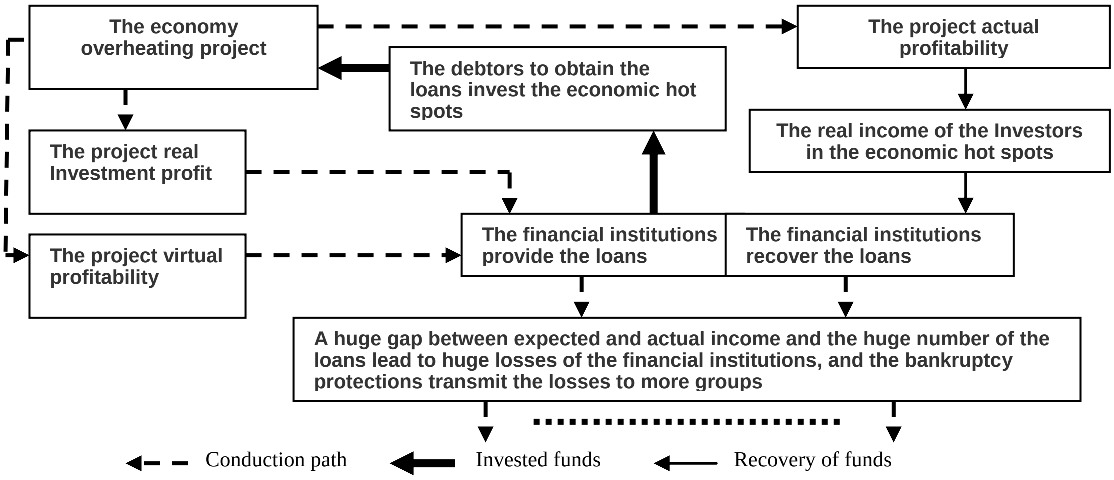

Fig.1: The schematic of the financial crisis occurring

When the debtor is a sovereign country and it extensively borrows money to catch economic hot spots, if the government made mistakes in investment decision, the investment funds will not lead to effective profit or suffer from severe losses when the economic bubble burst. In cases when the national strategic resource reservation is inadequate, it will not be able to repay the debts on schedule and thus gives rises to the sovereign debt crisis. The European debt crisis is caused by this reason.

The above analysis shows that there is a very important foundation environment for the financial crisis in recent years, i.e. the entities (individuals, groups, or sovereign countries) with the debt risk are able to raise a lot of debt from the related financial institutions. It further shows that there are major flaws in the operating mechanism of the existing financial system. Specifically, we explain the flaws as the following points:

(1) A sovereign country debt relies solely on national credit. If a sovereign country with the economic risks wishes to raise a lot of debt, it is possible to use a variety of methods to achieve its goal. The crisis will happen when the sovereign country, such as Greece, cannot hide its financial problems.

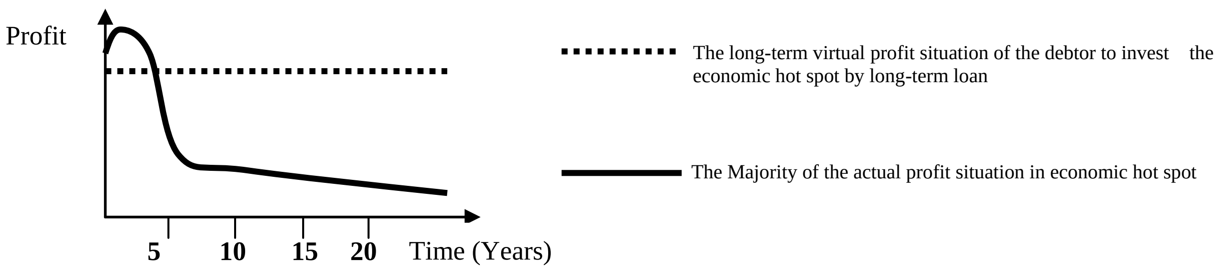

Fig.2: The schematic of the virtual foundation of long-term loan

(2) There is a significant defect in the designed long-term loan and recovery mechanisms in various countries' financial system. For example, when the real estate market was overheating, many banks granted a large number of long-term loans for up to 20-30 years. The expectation of the financial institutions is that the real estate market will continue increasing for at least in the 20-30 years and the economic position of the buyers will not be worse than the current in the 20-30 years. However, there is a huge difference between the expectation and the reality. As shown in Figure 2, once the reality changes, such as real estate bubble burst, a large number of businesses fail and the long-term loans of these banks may not be recoverable. This can easily lead to bankruptcy of the banks that issue the debts. If the financial institutions are also in debt against

other financial institutions, major financial crisis will happen. If this problem is not solved, the financial tsunami such as “subprime crisis” will happen frequently.

4. The Initiation and Conduction Analysis of the Financial Crisis

Although some differences in cases for the initiation and conduction process can be found, the principle is very much similar. In the U.S. subprime crisis, the largest financial institution that focuses on a large number of personal wealth had an important role in the conduction of the crisis. Because these financial institutions had a huge amount of debt, once the institutions collapse due to the crisis, the creditors would suffer from significant losses. The creditors may also bankrupt, thus the losses are passed on to more financial institutions. This is a “transduction chain” of the crisis.

If there is a sovereign debt crisis in a country, it is easy to be conducted rapidly through the international financial system. Because the amount of a country’s national debt can be huge, its creditors must be internationally renowned major financial institutions or the countries with large economy. Once the country is unable to repay the debt, this will inevitably cause the panic of international investors. This can easily lead to the deterioration of the economic situation of the creditor countries and the collapse of the financial institutions. If this occurs, the affected financial institutions and countries will become more. This creates a so-called “financial tsunami”. Therefore, the world has tried various methods to rescue the sovereign debt crisis in Europe, as there is a great significance to maintain the stability of the international economy.

5. The Preventive Measures of the Financial Crisis

Knowing the basis and conditions of a financial crisis, it is not difficult to devise methods to prevent the economic crisis. We summarize our proposed methods as the following:

(1) A sovereign country should use sovereign credit to raise debt that is not more than its repaying capacity, and the part of exceeding the limit must be insured using effective resources as collateral.

(2) The financial institutions must strictly audit the loans of the economic overheating parts. A large amount of loan should not be granted for a longer period (more than 1 year).

(3) The credit risk of large financial institutions must be strictly controlled. The long-term loans should not exceed the total net assets of the institution. It is necessary to prohibit issuing loan for industries with uncontrollable expectation. It is also necessary to avoid providing financial supports for transactions that carry out abnormal or monopoly prices.

(4) It is necessary to establish a risk control and management fund for financial institutions to rescue major financial institutions in severe crisis, and to cut off the transduction chain of the crisis timely.

(5) The government should ensure the basic needs and consumption capacity of the nation. It should also ensure the security of the basic wealth and the saving deposits. The benefits of this strategy are to ensure necessary domestic demand and profitability. In this way, the foundation of financial crisis can be eliminated.

6. The Proper Strategies After General Financial Crisis Appearing

Overall, after the financial crisis happened, the priority is to cut off the transduction chain of the crisis to avoid greater problems and turmoil. Therefore, the following strategies should be taken:

(1) For bankruptcy and liquidation of the financial institutions and large enterprises, the interests of the small and medium creditors should be protected with the highest priority.

(2) For financial institutions or large enterprises that have high market impact, the government should try its best to recover them through investments or loans.

(3) Establish risk control and management fund, which can be used to buyout the debt of the institutions that produce mandatory social needs.

(4) Identify all possible defects that result in the crisis of the existing financial system, and repair them. Establish a risk control system for all financial institutions. The financial institutions within crisis must minimize their operating costs (reducing consumption, salary and welfare), and only allow low-risk credit transactions in a small amount during the crisis.

(5) Use preferential policies to stimulate and guide the private and international financial institutions to invest capital into the domestic market.

(6) Use technological advances to adjust the entire economic structure and commodity price system, and drive the recovery and development of the economy. By stimulating the consumer demands, we can improve the profitability of the economy and resolve the basis of the financial crisis.

7. The Proper Countermeasures After the Sovereign Debt Crisis Appearing

The main difference between the sovereign debt crisis and general financial crisis is that the debtor is a sovereign country. According to the above discussion the country with the sovereign debt crisis should follow the following principles in solving the crisis:

The country should maintain the basic living standard of the nation. The country should also maintain stability for the financial system and currency, and domestic economic order.

The country should seek for external assistance, and reduce unnecessary expenditures. Strategies for achieving this goal are listed in the following:

(1) First, all policies taken should be maintain the basic living standard of the nation.

We are aware of the “two-eight” or “one-nine” distribution of the social wealth in the modern society. Therefore, the government should require high-income groups to bear more economic burdens, middle-income groups to bear fewer burdens, while low-income groups should be exempt from any losses.

(2) The country with the crisis should achieve the following goals: reshape the economic order, reactivate its own economic development, and repay the debt. This requires that the government to focus on the development of domestic economy.

(3) While in emergency, the country with the crisis needs to apply for economic assistances from foreign institutions. The success of this approach is associated with the effectiveness of the reformation of the country, as a successful reformation can increase the confidence level of the rescuing agencies or countries. The government should also ask help from the creditors, for compensation the country can provide non-strategic resources or the enterprises of the country as mortgage. The government can thus exchange for the permission of moratorium or convert the debt as investment.

(4) The government needs to reduce the original welfare and public spend. Other than the most basic spend of the public services, the rest should be used increase employment.

(5) The government should take measures to curb a variety of luxury consumption.

If the country places policies according to the above criterions, we believe that the world can gradually resolve the current international financial crisis, and resume development of the international economy.

8. Conclusions

We analyze and discuss the reasons of the international financial crisis happened in the recent years. Based on the analysis, we proposed several potential solutions for the current economic crisis. The crisis prevention and rescue methods are derived based on the real situations of Europe and the United States, and are not necessarily suitable for other countries. However, we believe that the principles of problem-solving strategies should be the same. If the proposed economic crisis prevention and rescue strategies can be effectively implemented, the consequences may not be as serious as many people would imagine. Currently, the countries around the world should work together to solve the problems, which will play a crucial role for the future of international economic development.

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