ISSN: 2710-0170

The causes of the subprime mortgage crisis and its enlightenment to China's financial development

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Abstract

Subprime mortgage crisis, also known as the subprime mortgage crisis. The crisis initially emerged from the US real estate market, and spread to other related markets at an alarming speed, and had a significant impact on the global financial markets, the financial system. Based on the knowledge learned in the course and the relevant materials of extracurricular supplement, this paper starts from the outbreak process of the subprime crisis, focuses on the internal and external causes of the subprime crisis, and combined with the subprime crisis events, thinking about its enlightenment to the financial development of China.

Keywords

Subprime mortgage crisis; real estate bubble; financial innovative product; financial development.

1. Introduction

The subprime mortgage crisis was a financial crisis in the United States caused by the bankruptcy of subprime mortgage lenders, the forced closure of investment funds and the volatile stock market. This crisis, along with the rise of innovative financial products in the United States, under the opaque and weak regulatory environment of the financial environment in the United States, the credit market, the capital market and the real economy gradually collapsed and affected the global industrial chain, which led to the insufficient liquidity crisis in the major global financial markets. The in-depth analysis of the causes of the subprime mortgage crisis can provide positive enlightenment and reference for the development of China's financial industry.

2. The outbreak process of the subprime mortgage crisis

2.1. The rise of innovative financial products

In the early 2000s, the Internet bubble in the United States burst and the American economy was in recession. In response to the recession, the Federal Reserve decided to adopt an expansionary monetary policy to stimulate economic recovery. With the lower federal funds rate and increasing the money supply, a series of policy measures have undoubtedly shifted the investment focus from stocks to real estate and caused the rapid rise in US. real estate prices.

People borrow mortgages at lower interest rates to engage in real estate activities. In the early stage, the lending institutions represented by the bank will strengthen the verification of the credit of the lenders, and lend the loans to the lenders with sound qualifications and good credit rating. The lender needs to repay the principal and interest for a long period of time (usually 30 years) after obtaining the loan. At this time, a new type of financial products issued by Fannie Mae and Freddie Mac appeared in the financial market, namely, an asset pool formed by buying residential mortgages from lenders and bundling them together based on the cash flow of the initial loan, allowing them to be traded like other financial assets, which is mortgage-backed

ISSN: 2710-0170

securities. At the same time, the rapidly developing economic environment also provides opportunities for lending institutions represented by banks to transform from traditional to versatile. Banks and corresponding institutions have expanded their new business models in addition to the traditional deposit and loan business, and the emergence of mortgage-backed securities is a good example. Loan providers sell mortgages to Fannie Mae and Freddie Mac to recover the cost of the loan, while passing on their own credit risk and continuing to charge Fannie Mae and Freddie Mac for service fees. Fannie Mae and Freddie Mac continue to issue mortgage-backed securities in an asset pool based on the cash flow of the initial loans and sell them to investors, while the corresponding financial institutions provide investors with an insurance service, namely credit default swaps, to help investors dispel concerns about risk. Thus, forming as a whole of a closed-loop circulation system. The cash flow of the mortgage is passed from the homeowner to the bank or depository, from the bank to Fannie Mae or Freddie Mac, and finally from Fannie Mae or Freddie Mac to investors.

2.2. Development of subprime mortgage loans

With the good development of the real estate market and the emergence of innovative financial products, the subjects in the whole process have obtained considerable profits. In order to improve the income, the loan structure represented by the bank relaxed the credit qualification audit of the lender, resulting in higher risk subprime lenders can also obtain loans. The subprime mortgage market in the United States is growing rapidly.

The full name of subprime loan is subprime mortgage loan, which is a kind of loan classified by customer credit in housing loan. Compared with high-quality loans, subprime loans are housing loans issued to customers with poor credit conditions and lack of proof of repayment ability and income certificate.

Subordinate loans to continue the process form mortgage-backed securities, Fannie Mae and Freddie Mac sold to Lehman Brothers investment Banks, investment Banks will finally mortgage-backed securities packaged into collateralized debt obligations and sell to investors.

2.3. Default of subprime mortgage loans

When the time reached the end of 2006, the real estate bubble collapsed and the property prices fell sharply. The Federal Reserve kept raising interest rates, and subprime mortgage borrowers were unable to repay their loans to lenders, and mortgage defaults rose sharply. Investment banks represented by Lehman Brothers and agencies represented by Fannie Mae are difficult to repay the agreed expected earnings to investors, and the high liabilities make them face the outcome of bankruptcy liquidation. The assets of financial institutions holding mortgage-backed securities and CDO's (collateralized debt obligations) have been severely reduced, forcing them to deleverage, sell their assets and tighten credit to households and other lenders, further increasing the vulnerability of financial markets. The stock market asset prices fell, the economic recession, and many financial institutions faced bankruptcy, the impact gradually spread to the global stock market, thus causing a global economic crisis.

3. The causes of the subprime mortgage crisis

The causes of the subprime crisis can be divided into internal reasons: the internal development and change of the economy, innovation and external reasons: the macroeconomic factors or economic policy adjustment. The first four parts will mainly introduce internal reasons, while the latter two parts will mainly introduce external reasons.

3.1. Application of financial innovative products

The rise and application of a large number of financial innovative products is the product carrier throughout the whole process of the subprime mortgage crisis. This kind of financial

ISSN: 2710-0170

products derived from loan securitization are traded in the derivative financial market. In the case of information asymmetry, if the traders who buy the product sell such derivatives quickly enough, they will successfully avoid risks. If a large amount of inventory is in hand, it will eventually face a huge risk.

(1) ABS (Assets-Backed Securities) refer to the conversion of illiquid assets into securities that can be freely bought and sold freely in the financial market, making them liquid. Among them, MBS (Mortgage-Backed Securities) is a significant example. MBS is a security issued by integrating real estate mortgage loans and other assets into an asset pool.

(2) CDO (Collateralized Debt Obligation): a new type of ABS, which refers to the innovative derivative securities products based on mortgage debt credit and various asset securitization technologies, re-dividing investment returns and risks, so as to meet the needs of different investors.

The core design philosophy of the CDO is to grade the cash flow, which develops different levels of products with different credit risk on the same asset pool such as asset-backed securities. It can be divided into: (1) priority (Senior Tranches) (2) intermediate (Mezzanine Tranches) (3) equity level (Equity Tranches) gathers securities to form an asset pool, and the debtor pays priority, intermediate and equity level when repaying the principal and interest. That is, once the mortgage defaults and other losses, the losses will be absorbed by the equity level, followed by the intermediate level, and finally the priority. The purchasers of priority CDO include investors with low-risk appetite such as commercial banks, insurance companies, pension funds and mutual funds; the intermediate and equity level buyers are mainly high-risk and high-return demand institutions such as investment banks and hedge funds, which is also the important reason why they first collapsed in the subprime crisis.

(3) CDS (Credit Default Swap): insurance for the default risk of the security issuer. Let creditors take for granted that their investment risks are successfully passed on. When the initial CDO default risk is low, the insurance institutions represented by AIG (American International Group) can get income from it, but when the CDO default risk rises, the premium income absorbed by the insurance institutions is difficult to compensate for the requirement of high default compensation.

The innovators of the subprime crisis derivative tool took advantage of the asymmetry of knowledge structure and used new economic theory to create credit pricing that ordinary people did not understand and packaged the price for many times and sold it to investors. With the decline of the real estate bubble, it directly led to the outbreak of financial risks.

3.2. The alienation of the role of banks and the serious information asymmetry in the mortgage market

Traditional Banks main income comes from absorbing the spread of deposits and loans, with the rapid economic development, the role of the bank and business also changed, most Banks no longer focus on a single deposit spread for limited income, but focus on developing new business, broaden their profit channels, speed up the transformation of their own functions. Before the outbreak of the subprime crisis, traditional banks focused on absorbing residential mortgage loans as assets, and expected to obtain the long-term interest and principal of the loans, but in this case, banks faced a long period of uncertainty. And now the bank on behalf of the lending institutions can absorb the mortgage sold to Fannie Mae and Freddie Mac to quickly recover the cost of the loan, at the same time the risk success from itself to the Fannie Mae and Freddie Mac, in the process Banks can also get objective fees, service fees, so disguised to encourage Banks to conduct such operations.

Once banks get substantial returns and avoid their own risks, they will not consider whether the borrower can pay the principal of the loan and interest on time. So, the more loans the bank makes, the more money it can get. There is no doubt that the problem of adverse selection has

ISSN: 2710-0170

become extremely serious. Risk-driven investors can use loans to buy houses, and if the price goes up, they will be profitable. Even if the price falls, investors just need to sell the house. It is these problems that prompt banks to take risks by looking beyond highly qualified lenders.

3.3. Lack of ethics of rating agencies

Many CDO products were rated 3A before the crisis, due to two reasons:

(1) Rating agencies charge corresponding fees to help payers with credit rating, and in order to attract more rating business in the future, it is obvious that credit rating agencies tend to choose to provide high grade ratings in case of conflicts of interest.

(2) Based on the status of American real estate before the end of 2006, the risk of mortgage default was indeed low. At the same time, the "prosperity" brought by financial products in the early stage of financial innovation prompted rating agencies not to make too much attention, but directly provide higher credit rating.

In the face of new financial products with grade 3A products such as Treasury bonds, but whose yield is significantly higher than that of Treasury bonds, pension funds and investment banks tend to choose products with higher yield. As a result, sales of complex financial products are often at more real risk than investors know.

3.4. Lax supervision of regulatory agencies

Fannie Mae and Freddie Mac, which have government backgrounds, will be subject to weakened regulation. On the other hand, the development of financial derivatives is characterized by strong ability to evade supervision and lack of transparent trading. These characteristics weaken the effect of regulation. ABS and CDO were new financial products, and the regulatory authorities did not form a strict regulatory system at that time.

3.5. Excessively loose monetary policy

In 2000, after the Cyber economy in the US bubble burst and the "911" incident, the US economy fell into recession. In order to prevent excessive economic downturn, the Federal Reserve implemented loose monetary policy. Overly loose monetary policy means low loan difficulty and low repayment costs, so the potential continues to push up prices and fuel a property bubble. From January 2001 to June 2003, the Federal Reserve cut interest rates 25 times. The long low interest rate policy greatly stimulated consumption and investment, made the real estate market prosper rapidly, and the real estate price rose continuously and appeared bubbles. Since then, in order to avoid the inflationary pressure caused by the rapid economic growth, the Federal Reserve raised the federal funds rate 17 times, which increased the repayment pressure of borrowers, thus suppressed the demand of the real estate market and cooled, reduced the housing prices and increased the risk of default.

3.6. The generation and bursting of real estate bubbles

After the end of the 2000-2001 recession, the rising property asset prices have also contributed to the growth of the home mortgage market. Rising market prices means that as homes rise, subprime mortgage borrowers can borrow in higher amounts with their properties. As home prices rise, subprime mortgage borrowers can sell their property at any time, so they are less likely to default. Investors will also tend to buy the corresponding derivatives, as the gains of securities backed by subprime mortgage cash flow will also rise. Growth in the subprime mortgage market in turn spurred housing demand and boosted housing prices, and the housing price bubble began to form in the process. At the same time, Congress passed laws encouraging Freddie Mae and Fannie Mac to buy trillions of dollars of mortgage-backed securities, and the Fed's monetary policy of low interest rates once again boosted prices.

In 2006, property prices began to fall after reaching their peak, exposing the problems of the financial system. After the property bubble burst, many subprime borrowers found their

ISSN: 2710-0170

mortgages "drowning" and property prices had fallen below the mortgage amount. At this point, most property owners chose to give up their property, and the mortgage default rate rose sharply.

4. Enlightenment of the subprime mortgage crisis on China's financial development

4.1. Scientific development of innovative financial products, reasonable control of asset securitization, scale, and prevent the spread of financial risks

With the development of international and capital market, traditional finance will combine modern technological means to form modern innovative finance. Modern innovative finance is more complex and hidden in terms of products, mode and operation mechanism. Asset securitization is an important representative of modern financial innovation. It has three functions of financing, investment and liquidity, plays an important role in promoting the rapid economic development, and has a trend of increasing scale.

Rational analysis, It is important to learn from the events of the subprime crisis, At present, in the process of vigorously promoting financial innovation and promoting high-quality economic development, We must prevent financial risks with prudent measures: to develop financial innovative products scientifically, Reasonably control the scale of asset securitization, Since the application of financial innovative products and asset securitization are usually used, accompanied by the increase of financial leverage ratio, The increase in the financial risk, Therefore, in the process of promoting and developing financial innovative products, regulators should pay close attention to financial risks: first, to strictly review the asset quality of financial products and asset securitization, Properly control the scale of asset securitization. Second, we should improve the credit evaluation system, conduct scientific and objective evaluation of the innovative financial products and asset securitized products, raise the issuance threshold of financial products, and strictly examine the issuance of products with low evaluation grades, so as to protect the safety of investors' funds and prevent the spread of financial risks.

4.2. Improve the comprehensive risk management ability of financial institutions

In the process of the subprime mortgage crisis, the subprime mortgage risk is finally turned into financial risk and market risk, among which banks and financial institutions are to blame. Comprehensive risk management system will play an important role for banks in facing the complex financial market environment. In the face of the increasingly global financial market, China's banking industry should constantly improve its own risk awareness and coping ability.

(1) Strengthen the awareness of risk management. The risk control ability of financial institutions must be based on the high emphasis on the risk awareness. Financial institutions should have a thorough understanding of various kinds of risks, including credit risks, market risks, liquidity risks, etc., and formulate corresponding risk prevention and control measures. Strengthen employees' risk prevention and control awareness, take the initiative to find risks in the work, and take risk prevention measures in time.

(2) Strengthen the construction of the risk management and early warning system. Financial institutions should always be vigilant, pay close attention to changes in international and domestic financial markets, establish and improve early warning indicators for risk management, and timely track and evaluate changes in a daily basis.

(3) Formulate risk response measures. Financial institutions should take effective measures in the face of risks to reduce the danger of risk diffusion and control risks within a reasonable range. Conduct regular daily stress tests on their own liquidity in order to maintain reasonable

liquidity in the market in emergency times and reduce liquidity risks. And according to the new environment and new development requirements of continuous improvement.

4.3. Preventing against imported international financial risks

With the exchange and integration of international economy and international capital, the degree of international financial openness is becoming higher and higher, and the correlation and system of economic and financial risks are further enhanced, which puts forward new requirements for the smooth operation of the financial market. How to prevent imported international financial risks and their possible market risks is a major challenge for China's financial market. China must understand the international linkage of financial risks from the international perspective and theory, actively learn the advanced international regulatory models and concepts, and actively master the rules of financial regulation and the latest trends of development in line with the international standards. We will closely follow up and analyze the imported risks in the international financial market, improve the cross-market, cross-industry and cross-border analysis, monitoring and early warning mechanisms, and constantly improve the ability to respond to international finance and risks. We will coordinate with national policies on currency, foreign exchange and financial market to ensure the healthy and stable development of China's financial and economic development.

5. Summary

Today, the subprime mortgage crisis is still a hot and interconnected problem in the international economy and politics. We should combine the actual situation of the development of the financial industry, the situation, from the whole process of subprime crisis comprehensive understanding and experience: scientific development of financial innovation products, constantly improve comprehensive risk management ability of financial institutions, actively learn international advanced regulatory mode and concept, promote the healthy development of high quality of domestic financial market.

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