

2008 Financial Crisis: Causes and Costs

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Abstract. In 2008, the US financial crisis caused severe shocks to the global economy. In the escalating process of the crisis, the US government launched a series of rescue policies, which not only stabilized the domestic market, but also contributed to the global economic recovery. In recent years, the economic situation is not very optimistic, accompanied by systemic financial risks, reviewing the US financial crisis rescue policy is conducive to better financial reform. This paper will start from the causes of the United States financial crisis to solve the consequences, through the analysis of policy advantages and disadvantages to get the financial risk prevention and management suggestions. Research shows that the quantitative easing monetary policy and low interest rate environment in the United States caused the instability of the real estate market, which increased the generation of subprime loans. In time, the American government's no-kill policy prompted the International Committee of Banking Supervisors to release the third Basel Accord, aimed at stabilizing the financial situation in 2008. Based on this, the article summarizes the following policy enlightenments for our country's financial risk management: strengthen the coordination of monetary policy and fiscal policy; Strengthen international coordination.

Keywords: Subprime mortgage; credit default swaps; Lehman Brothers; Dodd-Frank Act; Basel III.

1. Introduction

The 2022 Nobel Prize in Economics was announced on Oct 10. The prize was awarded to three US economists: Brookings Institution economist Ben Bernanke, University of Chicago professor Douglas Diamond and University of Washington Professor Philip Dubvig for their outstanding contributions to the study of banking and financial crises. The academic achievements of three economists jointly laid the foundation of modern banking, and expanded the market's understanding of the role of central banks during the 2008 international financial crisis. They explain why avoiding bank failures is crucial to the financial system. They also analyze and propose ways to deal with financial crises by stabilizing the banking system and regulating financial markets.

The important inspiration of the 2022 Nobel Prize in Economics is that in the face of profound changes unseen in a century and epic changes in financial markets, policy makers must do more. Only by effectively guiding market expectations, avoiding epidemic black holes and maintaining the courage to take policy actions can economic and financial risks get out of control in a complex environment. Then climb the slope, stable and far. It's been three years since COVID-19 hit the global economy, with central banks around the world raising interest rates and geopolitical conflicts. How to keep the current banking and financial system stable and avoid the recurrence of economic crisis? That may be the point of studying financial crises.

The world experienced its worst financial crisis since the Great Depression in 1930 as a result of the credit crisis that started in the United States in 2007 and quickly spread from the financial markets to the real economy. The price of homes in the US rose dramatically before the financial crisis began, creating a housing price bubble. The development of the banking industry also reflected two trends: First, banks turned to the "loan and distribution" business model, creating securitization products. Second, maturity mismatch between banks' assets and liabilities [1].

The financial crisis in 2008 began with the subprime mortgage crisis, with the initial appearance of subprime debt default, which led to panic, falling housing prices and an all-out financial crisis. Well-known financial institutions have fallen into crisis, such as Lehman Brothers, which was famously decimated by Bear Stearns. Then, it made heavy use of the primary dealer credit facility provided by the Fed and did not raise enough equity to strengthen its balance sheet. Lehman's share

price fell as a result of the state-controlled Korea Development Bank's decision not to purchase shares as it continued to decline. Since Lehman and its consumers and counterparties had plenty of time to address the liquidity crunch, the Treasury and the Fed decided against using taxpayer funds to provide guarantees. Lehman Brothers eventually had to declare bankruptcy. The US stock market has did lose about \$8 trillion in market value during this financial crisis, which has had a significant impact on the subsequent growth and restructure of the global financial sector.

2. Cause

The crisis has spread from developed nations to emerging economies and from the finance market to the real economy, turning it from a regional crisis to a global one. In all nations, it has had a significant impact on the economic progress and quality of life of the populace. What then is the underlying reason for this crisis? There are two popular explanations: the first is that the crisis stems from the Fed's improper monetary policies, which began in 2001. A second popular explanation is that some U.S. banks and financial institutions engaged in illegal practices and blind financial innovation as the main cause of the crisis.

2.1 Loose Monetary Policy

In his book *The Failure of Capitalism*, American professor Richard A. Posner analyzed the banking industry and the financial derivatives market and concluded that the wrong policies of the Federal Reserve and the lack of supervision of the banking industry were the causes of the financial crisis [2]. Before crisis, US house prices soared at rates far higher than in the decade to the end of the 20th century. There are two main reasons for the housing price bubble.

The first is the low interest rate environment, which can be caused by two reasons: one is that the Federal Reserve has adopted a loose interest rate policy since Greenspan was the chairman of the Federal Reserve; second, the flood of foreign capital, especially from Asian countries, has pushed down credit rates. Avoid deflation. Fearing deflation when the dot-com bubble burst in 2000, the Fed refrained from deflating the housing bubble. Large inflows of foreign capital, especially from Asia. Asia has learned from the Asian financial crisis of 1997 to purchase US bonds to protect export-friendly exchange rates and to protect against currency depreciation.

Another aspect is the transformation of banking. The banking business model has undergone a major transformation. The traditional operation model of "buy-and-hold" in banking industry has gradually been transformed into "originate-to-distribute (OTD)". In the traditional model, the bank that made the loan would hold it until it was called in; In the new model, banks bundle loans together, slice them and then sell them for the purpose of securitization. This bundling and reselling of securities caused a lot of capital to flow to the US, pushing down interest rates and in turn pushing up house prices.

2.2 Subprime Mortgage

Some lenders offer subprime mortgages to borrowers with bad credit and low incomes. As interest rates continued to decline, asset securitization and financial derivatives innovation speed accelerated, the luxury consumption culture permeating the entire society, and blind optimism about economic future made it possible for regular people to borrow and consume in advance of the financial crisis. A lot of customers who are not able to repay their debts through mortgages are particularly drawn to the housing market by the myth that prices for real estate only rise and never fall. The bank is holding a number of non-liquid loan contracts in its hands, meaning that it is difficult to buy and sell them. These subprime lending needed to be packaged and packaged in order to increase liquidity, which led to the development of MBS. MBS can be thought of as a financial product because, more generally, when you go to a bank, you can only buy the financial products offered by the bank and no other people's loan contracts. When the first signs of subprime defaults emerged in February 2007, the ABX price index began to plunge, Moody's, Standard & Poor's and Fitch downgraded subprime debt of all

kinds, panicking the markets, and America's largest homebuilder reported a quarterly loss. From then until late 2008, home prices and sales continued to fall. The subprime crisis broke out in full swing [3].

As the financial crisis approached, there were two trends in the development of American banking. First, as described above. Banks moved to a "loan-and-distribute" business model. The advantage of this model is that banks do not carry loans onto their balance sheets, packaging them and selling them to various investors, thereby transferring risk and optimistic capital to meet Basel's capital adequacy requirements. Second, banks rely more on short-term financial instruments to finance the assets they hold, which leads to a mismatch between the maturity of their assets and liabilities, and makes them prone to big difficulties once the financing liquidity problems occur. These two shifts in banking laid the groundwork for the ensuing liquidity crisis. Banks turned to "loan-and-distribute" business models, creating CDOs and MBS, and investors often bought credit default swaps (CDS) to hedge their risks. The position, which consisted of buying CDS on the opposite side of the securitized hierarchy, was seen as extremely low risk, but was overturned by the ensuing financial crisis.

2.3 Credit Default Swaps

CDS is best understood as investment-related insurance. A bank that owns a lot of subprime loans is concerned that these loans would default, but there are also too many subprime loans, which hurts MBS's credit rating. The bank would acquire some CDS on these subprime loans to raise the MBS's credit rating. A CDS operates by the bank paying an annual premium, and in the event of a subprime loan default, the CDS seller will take over repayment of the loan from the defaulting party.

The proliferation of securitization and structured financial products eventually led to a lowering of lending standards, which further pushed up house prices. Because much of the risk can be passed on to other financial institutions through structured products, banks are exposed to it only for a few months before it is transferred. As a result, banks do not have sufficient motivation to conduct strict examination on the lender (for example, proper credit evaluation on the lender, strict mortgage evaluation on the purchased house, etc.), and many mortgage brokers and lenders are aware that the borrower's salary is insufficient to pay back the loan [4]. They just want to keep making money by securitizing and structuring loans and selling them. As standards for loan reviews have been lowered, some mortgage brokers have begun offering prime rate, uncertified mortgages. Even some so-called "three nots" (no income, no job, no asset, NINJA) can get loans. The world's three major rating agencies, including S&P, MCO and Fitch. Credit rating agencies receive fees to rate CDOs, various tranche of CMS. Data that did not account for changes in asset attributes at the time was utilized to base the assumptions employed in this rating procedure on historically low mortgage default and loss rates. Examples include the rise of NINJA loans, liar's loans, and subprime mortgages with 100% loan-to-value. The data collected from issuers and arrangers is also used by the rating agencies to package mortgages and do due diligence. The rating agencies themselves did not conduct any more due diligence or data monitoring, despite common information that lending standards were lowering and fraud was rising. The CDS volume grew so large that almost no one noticed anything was wrong.

3. Consequences

Serious repercussions followed the start of the financial crisis in the US. Banks, insurance companies and well-known financial institutions went bankrupt one after another, the financial market collapsed, and the unemployment rate soared. The following are several cases of financial institutions. Hedge fund Carlyle Capital lost so much money in March 2008 as spreads expanded that it was unable to pay margin calls, and its collateral was taken. Because Bear Stearns was one of Carlyle's creditors, there was talk that Bear Stearns was also in trouble. The Federal Reserve Bank of New York introduced the TSLF in that month. Allow investment banks to trade Treasury bonds for up to 28 days for agency and other bonds related to collateral. What was supposed to be a government

bailout was misinterpreted as the Fed knowing that investment bank Bear Stearns was in trouble and was helping it, further fueling market rumors.

Then, frightened markets misunderstood Goldman's contracts with Bear Stearns once more, which caused a large number of hedge fund customers and other counterparties to leave from Bear Stearns and caused a significant decline in liquidity. Bear Stearns' demise would have killed the markets because it had 150 million transactions with multiple counterparties. In the end, the \$236 million purchase of Bear Stearns by JPMorgan was mediated by the Federal Reserve Bank of New York. The bulk of mortgages in the United States are securitized by two publicly traded government-chartered organizations, Fannie Mae and Freddie Mac. By mid-June 2008, gaps between Treasury bills and agency bonds issued by Freddie Mac and Fannie Mae had once more increased, with outstanding bonds issued by the two companies exceeding \$1.5 trillion, and problems at Freddie and Fannie Mae were in full bloom. In September of that year, the government had to take over Freddie MAC and Fannie Mae.

Lehman Brothers had been decimated by the Bear Stearns affair described earlier. Then, it made heavy use of the major dealer credit facility provided by the Fed and did not raise enough equity to strengthen its balance sheet. Lehman's share price fell as a result of the state-controlled Korea Development Bank's decision not to purchase shares as it continued to decline. Given that Lehman, its clients, and counterparties had plenty of time to deal with the liquidity shortage, the Treasury and the Fed decided against using government funds to issue guarantees. Lehman Brothers eventually had to declare bankruptcy.

4. Responses

During the financial crisis, the government took a series of emergency measures, including the issuance of TAF, whereby banks might get 28-day loans with various sorts of collateral in an anonymous manner [5]. This measure has achieved some effect, but still cannot reverse the trend of the financial crisis. The launch of the primary dealer credit facility allows the Fed to provide funds to primary dealers through the repo market. The stimulus bill of February 2008. In September 2008, the government seized control of Freddie Mac and Fannie Mae. October 2008 saw the start of the distressed asset relief program.

The Federal Reserve and other central banks all over the world have adopted cutting-edge liquidity injection technologies in response to the crisis's escalating severity, including: lowering interest rates, establishing long-term lending facilities for high-quality collateral, easing the types of collateral that banks can provide, extending the maturity of loans, opening the discount window to investment banks and securities firms to borrow through the central bank discount window, Inject capital directly into the market, provide funds to guarantee high-quality illiquid asset-backed securities, fund purchases of unsecured commercial paper and commercial paper, and provide liquidity to money market funds.

After the financial crisis, the unemployment rate remained high in the United States. At the same time, the public and people from all walks of life expressed discontent with the United States government's activities to save financial institutions that were about to go bankrupt. A strong push for financial reform was made, and the ambition of financial institutions and also the absence of financial control were generally held responsible. Many reforms followed, including the Dodd-Frank Act to strengthen bank and consumer protections. When the American financial crisis first surfaced, it spread fast throughout the world, which disrupted the pace of implementation of Basel II in various countries, and caused the theoretical circle to question and reflect on the effectiveness of financial supervision. Since then, regulators have begun to focus on the shortcomings of Basel II, and calls for more effective new regulations have grown louder. In September 2010, Basel Committee adopted Basel III. The new agreement followed the "three pillars" framework, optimized and improved the original regulatory requirements, and added the necessary regulatory content.

4.1 The U.S. Government

The US government started a significant financial regulatory reform to avoid another subprime crisis. In July 2010, Act or Dodd-Frank, President Obama signed the Dodd-Frank Wall Street Reform and Consumer Protection Act [6]. Maintaining the stability of the American financial system, which is essential to the growth of the global financial system, is the goal of this 16-part, over 800-page measure [7].

The Dodd-Frank Act's three main components are: (1) increasing the power of regulators; (2) resolving the "too big to fail" conundrum facing financial institutions; (3) enabling the dissolution of troubled institutions that are deemed to be "too big to fail"; and (4) preventing the use of taxpayer money to prop up the market. Second, establish a brand-new Consumer Financial Protection Bureau that has more authority than a regulatory organization and can fully safeguard consumers; third, enact the Volcker Rule, which limits large financial institutions' speculative trading and, in particular, enhances the oversight of financial derivatives to reduce financial risks.

The Financial Stability Regulatory Council is established as the first line of defense against systemic risks. The Council also performs qualitative and quantitative research on systemic risks and offers timely monitoring, warning, and policy recommendation in order to make systemic risks identifiable and adaptive. The Act is intended to close regulatory loopholes in US financial regulation. Establish a procedure for handling institutions that are critical to the functioning of the system and are on the verge of failing, with the Federal Deposit Insurance Corp. serving as a second line of protection against systemic risk. The Dodd-Frank Act will effectively lower systemic risks, the likelihood and severity of a financial crisis, and the crisis's effects on financial markets, the macroeconomy, and social welfare if it is strictly enforced. However, it might have a detrimental effect on the US financial sector and the nation's economic recovery in the short run.

4.2 Basel III

After the outbreak of the subprime crisis, Basel Committee on Banking Supervision realized that there were still major institutional loopholes in the international financial system and financial supervision under the Basel II system. The Basel Committee and pertinent organizations fundamentally upgraded and reformed the global financial regulatory system to close the gaps and improve the general stability of the banking sector [8]. The third edition of Basel was released by the Basel Committee on Banking Supervision on December 16, 2010. The subsequent consensus on the assessment methods and additional capital requirements for G-SIFIs marked the establishment of a new framework for international financial regulatory reform. The Basel III international banking regulatory reform builds on the original agreement's "risk-based" regulatory idea and expands on it by providing a regulatory framework that combines "micro-prudential" and "macro-prudential" measures with a larger risk perspective. The key Basel III requirements and standards are gradually adopted as regulatory authority laws and regulations, giving Basel III a surprisingly robust regulatory impact. The three pillars of the Basel Agreement system are minimum capital requirements, oversight and inspection of regulatory bodies, and market restraints. Basel III introduced the three pillar systems, which have been in use ever since [9].

Basel III, in contrast to Basel I and Basel II, places more emphasis on developing useful regulatory concepts and tools from a macro-prudential standpoint while also significantly improving micro-prudential regulation [10]. This is due to the financial crisis's profound lesson that no single financial institution's soundness or health can be used to guarantee the soundness or health of the entire financial system. It has also been demonstrated that a financial bubble that is completely disconnected from the needs of the financial sector will undoubtedly burst and have a negative effect on both the financial system and the actual economy. As a result, financial regulation has to focus more on the connection between the banking markets and the actual economy as well as the prevention and mitigation of systemic risks at the macro level.

5. Conclusion

Due to global issues like the COVID-19 epidemic and the Russia-Ukraine war, the financial crisis is now having a greater impact on society. Improper monetary policy in the United States since 2001 and improper practices by Bank of America and other financial institutions created a housing bubble and low interest rate environment that led to the great crisis of 2008 and further serious problems. The increase of a large number of subprime loans is the main embodiment of the whole financial crisis. When the price index around the world fell sharply or lowered the rating of all kinds of subprime loans, the market changed greatly, and investors and investors all fell into panic. A series of endless loans that may not be recovered brought a devastating blow to banks and other financial institutions. After crisis broke out, the United States took a lot of actions. The government intervened to take over a lot of real estate in the United States and issued many different policies to save it. It is undeniable that since the financial crisis, even after reversing the bankruptcy of banks, insurance companies and well-known financial institutions, the American financial industry has been rescued, but the unemployment rate in the United States remains high.

2010 saw the implementation of Basel III, a fundamental reform of international financial institutions, by the Basel Committee on Banking Supervision, which filled the loopholes of the original system. Under micro-supervision, it further emphasized the importance of capital adequacy ratio and maintained the overall stability of the banking industry. To prevent the recurrence of financial crisis is by no means unfounded, and in different international situations, the causes of different degrees of financial crisis are even unknown, control the risk of financial institution failure, learn from the experience of 2008, all walks of life to comply with the rules issued by domestic and international financial organizations is an important means to avoid financial crisis.

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