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Exploring the Subprime Crisis

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Abstract: This paper delves into an examination of the three primary interrelated factors that precipitated the subprime mortgage crisis: regulatory deficiencies, policy failures, and dysfunctional innovation. Furthermore, it conducts an analysis of the underlying factors that exacerbated the ramifications of this economic upheaval: the excessive proliferation of securitization, a deficiency in market transparency, inadequate risk management practices within financial institutions, and challenges associated with credit rating agencies. The subprime mortgage crisis has incited extensive discourse across diverse sectors, notably encompassing two pivotal dimensions: firstly, inquiries surrounding the transparency of assets and, secondly, predicaments pertaining to governmental intervention for market stabilization. This article undertakes a comprehensive categorization and in-depth exposition of these discrete issues, proffering meticulous explications corroborated by empirical substantiation. Culminating in its denouement, the article proffers prudent recommendations aimed at preemptively mitigating the advent of future crises. The entire discourse endeavors to maintain an objective and truthful perspective, aiming to explore the fundamental nature of the subprime mortgage crisis rigorously.

Keywords: securitization, transparency, rating agencies, risk management, CDO

1. Introduction

The credit crisis of 2007 began in the United States subprime market and has affected investors in North America, Europe, Australia, and Asia. There are fears that the write-off of losses on securities related to United States subprime mortgages, as well as other parts of the credit market, could spread to a trillion dollars. It brought the asset-backed commercial paper market to a standstill, hedge funds stopped redeeming or went bankrupt, CDOs defaulted, and banks suffered liquidity problems. As of June 2008, major banks and brokerage firms had lost more than $300 billion since the beginning of 2007. As of May 2008, U.S. banks had to cut dividends and appeal to global investors such as sovereign funds to inject more than $230 billion in capital, according to data compiled by Bloomberg. The deepening crisis in the subprime mortgage market has affected investor confidence in many areas of the credit market. [1]

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2. Causes

2.1. Regulatory deficiencies

Looking at the subprime crisis, there were only one or two irregularities in the whole process; the rest were all legal. The most fatal aspect of the irregularities was that they made credit available to those who did not qualify, which led to a gradual detachment of economic development from reality.

Banks packaged the credit and sold it to other investment institutions, which then packaged it, re-sold it, and insured it to try to avoid the risk. It turned out that both the rating agencies and the regulators had made a mistake, which means that lenders have been offering zero down, zero proof of income and assets, interest-only, etc., to people who have poor credit, are in debt, or even have no proof of income, and allowing variable interest rates. Lending institutions processed the credit bubble mortgages and sold them to investment banks, which then securitized the subprime mortgages, packaged them into CDOs, and sold them to investors, resulting in market leverage that overinflated the value of the virtual capital, and these bubble and risky mortgage securities products were the product of a further expansion of the real estate bubble. With the increase in interest rates, the cost of real estate financing gradually increased, detached from the real economy. Once the bubble assets to the real value of the return, it will inevitably lead to the bursting of the bubble, this time also brought a series of butterfly effect, the chain of interests into a crisis chain. [2]

The financial system is willing to lend to risky borrowers because financial institutions see higher profit opportunities created by raising interest rates and fees. The ability to bundle loans and sell them to investors as securities makes lenders feel less responsible for the long-term risk of those loans, because they can pass the risk on to others. The belief that house prices would keep rising led people to believe that even if the borrower defaulted, the value of the collateral (the house) would still be enough to cover the loan. Relaxed lending standards, such as low down payments and document-free loans, have made it easier for risky borrowers to get credit. Fierce competition among lenders has pushed them to expand their customer base, including riskier borrowers, to maintain market share. Finally, many lenders focus on short-term gains and ignore the long-term risks that can come with lending to high-risk individuals. There are many factors involved in the fact that bond investors do not refuse to invest even though they cannot know the actual payment ability of subprime loan applicants. Subprime bonds typically offer relatively high-interest yields, which creates an incentive for investors to seek higher returns. Even if investors recognize that risk is higher, high returns may still lead them to be willing to take that risk. Prior to the subprime crisis, many people were generally optimistic that the housing market would continue to grow, and this atmosphere and optimism influenced investors' decisions. They may have underestimated the risks that could arise in the housing market.

The honorary chairman of the Chicago Mercantile Exchange, blamed believes that the root cause of the outbreak of the subprime crisis is that the subprime mortgage bonds in the issuance process did not have transparent enough information when subprime low mortgage loans are packaged into bonds sold to investors, bond investors are unable to accurately understand the subprime applicant's real ability to pay, the debt risk has been accumulating, and the crisis has become a hidden problem. This debt risk keeps accumulating, laying a hidden danger for the occurrence of the crisis; second, the lack of government supervision, the government throws the responsibility of assessing and supervising such financial derivative products as subprime mortgage bonds entirely to private bond rating agencies, leaving a lot of room for these private agencies to operate. However, the rating standards adopted by these agencies are not very reliable. As a result of the absence of national financial supervision, financial institutions become inherently unstable. Therefore, the over-inflation of the virtual economy away from the real economy has produced an asset bubble that will eventually burst, which is the root cause of the subprime crisis.

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2.2. Policy failures

The deep-rooted causes of the subprime crisis lie in the erroneous monetary policy of the Greenspan era. First, this policy caused the real estate bubble to burst. While low-interest rates aim to stimulate economic growth by encouraging borrowing and spending, they can inadvertently encourage speculative behavior and drive up demand for real estate assets beyond their fundamental value. The low-interest rate period of the formation of real estate fever, with the arrival of the era of high-interest rates and excess liquidity and fallback, subprime buyers' loan burden continued to increase, so more and more subprime buyers could not repay the loan, and it is difficult to obtain financing through the sale or mortgage housing, the result of the formation of a large number of subprime mortgage institutions bad loans investment bank, the global investors of all kinds of the hands of the large batch of subprime loans due to the loss of sources of reimbursement. Secondly, this policy also caused the abuse of financial derivatives and leveraged transactions. In Greenspan at the helm of the Federal Reserve period, he disregarded the repeated risk warnings of members of Congress and Wall Street, firmly supporting the arbitrary development of the financial derivatives market so that Wall Street speculators let the financial derivatives market in the lack of regulation under the conditions of the bigger and bigger, and ultimately the United States and even the world's other financial institutions involved in it. The policy support of the United States Government has contributed to this. [3]

At the macro level, American economic policy, like that of every other country, is focused on its own domestic problems, ignoring the responsibility that the dollar should assume as an international currency. 2000 saw the bursting of the United States dot-com bubble, and in order to stimulate the economy, the Federal Reserve lowered the Federal Funds Rate 13 times, up to the all-time low of 1 percent in June 2003-June 2004, and kept the interest rate at such a low level for quite a long period of time. As far as fiscal policy is concerned, after 2001, the United States Government carried out large-scale tax cuts to stimulate economic growth so that the structure of the economy, which was already overly dependent on the consumption drive, was further imbalanced. The deficit fiscal policy and large-scale tax cuts implemented by the United States, while stimulating economic growth, also gave rise to the formation and expansion of the real estate bubble.

At the micro level, the problems exposed by the crisis are even more striking. Many financial institutions, represented by large investment banks in the United States, have severe deficiencies in risk management. These institutions ignored risk control, pursued short-term interests, and lacked a check-and-balance mechanism, which sowed hidden dangers for the outbreak of the crisis and ultimately led to the financial crisis in the United States. A case in point is Lehman Brothers, once a large investment bank and financial services company in the United States. Lehman's reliance on short-term debt to support its long-term investments, which was difficult to obtain when the credit markets froze, led to imbalances in their balance sheet and exacerbated liquidity problems. Lehman Brothers had shortcomings in its risk assessment and management of the subprime assets in its portfolio, and their failure to accurately assess the potential risks of those assets caused them to be hit hard when markets were volatile. Lehman and other financial institutions underestimated the uncertainty in the housing market and the risk that the subprime mortgage market would collapse. This underestimation led to their inability to adapt to market changes when the crisis broke out.

2.3. Dysfunctional innovation

Dysfunctions in the development process of financial innovation and the risk-expanding effect of asset securitization were the direct triggers of the subprime mortgage crisis. Financial innovation was based on the relatively high-interest rates of subprime mortgage loans, and some financial institutions lowered their lending risk standards to issue subprime mortgage loans, as well as financial products that lowered the lending threshold, such as zero-down loans and adjustable-rate mortgages, and financial institutions specializing in subprime mortgage loans appeared, which enlarged the size of the market for personal housing loans. Asset securitization expanded the risk; various financial institutions operating subprime mortgage loans securitized such debt assets into different levels of residential mortgage-backed securities based on credit risk ratings, and investment banks purchased such securities and then sold them to various investors, which allowed banks to issue multiple rounds of personal housing loans under established capital conditions, and the bond certificates that are packaged with this collateralized security are CDOs, which are again securitized for financing. In response to the needs of each type of financial institution, investment banks invented a variety of specialized CDOs, and CDS were invented for the inter-bank bond business so that the asset securitization market developed rapidly, and a very large market for financial extensions was rapidly expanding on the narrow basis of individual home mortgages. Risks are not fully transferred in the secondary market transfer of subprime mortgages, and the stakeholders lose as well as gain. Once interest rates rise, house prices fall, defaults increase, and the production chain breaks down. [4]

Regular financial innovation is conducive to improving the efficiency of capital utilization and diversifying financial risks, but excessive derivation coupled with the lack of effective regulation has led to a mismatch between risk and return for financial institutions, with risks not only not being dispersed away, but also being magnified a lot. Rating agencies are not clear about the exact meaning of bond ratings for structured products, nor are they clear about the reliability of their rating methodology for such products, and there is a lack of transparency in the valuation of illiquid assets. As a result, rating agencies have not really assumed the responsibility of "gatekeepers" of the financial market but have instead generated a certain amount of moral hazard due to their relationship of interest and their pro-cyclical rating results, which accelerated the bursting of the asset bubble and led to the subprime mortgage crisis in the United States.

3. Problems

3.1. Asset transparency issues

Asset transparency has become another focal point of concern for all sectors. There are three main reasons for this.

1. Structured products are complex and varied, and the securitization chain is long and complex. Warren Buffet once said, "If you want to understand a CDO product, you have to read about 15,000 pages of material. If you take out the low level from this CDO product and 50 other similar CDOs together to form a CDO square, you have to read more than 750,000 pages of material - obviously unthinkable. When structured products of this magnitude are traded in the market, it is absurd that almost no one knows what these products really are". The complexity of structured products is thus evident. The process of this housing-related securitization involved commercial banks lending directly to housing finance institutions - securitization processing - credit default swaps - risk sharing - Conducting credit default swaps, a process that involves a multitude of complex products and a large number of related institutions, with a multitude of links, and a key problem posed by the lack of transparency of the assets. The opacity of market information is present throughout the long chain. It is precisely because of the complexity of the products and the many links in the securitization chain that investors know little about the investment behavior and asset structure of hedge funds, private equity funds, and special purpose vehicles.

2. Market participants do not know how risky their holdings really are because of insufficient information transparency and difficulties in pricing assets. The financial market relies too much on rating companies, and the relationship between rating agencies and investment banks is too close and lacks regulation. As information intermediaries, rating agencies have played a pivotal role in the development of the securitization market. Highly specialized financial markets separate lenders from

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investors, who rely on professional rating agencies and intermediaries to price risks when purchasing products.

3. The rating agencies themselves are subject to a serious conflict of interest: their revenues derive mainly from rating fees paid by issuers of securities. The ratings process is often characterized by issuers "soliciting ratings", whereby issuers of structured securities pay the highest rated rating agency, resulting in ratings that lack authenticity and objectivity. The rating agencies' own rating models are also problematic, and the accuracy of their risk assessments of structured securities has been questioned by the market; between the third quarter of 2007 and the first half of 2008, the three major rating agencies, Moody's, S&P and Fitch, have downgraded $1.9 trillion worth of real estate mortgage-backed securities.

3.2. The problem with government bailouts

The U.S. Congress passed a $750 billion financial rescue bill. Whether the government should bail out the market in times of crisis has become another hot issue. [5]

The main reasons given by those in favor of the bailout are:

1. Markets cannot regulate themselves in times of crisis, and government intervention is needed to help build confidence in the market. The market by itself cannot find a solution to the crisis; it needs the government to act as a third party to remove the bad assets from the books, to put a price on these assets that no one knows the price of, and to restart the market. The government's role is that of a facilitator, and at the end of the day, there is a chance that it will not cost taxpayers money.

2. A systemic crisis requires a government bailout to avoid even more significant damage, and a bailout cuts down on large downside risks. The sudden closure of some large financial institutions could cause damage to already very sensitive financial markets and economies, leading to a significant increase in borrowing costs, reducing household wealth, and jeopardizing already fragile economic growth, and it would be better to put them into receivership than to let them go bankrupt. Bailouts can prevent the crisis from worsening and can ease the crisis in the financial system.

The main arguments of those who oppose the bailout are:

1. Government bailouts encourage gambling, creating new moral hazard and adverse selection. Bailouts that exempt taxpayers from liability for possible losses increase the likelihood of new crises in the future and lead to the privatization of profits as well as the socialization of losses, which is not the right choice.

2. Bailouts may have negative effects and create new problems. In the process of the market looking for solutions to problems, solutions to problems can also create problems. For example, allowing Lehman Brothers to file for bankruptcy protection meant that AIC was accepting losses in the CDS market, which meant that the price of money funds fell below net asset value, which caused panic and caused people to begin to put money out of money funds, which are not federally insured.

4. Conclusion

In conclusion, the subprime crisis was caused by regulatory deficiencies, policy failures, and dysfunctional innovation. A lack of market transparency and irresponsible rating agencies are further contributing factors. Therefore, the paper puts forward three suggestions.

1. The meaning of ratings needs to be clearly stated. For example, is a rating a measure of the likelihood of timely payment? If a rating is through the cycle, what is the length of the cycle? How do these agencies actually calculate their numbers? To avoid confusion, these agencies need to clearly state this and include the actual numbers with their projections. For any particular type of instrument being rated, the methodology and underlying assumptions used to arrive at a given rating need to be clearly stated so that, in principle, the rating can be replicated by a third party. Regulators need to

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monitor the quality of the rating agencies' data, their methodologies, and the validity of their projections.

2. For banks, there is a need for transparency with respect to the size of explicit commitments arising from credit lines, collateralized support, and leveraged buyout financing. At the same time, there is a need for greater transparency with respect to the nature of assets held by financial institutions, particularly those that are difficult to value (Level 3 assets).

3. Firms should adopt comprehensive firm-wide risk management and share quantitative and qualitative information in a risk management committee Develop rigorous internal processes to value complex and illiquid securities. The finance function should be closely integrated with risk management to plan and control balance sheets, liquidity, and capital positions. [6]

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