

The Macroeconomic Implications of Subprime Crisis

Minghao Du*

Alberta School of Business, University of Alberta, Edmonton, Canada

*Corresponding author: mdu5@ualberta.ca

Abstract. Finance is partly international since financial assets have such high liquidity. Many factors, including national financial institutions, financial markets, financial products, and others, contributed to the financial crisis. People's expectations for the future of the economy are pessimistic, the currency of the region has produced a sizeable budget, the scale and aggregate of the economy have been significantly reduced, domestic economic growth has been severely harmed, and many businesses have closed, driving up the unemployment rate. Moreover, there is some social unrest and political unrest along with a general decline in the social economy. On August 9, 2007, the global financial crisis, also known as the credit crisis and lasting from 2007 to 2009, began. After the early subprime home credit crisis arose, investors began to lose trust in the value of mortgage instruments, which caused a liquidity crisis. Despite continuously pumping large amounts of money into the financial system, the central banks of multiple different countries were unable to halt the financial crisis from beginning. The financial crisis had been under control up until September 9, 2008, but it had begun to spin out of control, leading to the failure of numerous significant financial institutions or government takeover.

Keywords: Subprime mortgages; securitization; systemic risk.

1. Introduction

Lehman Brothers collapsed as a result of the 2008 financial crisis, commonly known as the U.S. subprime crisis, which also saw a 50% decline in global stock values [1]. While issues with home mortgage derivatives played a role in the financial crisis of 2008, the imbalance in the country's financial order and development as well as issues with the economy's foundations were the real culprits. The financial crisis in the United States has a number of root causes, including an imbalance between financial order, financial development, financial innovation, and the lack of financial regulation. In the process of financial development, a nation should have commensurate financial order and balance. During the Great Depression in 1933, the United States passed the Glass-Steagall Act, which established stringent control and regulation of distinct sectors. The US financial sector has experienced unparalleled growth over the last almost 60 years, yet with that quick growth has come a comparable rise in market instability. The Financial Services Modernization Act, approved by the U.S. Congress in 1999, encouraged financial liberalization, loosened financial regulation, and abolished the division of banking, securities, and insurance. In addition, the issues with the financial ecosphere also aided in the growth of the financial crisis. Financial ecology essentially captures the organic value exchange between internal and external components of finance. The US financial crisis is not only an issue with financial regulation. The subprime crisis has highlighted several significant aspects of the issues with financial ecology, including the decline in social credit, a lack of regulation, market anarchy, information asymmetry, and moral hazard.

In the United States, the financial regulatory environment has been continuously problematic since 1999 due to the deregulation of the banking industry. The subprime crisis was caused by the financial derivatives' value chain fragmentation, which dragged on for an increasing amount of time until eventually breaking in the link of real estate mortgage loans. The chase by Wall Street of residential mortgage-backed securities (MBS) and collateralized debt obligations (CDOs) increased equity ratios. While financial risks keep piling up, the leverage ratios of different investment banks have become steadily larger. The U.S. economy's underlying principles have failed, which is another factor contributing to the current financial crisis. The original supply and demand curve of the globe broke, prices increased, and the world economic pattern experienced significant alteration from the end of

the 20th century to the beginning of current one. In an effort to limit aggregate demand, the United States took unilateral action, which increased the initial supply gap, maintained price increases, turned the employment situation around, and decreased people's income and purchasing power. The American economy and domestic consumption have grown faster than the country's ability to support them during the past few decades. With the dollar's role as a reserve currency and the value-transmission mechanism of the capital market, the United States has dispersed its massive historical debt to the rest of the globe. The United States is conscious that growth cannot support the load due to the virtualization of the real economy and the bubble in the virtual economy, on the one hand. As a result, there was a greater reliance on the US economy, which decreased confidence in both the currency and the US economy overall.

The United States government implemented a number of regulations and policies restricting import and export before the subprime crisis, which is a significant factor contributing to the worsening of the economic climate. Import and export restrictions on technical goods as well as various trade barriers to developing nations directly increased the cost of goods in the United States, reduced employment opportunities, and stifled domestic economic innovation—all of which contributed to the start of the financial crisis. When the financial crisis breaks out, the stock market will fall to a certain extent and enter a bear market, which may cause market users to sell their stocks for hedging operations and increase the purchase of some relatively stable investment products, such as bond funds and currency funds. With the increase in the purchase amount, the price of these products will rise. At the same time, the price of bond funds is also affected by the market interest rate, which is inversely proportional to the market interest rate. That is, when the market interest rate rises, the net value of bond funds declines, while the net value of bond funds rises when the market interest rate decreases. Therefore, when the financial crisis causes the deterioration of interest rate, namely, the decline of market interest rate, it may cause the rise of bond funds. Therefore, users in a financial crisis can consider the appropriate allocation of some bond funds.

2. Causes

2.1 The Fed's Monetary Policy

During the new technological revolution of the 1990s, the US debt-to-GDP ratio increased only slightly because the US economy was growing well, and a lot of debt financing was used to invest in the real economy. But then, in 2001, the United States experienced the terrorist attacks of September 11, 2001, the dot-com bubble, and monetary tightening shocks, and the economy began to decline. The Federal Reserve reduced interest rates from 6.5% to 1% in an emergency to prevent a recession [2]. Although America quickly recovered from the recession, it also planted the seeds for a later bubble. In the US, the bubble rose most quickly between 2004 and 2006. But, at the time, economic indications were positive, so the Fed did not recognize the issue. During that time, the U.S. economy was expanding at a rate of 4% to 5%, inflation was 2.2 to 5%, and unemployment was 4% to 5%, which was below its long-term average. At that time, the dominant economic theory held that the economy was doing well rather than worryingly. This caused the Fed to disregard the US debt's explosive increase.

Later, due to the deep debt crisis in the United States, a large number of the real economy could not get loans and faced a serious crisis. The Federal Reserve began to release liquidity and expanded the loan objects. Not only depository institutions could get loans from the Federal Reserve, but also their rivals could get loans. The United States was about to face a Great depression. In 2008, the United States entered a depression. At the beginning of 2008, the economy and the market cracked, the manufacturing industry and the financial industry both appeared large-scale losses, and Citigroup and Merrill Lynch issued a loss announcement. Ambac Financial Group and American Bond Insurers were downgraded. On January 22nd the Fed made an emergency rate cut of three-quarters of a percentage point (0.75%), and a week later it cut rates by another half-point, while the Senate also

approved a \$160bn stimulus package. Then came the stock market rally, which fell again in late February, as credit and economic conditions continued to deteriorate.

2.2 Subprime Mortgage

The subprime crisis is brought on by the fact that American financial institutions lend large sums of money to borrowers with poor credit and insufficient ability to repay the loan, which ultimately results in the failure of the financial institutions to recover the loan as agreed, resulting in insufficient cash liquidity of the US dollar, which brings about the financial storm brought on by the bankruptcy of financial institutions, the forced closure of investment funds, and erratic stock market fluctuations. A worldwide subprime crisis resulted as a result of the US dollar's strength as a reserve currency.

In the United States, people with unstable or non-existent income who buy a house because their credit rating is not up to standard are defined as subprime borrowers. Due to the country's low interest rates and ongoing housing bubble, the subprime mortgage sector in the US has expanded quickly. However, as the US housing market began to cool, particularly with the rise in short-term interest rates, the repayment interest rate for subprime loans also rose sharply, and the burden of loan repayment on home buyers increased. As a result, many subprime borrowers were unable to make loan repayments on time, and the bank seized the homes but was unable to sell them for a profit, which led to significant losses and the start of the subprime crisis.

In the U.S. subprime crisis in 2008, the U.S. placed too much emphasis on the policy demands of CDS on the real estate sector, which was mainly used in the securitization of residential mortgage loans of Fannie and Freddie. However, the real estate sector itself was highly cyclical, which could easily cause systemic financial risks. For this reason, the large-scale use of financial derivatives such as CDS [3, 4]. Instead of effectively avoiding financial risks, they spread financial risks to a wide range, which is counterproductive.

2.3 Credit Default Swaps

CDS is a type of financial derivative instrument that has been around since the mid-1990s [5]. They are used to transfer credit risk from one party to another, typically from a creditor to a third party who is willing to take on that risk. CDS contracts can be structured in a variety of ways, but the basic idea is that the buyer of the CDS pays a premium to the seller, who agrees to make a payment in the event of a default. CDSs are often used by investors who are looking to hedge their credit exposure or take on speculative positions in the credit markets. Additionally, the securities created through securitization were often highly complex and difficult to value, which made it difficult for investors to understand the risks involved. When the housing market began to collapse in 2007, many of these securities became virtually worthless, leading to massive losses for investors and financial institutions.

However, the use of CDS has come under scrutiny in recent years, particularly in the aftermath of the 2008 financial crisis. Critics argue that CDS can contribute to systemic risk in the financial system, as they are often used to create highly leveraged positions that can magnify the impact of defaults. Additionally, because CDS are traded over the counter (OTC) rather than on public exchanges, there is often limited transparency around their pricing and usage. CDS have been blamed for contributing significantly to the 2008 financial crisis. While CDS can be a valuable tool for managing credit risk, they are also a complex and potentially risky financial instrument. It is important for investors and regulators alike to carefully consider the potential risks and benefits of using CDS, and to take steps to mitigate any potential negative impacts on the financial system.

3. Consequences

Banks made large loans to bankrupt individuals and businesses, but the loans had no positive impact on revenue growth [6]. Loan volume cannot increase indefinitely while deposit rates cannot continue to drop. There will be a cash flow issue after the loan expires. At this point, new loans are

getting riskier and originating from sources other than regulation more frequently. Such "shadow banking" lending frequently plays a major role in bubbles. Financial organizations frequently develop new avenues for lending to these persons. These borrowers may now obtain loans more easily because to laxer regulation. Every crisis is followed by "financial innovation," which eventually contributes to the crisis's initial cause.

Not just low interest rates, but also cheaper financing, laxer regulation, and riskier financial innovation must be the main causes of bubbles. Also, early bubbles are tolerated by regulators because they prioritize economic and inflationary expansion rather than debt growth. They are more susceptible to the down cycle due to the mismatch between their assets and obligations. These inconsistencies mostly manifest themselves in two ways: first, as short- and long-term loans. Third, the carry trade between exchange rates; second, to lend to those prepared to pay a higher interest rate but also a higher risk; and finally, if lenders stop lending to these borrowers, the debt may exceed its limit.

The collapse of Lehman Brothers had a disastrous impact on short-term lending in the money markets. Lehman issued commercial paper, a kind of short-term debt, and as a result took on huge debt [5, 6]. One of the greatest buyers of commercial paper is money-market mutual funds, which deal in short-term, highly liquid debt. Government money-market funds that have a sizable stake in Lehman Brothers' triple-A When Lehman Brothers collapsed, an A-rated paper suffered losses so severe that its stock price fell below \$1 per share [7]. The short-term financial markets were ultimately brought to an end when investors fled money-market funds throughout the country, fear extended to other funds with identical exposures, and a rush of cash from riskier commercial paper to safer, more liquid Treasury notes. Due to the frozen credit markets, the notion that the financial crisis can be isolated to Wall Street is untrue. Large companies that have historically relied on the market for commercial paper, like banks, are finding it difficult to raise short-term funding. Many small businesses that depend on bank loans are unable to access normal working capital because banks are unwilling or unable to extend credit to consumers. The economy is in its worst condition in decades, firms are struggling to make ends meet, and the unemployment rate has risen.

4. Changes

4.1 Dodd-Frank Act

The American economy and financial sector were severely impacted by the subprime mortgage crisis, and the unemployment rate remained high [7]. The public and people from all walks of life were outraged by the US government's measures to preserve financial companies that were close to bankruptcy at the same time. A significant push for financial reform was made, and the greed of financial institutions and the absence of financial control were generally held responsible. Obama announced the "financial regulation reform agenda" in June 2009. After more than a year of bipartisan deliberation and compromise, the House of Representatives and the Senate passed the reform package in December 2009 and May 2010, respectively, even though the two houses adopted different texts [6, 7]. The House and Senate did not approve the final texts until June and July 2010, respectively. They were named after Barney Frank, chairman of the House financial services committee, and Chris Dodd, chairman of the Senate banking committee. The objectives of the law are to effectively manage systemic risk, safeguard financial stability, protect taxpayer and consumer interests, and prevent the recurrence of financial disasters.

The Dodd-Frank Act closed the regulatory gaps in American financial regulation, dismantled the idea that regulators should react passively to systemic risks and financial crises, and established the Financial Stability Regulatory Council as the first line of defense against systemic risks. The council conducts qualitative and quantitative research on systemic risks and offers timely monitoring, warning, and policy recommendations. Create a method to deal with systemically significant institutions that are on the verge of failing, with the Federal Deposit Insurance Corporation serving as a second line of defense against systemic risk, in order to make systemic risks recognizable and

controllable. The Dodd-Frank Act will effectively lower systemic risks, the likelihood and severity of the financial crisis, and the crisis's effects on financial markets, the macroeconomy, and social welfare if it is properly enforced. Yet, it may also have a detrimental effect on the US financial sector and economic recovery in the short run.

The supervision of financial institutions is expanded to include the domestic branches of international financial institutions from the perspective of the revision of the legislative framework for financial supervision in the United States following the onset of the financial crisis [8]. This implies that under the influence of The Times, US financial institution regulation has steadily shifted from domestic regulatory law to international regulatory law. At the same time, it is important to examine domestic legislation for similar legal standards governing cross-border financial regulation. International law papers often reflect the standards of international law first, with local laws frequently serving as the means through which these standards are put into practice. Yet, the Dodd-Frank Act, which represents a reform of the financial regulatory legal system in the United States, demonstrates the notion that domestic laws take the initiative to include legal concerns related to cross-border financial regulation in the normative framework.

4.2 Basel III

One of the key elements of the post-crisis financial reform agenda is the Basel III framework. The Basel Committee on Banking Supervision (BCBS) was responsible for creating the agreement [9]. It is intended to address the worldwide banking system's capital deficiency, unsustainable loan supply, and illiquidity as a result of capital impairments revealed during the 2007–2009 financial crisis. A tightening of Risk-weighted Capital Requirements is crucial to the deal (RWR). In compared to rules in place before to the financial crisis, higher requirements are advised for the risk-weighted capital numerator (i.e., the definition and quality of bank capital), the denominator (i.e., risk-weighted assets RWA), and the ratio itself: The minimum Tier 1 capital adequacy ratio was increased to 6%, plus a 2.5% capital protection buffer of equal quality (the numerator is Tier 1 capital in the wide sense). 4.5% of the RWA floor makes up Core Tier 1 Capital (CET1), which is composed of common stock (in terms of core tier 1 capital as a percentage of risk-weighted assets).

The Basel III decisions are only regarded as a reaction to the financial crisis of 2008. Yet the financial sector already had flaws before Lehman Brothers went bankrupt in September 2008. The banking industry is experiencing liquidity issues. Simply put, this is an instance of inadequate governance and a deficient incentive system [10]. The housing market's demise was simply brought on by underlying inefficiencies. Although the Basel resolutions are changing, the financial sector won't become stable unless the rules are followed. The Basel Committee unveiled a new accord on the general capital design and liquidity reform in September 2010. The deal is referred to as Basel III. Basel III underwent additional revisions in December 2010. The following are Basel III's characteristics. Basel III first makes modifications to the system in charge of tracking liquidity risk. It also promotes strengthening the banking system's resilience. It emphasizes the number and quality of common stock in its third section. Fourth, it established a 2.5% cushion and increased the common equity minimum from 2% to 4.5%. The proportion of a bank's risk-weighted assets is the common index in this case. The deal also adds a leverage ratio, which can add one more month of pressure (30 days).

5. Conclusion

The subprime housing credit crisis in the United States was the direct cause of the financial crisis in 2008. At initially, only businesses directly engaged in house building and the subprime credit industry were impacted. The issue then started to effect regular credit, which had nothing to do with real estate, and then it started to affect big financial institutions, which had nothing to do with mortgage loans directly. The fourth-largest investment bank in the United States, Lehman Brothers, had a severe financial crisis in the middle of September 2008 and filed for bankruptcy. Bank of

America purchased Merrill Lynch. Three of the top five Wall Street investment banks went down. In reality, the US banks' massive trading of CDS and derivatives on real estate bonds was what caused the 2008 financial crisis. Derivatives are options, and CDS options have leverage up to 1,000 times larger than the value of bank assets. The emergence of the financial crisis in 2008 also served as a warning for the financial industry's development, urging it to do well in risk prevention while expanding quickly, pay close attention to the industry's growth trend, and adjust its development strategy accordingly in a timely manner in response to the actual state of the financial development.

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