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# *Global Financial Crisis: Causes and Reactions*

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***Abstract:*** This paper examines the reasons behind the financial crisis of 2008, its effects, and the subsequent developments. At that time, the federal government's monetary policy promoted subprime loans, and credit default swaps were derived based on subprime loans. This series of reasons led to a huge bubble in the real estate market and directly caused the subprime mortgage crisis. Companies are closing one after another, unemployment and inflation are rising, and people's lives are getting more complex. To survive this crisis, the government passed pertinent legislation to support economic growth, and banking regulators corrected these laws to stop a repeat of the subprime mortgage crisis. Nowadays, the outbreak of the COVID-19 epidemic and the conflict in Ukraine have brought the world economy into trouble again. As a result, the 2008 financial crisis study is crucial to understanding modern society because it can be used to prevent future financial crises and effectively address economic problems.

***Keywords:*** subprime crisis, monetary policy, Basel III

## 1. Introduction

In recent years, the outbreak of the new crown epidemic and the volatile international situation are affecting the development of the world economy. On this occasion, for their research on banking and financial crises, Ben S. Bernanke, Doug-las W. Diamond, and Philip H. Dybvig received the 2022 Nobel Prize in Economic Sciences. Their research on regulating the financial market and dealing with the financial crisis is still of great practical significance to the present. Diamond and Dybvig propose a solution to the conflict between savings that must be invested and savers wanting to withdraw money immediately in case of unexpected expenses. And when affected by rumors, a bank run may occur and face bankruptcy, which requires the government to take some measures to prevent it. Ben Bernanke shows that once the bank fails, it will seriously damage the link between savings and investment [1].

The above three scholars' research on the Great Depression in 1930 is still of great significance today. Nowadays, COVID-19 is sweeping the world, leading to a surge in unemployment, hardship in housing, medical care, and food, which severely hits the economic development of countries around the world. The Ukraine conflict will seriously affect industries such as transportation and chemicals and will exacerbate global inflationary pressures. In addition, it would result in a rise in poverty in Ukraine and pose a serious threat to the economies of Russia and Europe. Under this social background, it is of great significance to deeply study the financial crisis. This can quickly and effectively identify and solve economic problems, thereby relieving global financial pressure. In this report, the highly influential 2008 financial crisis will be selected as the research object.

The 2008 financial crisis did not happen overnight. Around July 2007, financial markets around the world urgently needed to liquidate years of defaulted cheap credit. Few people anticipated a global financial catastrophe that would cause many individuals to lose their jobs, assets, or homes in the United States during the Great Recession [2]. As 2007 rolled around, subprime lenders went bust after bankrupt. In the months of February and March, over 25 subprime lenders filed for bankruptcy. Kaiyuan Financial declared bankruptcy in April and fired employees. Bear Stearns refused to redeem shares in two of its hedge funds in June, causing Merrill Lynch to lose $800 million in assets. The financial market has been unable to solve the subprime mortgage crisis in August 2007. Bear Stearns collapsed in March 2008. Then in September, Lehman Brothers collapsed. Regarding government bailouts for Goldman Sachs, Morgan Stanley, and other companies, they were able to survive this catastrophe [2]. The global economy has been significantly impacted by the financial crisis. U.S. experienced its longest and severe recession since World War II with a 4.3% decline in GDP. Unemployment rose from below 5% to 10%. From the end of 2007 to September 2008, the federal funds rate was reduced by 2.5 percent by the FOMC, and in late 2008, it was within the desired range of 0 to 25 basis points. Additionally, the Federal Reserve started the first of several significant asset purchase programs in November 2008 by buying longer-term Treasury securities and mortgage-backed securities, so boosting the economy [3].

## 2. Causes

Several factors caused the 2008 financial crisis: (1) From the tech bubble in 2001 until 2005, the US pursued expansionary monetary policy and kept nominal policy rates very low to avoid deflation and a savings glut; (2) The rapid growth of various mortgage debt instruments. But because of the market size, many lenders need help to check credit quality, making the system much less creditworthy than it used to be; (3) Many CDS exacerbated the crisis. As housing prices fell, the probability of default rose sharply, and many CDS could not be repaid. All these factors contributed to the occurrence of the subprime mortgage crisis.

The 2008 financial crisis was closely related to the monetary policy of the US Federal Reserve. To promote economic development, the US government deregulated the loan market. Low-interest credit and lax lending standards were adopted to drive up house prices. However, this eventually led to a bubble in the real estate market. The government tried to increase home ownership in the early 1990s notwithstanding the rules that had previously controlled the US mortgage industry. Fannie Mae and Freddie Mac are the types of GSEs that are implicated in the mortgage crisis. The government made an effort to increase home ownership in the early 1990s notwithstanding the rules that had previously controlled the US mortgage industry. They must purchase mortgages for purchasers who are in financial hardship to comply with the "Affordable Housing" standards set forth by the Department of Housing and Urban Development (HUD). This quota was gradually increased from 30% of all purchases in the early 1990s until 2007, when 25% of them must go to low-income families. In 1999, The Gramm-Leach-Bliley Act, which was passed by the government, permitted banks to function like hedge funds [4]. A higher scale of the underlying mortgage market is required since banks and hedge funds profit greatly from the sale of mortgage-backed securities. This has led to lower and lower standards for borrowers from mortgage lenders [5]. As a result, subprime loans became popular at the time.

The aforementioned subprime mortgage loans are given to applicants with lower credit scores, where "subprime" denotes the possibility of personal credit risk. With borrowers at higher-than-average risk of default, lenders must offer better-quality conventional mortgages.

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Lenders charge substantially higher interest rates for riskier subprime mortgages than prime mortgages. This kind of loan is generally an adjustable rate, so the interest rate may change at a certain point. However, high high-interest rates can cause the amount that needs to be repaid to increase dramatically over time, thus making it difficult for borrowers in financial distress to repay their loans [5]. The collapse of the subprime mortgage system was to blame for the outbreak of the Great Recession in 2008. As lower interest rates and higher liquidity characterize subprime mortgages, many lenders issued many of these loans from 2004 to 2006. They also finance mortgages by selling repackaged pooled mortgages. As a result, there have been significantly more people who can afford a mortgage, exacerbating the housing shortage, driving up housing prices, and increasing the financing that would-be buyers need to finance. So, when many people missed their mortgage payments and home foreclosures skyrocketed, lenders lost all the money they had provided.

In the subprime mortgage crisis, credit default swaps directly led to trouble for some companies, and at the same time, a small group of people made huge profits through short selling. Credit default swap (CDS), as a financial derivative, is one of the financial derivative instruments of credit and insurance. CDS allow investors to exchange or offset their credit risk. Lenders trade credit risk by buying CDS from investors who agree to pay back borrowers if they default. When lenders are concerned about borrowers defaulting on their loans, they trade CDS for that risk. Ongoing premium payments maintain most of these CDS contracts. Due to the generally long maturity period of debt securities, it is difficult for investors to assess the investment risk. In contrast, before the contract's expiration date, the CDS buyer pays the CDS seller. The buyer will receive payment from the CDS seller equal to the security's value plus all interest that has accumulated between the time of the credit event and the contract's maturity date. Therefore, CDS was a popular risk management method at that time [6]. According to the latest data from the Bank for International Settlements (BIS), the notional value of a single credit default swap exceeded $20 trillion in the first half of 2007. In 2007 and 2008, when the subprime mortgage crisis started, the overall number of CDS contracts hit a historical high, but their size immediately began to fall. The CDS market was unregulated prior to 2008. AIG, Bear Sterns, and Lehman Brothers issued large amounts of CDS to investors when house prices continued to climb. Yet when housing prices plummeted, large corporations could not pay all their debts.

## 3. Consequences

The 2008 financial crisis severely affected the world economy. Many problems in the social, health, and political systems arose from the crisis in developed countries. The crisis led to the collapse of more than 100 leading financial institutions in the United States, a sharp rise in unemployment, low wages, and inflation. It also led to a deepening of racial discrimination. It sparked hatred against immigrants, and the increase in social disparities led to unrest in society's lower- and middle-income segments. Since the elites in developed countries did not take timely measures to alleviate the situation, many of the masses at that time did not approve of the existing political system and openly opposed concepts like open markets and free trade in both the US presidential election and the British referendum. In response, leaders and people began to prioritize their interests, which could trigger trade wars and change the political and economic policies of the major powers.

Following the global financial crisis of 2008, the macroeconomic performance of some EU nations decreased, borrowing rates increased, and public debt increased. Early in 2010, when Greece became the first EU nation to accept a joint bailout package from the IMF, the EU, and the European Central Bank, the situation deteriorated further. Ireland, Portugal, and Cyprus followed suit a short while later [7]. The macroeconomic effects of the crisis on the G-7 economies are shown in Table 1. The G-7 was established in 1975 and included Britain, Japan, the United States and other four countries. GDP fell by 4.4%, manufacturing output and exports fell, causing unemployment to rise by 9.2%, and the stock market fell by almost 50%, reducing the value of investors' assets.

Table 1: Changes in different sectors in the G-7 economies from 2008 to 2009 [8].

| Sectors of Economy | Percent |
|---|---|
| GDP | -4.4% |
| Manufacturing | -20.2% |
| Exports | -16.8% |
| Stock Market | -44.9% |
| Unemployment Rate | 9.2% |
| Inflation Rate | 1.0% |

At the micro level, the financial crisis has led to a decline in the net worth of U.S. households and a shakeup of the middle class. Most Americans put their savings into stocks or real estate before 2008. A U.S. Federal Reserve survey shows that from 2007 to 2010, net wealth for the ordinary American fell from $126,300 to $77,400. because of the ongoing decline in home prices. Overall, the net worth of U.S. households declined by about 40% between 2007 and 2010. Between 2007 and 2010, American households' net worth decreased nationwide by about 40%. Additionally, the average income of Americans fell, with a $3,000 decrease in the typical worker's wage in 2010. The decline in revenue and net worth is causing great discontent among the public in the U.S. and Europe. People are demonstrating and clamoring for capitalism to be replaced with a system of economics that guarantees an equitable income distribution. It was believed that the average American did not benefit from the U.S. economy and that it only served the interests of the wealthy. These nonviolent campaigns brought the nation's dire economic situation to the public's attention [7]. Parmar et al. (2016) discovered that the economic crisis was accompanied by deteriorating mental health and a sharp rise in suicide rates, with a 35% increase in the overall suicide rate from 2010 to 2012 [9].

## 4. Changes

The U.S. government has taken several actions to lessen the likelihood of a repeat of the subprime mortgage crisis after learning from the mistakes made during the subprime crisis.

A significant turning point was reached with the passing of the Dodd-Frank Wall Street Reform and Consumer Protection Act (DFA). The financial system sector is the focus of this piece of legislation, which was approved in 2010 while Obama was president. According to DFA, the Orderly Liquidation Authority and the Financial Stability Oversight Council oversee the reliability of financial institutions, the Consumer Financial Protection Bureau (CFPB) helps lenders understand mortgage terms before they sign them, the Volcker Rule regulates how banks invest, and the SEC Office of Credit Ratings ensures that credit rating agencies provide accurate credit ratings [10]. To promote and reestablish market conduct within banks was one of the DFA's key goals. According to Balasubramnian et al., the too-big-to-fail (TBTF) penalty declined from 2.4407% to 0.0618% with in post-DFA time, showing that TBTF banks' market discipline had enhanced because of the DFA. However, the TBTF discount has not been eliminated, and there is still room for market discipline to improve [11].

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However, the study by Dimitrov et al. did not find proof that Dodd-Frank required credit rating companies (CRAs) to provide more reliable credit scores. All other things being equal, the likelihood of false warnings increased 1.84 times after Dodd-Frank was passed. Additionally, CRAs that adhere to Dodd-Frank's regulations give lower ratings, more false alerts, and less detailed downgrades [12]. In addition, opponents of Dodd-Frank argue that the Act's higher reserve requirements could lead to illiquidity in financial markets and that its regulatory requirements place undue burdens on small financial institutions, which could weaken the ability of U.S. firms to compete internationally [10].

Another far-reaching set of internationally recognized measures developed in response to the 2008 financial crisis was Basel III, an international regulatory agreement developed by a coalition of central banks from 28 countries and signed in 2009, which agreed on a set of rules to improve banking supervision, oversight, and risk management. By implementing several measures to strengthen risk management and increase industry transparency, it improves upon Basel I and II to improve the banking sector's capacity to respond to economic pressure. More specifically, Basel III seeks to strengthen some banks' resilience to avert another financial crisis.

Tier 1 capital and Tier 2 capital make up most of a bank's capital. A bank's tier 1 assets is also referred to as its liquidity, whereas a bank's tier 2 capital refers to its extra funds. Banks are required to maintain a minimum overall capital proportion exceeding 8% for the risk-weighted assets (RWA), a least Tier 1 capital level above 6%, as well as any extra revenue should be maintained in Tier 2, in accordance with Basel III. In addition, Basel III increases the proportion of equity required to be in a format of Tier 1 securities from 4% to 6% while eliminating the riskier Tier 3 capital tier from the calculation. Banks are required by Basel III to maintain contractionary bank reserves, that should be maintained at a range within 0% to 2.5% of an institution's RWA. Additionally, it added new leverage and liquidity requirements while maintaining sufficient liquidity for bank funding to prevent high-risk lending [13]. According to Slovik and Cournede (2011), the arrangement will reduce GDP over through the near term by 0.05 to 0.15 percentage points yearly. Banks are expected to raise credit margins by an estimate of roughly 15 basis points to comply well with 2015 funding costs of a 6% Tier 1 capital proportion and a 4.5% shareholder equity percentage. Banks anticipate raising the credit margins by about 50 basis points to fulfill the capital requirements starting in 2019 of a shareholder equity percentage of 7 percent as well as a Tier 1 capital proportion of 8.5 percent [14].

Regarding Basel III's contentious claim that there is a risk of limiting credit availability and lowering economic activity, Allen et al. claim that the agreement's long-term effects will be less severe than many anticipate and that the main issue is the challenge of ensuring that the financial industry adapts well to the new rules, rather than the higher capital and liquidity requirements themselves. As a result, banks must manage changes in business models, business strategies, and business practices [15].

## 5. Conclusion

This paper revolves around the 2008 financial crisis. At the time, the U.S. was trying to promote economic growth by steadily increasing housing prices, which resulted in a real estate bubble market. Subprime loans were made possible by lax lending standards and the widespread use of low-interest credit. Credit default swaps, which had a significant volume at the time, were developed based on subprime loans. Unregulated financial markets quickly collapsed, as did large and small financial institutions, and there was a sharp rise in unemployment, inflationary hardships, and suicide rates. The global political, economic, and health systems were all severely impacted. The U.S. government took a few steps to repair the economy and prevent a repeat of the subprime crisis. One of the most significant was the Dodd-Frank Act's implementation, that established several new financial institutions to regulate financial institutions on all fronts. Basel III, an agreement to enhance the framework for banking supervision and risk management, was approved by twenty-eight nations worldwide. The COVID-19 epidemic significantly harmed the global financial system, as well as the unrest in Ukraine increased inflationary pressure everywhere. Therefore, understanding financial crises is crucial to ensuring the sustainability of the global economy by avoiding future problems, avoiding policies that could harm the economy, and fixing issues as they arise.

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