The Subprime Crisis: Cause and Effect

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Abstract. This research explains and analyzes how the Subprime Crisis happened in 2008 and how the crisis impacted the market and policy in America. The causes are unfolded from three perspectives. First reason is that government adopt a low interest rating, aiming at increasing the house affordability. Second, excessively innovative financial products, such as MBS, and credit rating agencies lead to even more unlimited loans with poor quality. Third, the complex commercial chain behind mortgage products enlarged the range of the crisis's influence, which is triggered by government increasing the interest rate. The meltdown of subprime commercial chain brings a series damages: house market bubble burst, banks and businesses broken, rapidly decreasing employment rate, etc. To control the continuing damages from the collapse of mortgage market, the US government begins to intervene the market by promulgating laws, including Dodd-Frank legislation and Basel III to regulate and restrict businesses' and banks' behaviors.

Keywords: The Subprime Crisis, mortgage, MBS, house market bubble, Dodd-Frank legislation, Basel III.

1. Introduction

In 2008, the United States suffered from the most intensive collision in economics, which is known as the Global Financial Crisis, also called the Subprime mortgage crisis. As its name implied, the crisis directly resulted from the high credit default rate and the broken bubble in the US housing market. It was a great crash on the American Dream, bringing the most serious impact on the United States and even the whole world financial system since the 1920s: 9 million Americans became unemployed and 10 million lost their home [1]. Many banks and lending institutions were impoverished. Lots of houses were foreclosed, the crisis seems to start as a rolling snowball that leads to a chain of disasters to the US's economy. The impacts have been profound that even now even ten years after the subprime crisis, some people still failed to recover from it. Many scholars put the blame of the crisis on the government's deregulation, while others believe that the excessive financial innovation of the bankers on Wall Street is the chief culprit. They are partly true because a financial crisis is a very complicated thing and there is not just a single factor causing the crisis. The more important thing is that learning about the lessons will prevent people from making the same mistakes. This passage is going to explore the reason for the Subprime Crisis in 2008 and talk about the consequences and impacts on America.

2. Cause

2.1. Real Estate Bubble

The origin of the Subprime Crisis can be traced back to the government's policy of declining interest with the motivation of stimulating the economy, which led to the increasing price of houses and the real estate bubble. America's economy was experiencing a slowdown at the start of the 21st century. In 2000, the burst of the dot-com bubble led to too many inventories being oversupplied in the market, followed by a decline in GDP and an increase in the unemployment rate. In 2001, the market further deteriorated due to the 911 terrorists. In order to invigorate the market, the government kept decreasing the Federal Funds Rate, the so-called interest rate, so that people were more likely to borrow money from the bank, which encouraged people to spend money instead of saving them in the bank. In December 2003, the interest rate even reached a point of 0.98%, meaning that if a person

takes out a loan of $5,000 from the bank, he only needs to return the money with the interest of $49 [2]. Such a low interest had attracted many people to borrow money from the bank. At the same time, buying a house seemed to be affordable, and it was the best choice to invest the money in their hand. First, they are not flowing cash but fixed asset with a stable price. With more people investing in the real estate market, the value of a house was increasing for the increasing demand. People could sell their houses anytime or rent them out to others. The return on investment was high and would totally cover all the interest returned to the bank.

In a short term, this strategy of low interest stimulated the economy by having more cash flowing into the market. It temporarily helped America achieve the American Dream, letting houses affordable to many people. The homeownership rate reached 69.2% in 2004, and the annual average sales price of houses also increased by 50.8% from 2000 to 2006 and reached $322,100 in 2007 [3]. That was how the bubble formed in the real estate market. Too many people bought houses with their loans to earn money and took houses as an investment, which brought up the demand in the market and the rapidly rising price. People could just pay the down payment of the house and the bank would help them pay the rest first. They could just sit in their house waiting for its value to rise. However, the problem was that the money people earned from the housing market did not create equivalent social value, such as providing employment or developing the real economy. When it extended to an abnormal level, things would go another way. Especially the price of houses grew to a level that extended beyond people's actual financial ability, so people had to rely largely on the loan from the bank. Housing speculation could be a lucrative deal but leverage might exist the same amount of risk and bring about even more losses once the bubble broke.

2.2. Mortgage-backed Security

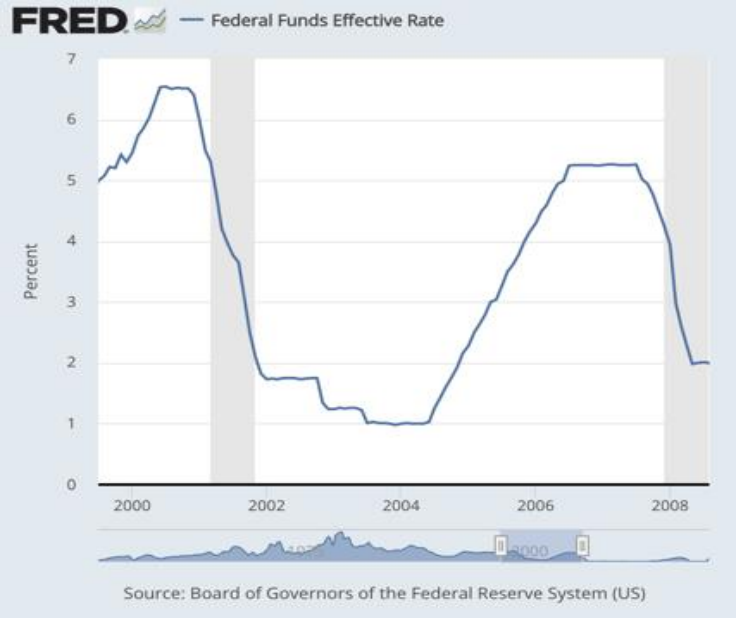
Another factor accounting for the subprime crisis is the over-innovation of financial products made of the subprime mortgage, which formed a chain that connected many businesses and people and enlarged the range of potential damages. One of the financial products is called Mortgage-Backed Security (MBS). The bank lent money to people and they would have an IOU in the bank. The bank had to wait for the return of principal payment and interest for a few years. As an increasing number of people took out loans from the bank due to the low interest and the high profit of investing in the housing market, the bank was running out of cash. Especially at the same time, many investors stopped investing their money in the bank because the interest decreased. The bank was an agent for both sides of the exchange. It must hold the liquid assets from the investors and have people lend money from them. But now, it only had mortgages instead of flowing cash. To solve this problem, the bank thought of an idea, that is, to pack a hundred home loans or IOUs into a new kind of bond, MBS, which could be sold to the investors, who would indirectly receive the principal payments and interests from those hundred home loaners. This process was known as Securitization, which connected the homebuyers and the investors. Another new connection branched from MBS is credit rating agencies. As its name suggests, credit rating agencies are companies that measure a person or a business's ability to repay debt based on historic records and income. The credit rating agencies rated AAA to the MBS made of loaners with competence to return the money. The lower level was AA, A, BBB, BB, B, CCC, and so on. As the level goes down, the proportion of subprime mortgages in MBS would increase, leading to higher interest and a higher risk of defaulting on loans. In essence, he innovation of the financial products and lower standard of credit rating triggered a higher house ownership rate in the US.

However, the potential problem was showing up as the expansion of demand for MBS. The success of MBS was essentially based on the fact that all the loaners should return the money on time, and the credit rating agencies evaluate the mortgage as it is. But the reality was the opposite. First, many loaners did not actually have the ability to pay the debt. With the increasing demand for making short-term money by buying and selling houses, the bank had to reduce the standard of who could borrow the money. In addition, credit scores could be manipulated. Sometimes people would lie about their income, or they could let their friends with better credit sign up for them. According to the Federal

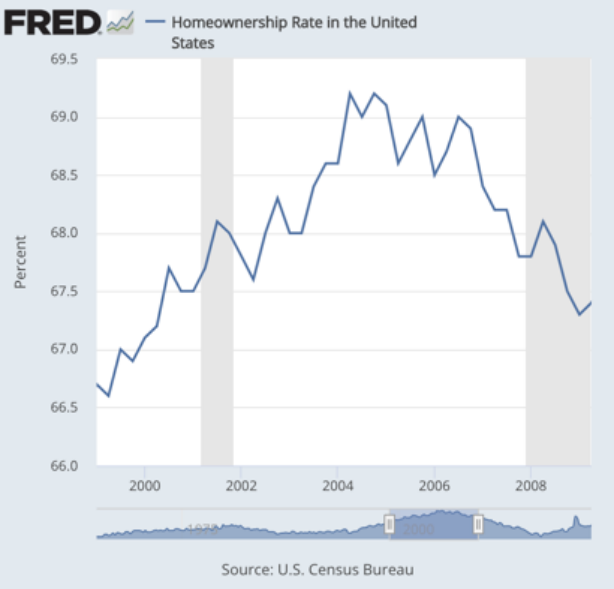
Reserve Bank of New York or the Federal Reserve System, the cases of mortgage fraud increased from 3,500 in 2000 to 28,000 in 2006 [4]. The reality was that the price of houses was far reached away from the loaners' income condition. They still insisted on borrowed loans because they had a high expectation from the houses with rising prices, which would definitely help them return the money. If they could pay the interest, just sell the house. Second, the credit rating agencies deteriorated this fraud with the misrepresentation of ratings. In the research by Jie He, Jun Qian and Philip E. Strahan, A larger number of MBS deals sold by large issuers receive AAA ratings than deals sold by small issuers, but tranches sold by large issuers also experienced larger price drops than those sold by smaller issuers during the burst of housing bubble [5]. The credit rating agencies, such as S&P and Moody's, were "bribed" by some companies that released mortgage bonds, especially large issuers, who would exchange for a good reputation and sell more bonds. Thus, these agencies continued rating subprime mortgage AAA, providing mistake information for the investors who made decisions too dependently on the rates by the agencies. Though there were definitely many other factors leading to the financial crisis, MBS gave the credit rating agencies an opportunity to provide the opaque information that played a central role in the financial meltdown.

2.3. Other Factors

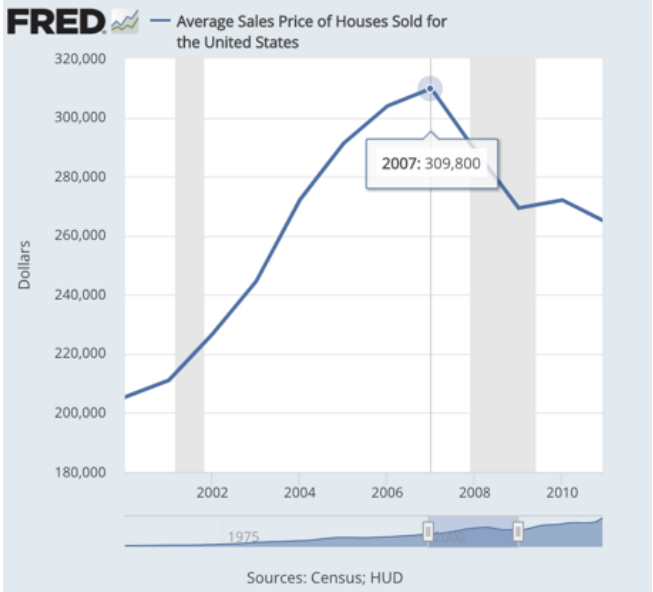
There were many other factors causing the final crisis. The process of securitization was like a chain that went through loaners, banks, government-sponsored enterprises (GSE), investment banks, credit rating agencies, investors, and so on. The impact of one break in the chain would cascade damages to everyone involved. The start of breaking the chain was discovering and trying to control the overheated economy, the government began to increase the interest rate, which directly punctured the real estate bubble. According to the Board of Governors of the Federal Reserve System, the interest rate apparently grew, followed by a decrease in the trend of the Homeownership rate [3]. As Figure 1 shown, between 2004 and 2006, the Federal Reserve Board raised interest rates from 1 percent to 5.25 percent [6]. Some people realized that the growing interest rate might become too high to pay back to the bank in the future, so they sold their houses and stopped the losses timely. The rising supply in the housing market caused the prices to decline rapidly. What followed was the break of the bubble, which triggered massive amounts of credit defaults and foreclosures. So many houses were left in the banks or in the market, with more supply, then lower prices. But it was just the start of a vicious circle and a fuse for the damage to the entire financial chain. The decreasing price was a dangerous signal. The chain was initially connected based on everyone's desire for a never-end rising price. The banks expected loaners to return the money, and pay the interest to the investors. If the loaners succeeded to pay the debt, everyone would make a profit. If the loaners could not pay the debt, they could still count on the money from selling the houses. In essence, everyone in this process earned money from the portion of the price increase. The problem started when the interest rate increased, and people had to sell their houses. At this time, the supply of houses was higher than the demand, and the price began to fall, which was the opposite side of people's desire. While the price was even lower than the debt, and people could not get enough money, credit default happened. With no capital inflow from the loaners' side, the banks or investment companies could not give interest to the investors. In the beginning, credit insurance would help to deal with the loss of money from bad debt or credit default. When the default money became trillion dollars, the credit insurance companies failed to guarantee to make up the loophole. The government's decreasing interest started the meltdown of the whole chain of the mortgage trade.



(a)



(b)



(c)

Figure 1. Process of securitization [3]

3. Consequence and Changes

Undoubtedly, the consequences of the subprime crisis had a huge impact on the US's economy. The range of this financial tsunami was huge, because the financial products from mortgages had various types and could be readily transferred to anyone and anywhere, even abroad, which in some degree transferred the risk of subprime mortgage to others. When the money from refinancing houses was insufficient to pay back the loan with higher interest rate, many people sold houses in big quantity, which caused the home price to plummet and the real estate bubble to break. From 2006 to 2008, the house price decreased by 13% [3]. At the same time, many people chose to default on their loans directly. More than 1 million U.S. homes have been lost to foreclosure since the housing crisis began in August 2007 [7]. Foreclosure proceedings reached to 1.5 million in 2007, up 53 percent from 2006, and the rate of foreclosure was even higher in 2008 [8]. Plenty of defaults left the bank many house mortgages, which were hard to sell again, followed by the bankruptcy of many banks, investment companies and credit insurance companies broke down. There were 64,318 business bankruptcy in

2008, compared to 28,322 in 2007 [7]. The broken-down businesses would then cause many people to lose their jobs. In December 2007, the national unemployment rate was 5.0 percent, but the unemployment rates were over 10.0 percent in September 1982 and peaked at 10.8 percent in June 1983 [6]. Without jobs, people's financial capabilities were even worse to return the debt, which further deteriorated the crisis and formed a vicious cricle. In the end, $7.4 trillion in stock market paper was gone, and $3.4 billion in real estate wealth was wiped out [9]. To prevent the crisis from getting worse and the same mistakes from happening again, the government began to intervene in this excessive free financial system by passing some regulations. One of the laws, the Dodd-Frank legislation, aims to supervise financial institutions that were blamed as the key factor in the subprime crisis. The act identifies and responds appropriately to any risk that will affect US financial system stability, such as leverage, securitization, derivative financial products, and credit rating agency activities. Another famous act passed by the government is the third Basel Accord (Basel III), which set standards for world banks regarding capital quality, quantity, liquidity, control of derivatives, restriction of leverage levels, and the accumulation of capital buffers in anticipation of either capital growth or periods of losses. This act intends to strengthen the regulation and risk management for worldwide banks. However, there were also some criticisms about these acts [10]. The opponents of these laws claim that higher capital requirements increase lending costs, which consequently flowers loan growth and economic slowdown. For smaller banks or financial institutions, restricting regulations would lay a much heavier burden on their business. What's more, the law would make US's economy less competitive than other countries [11]. All these debates lead to a complex question: whether the government should intervene market or not. Retrospecting the process of the subprime crisis, the government plays an important role in both starting and ending the crisis. It has a big influence on the fluctuation of the market. A free market is an important factor in a country's prosperity. Without the limitation of government, the free markets could usually produce more profits for both individuals and society. Free trade is supported by Adam Smith's theory that self-interest motivates people to use their resources in the best and most efficient way, and promotes greater prosperity. However, absolute freedom does not exist. Freedom is always relative to others. In a free market, a few proportions of people with more resources indeed would create more profits, while at the same time, the majority would live in poverty. Take the subprime crisis as an example, without regulation, the banks were able to reduce the standard of lending money, which seemed to give people the freedom to buy houses, but when the deregulation of government failed to control the excessive hot market, the market bubble finally collapsed, causing the disappearance of the trillions dollar and many people losing their home. Thus, absolute market freedom would not exist and might bring about negative consequences. As for the intervention from the government, it is important to stabilize the market and prevent it from big fluctuation and unfairness. For example, the government could pass some regulations to prevent an overheated market by improving the supervision of businesses' behaviors. However, On the contrary, too much government intervention is not always a good thing. An example is the unlimited low-interest rate to increase house ownership. Such kinds of policies that the government published might not always have a correct direction in guiding the market. The U.S. government's intervention in the housing mortgage market actually created the source of the crisis. Again, the government's action of decreasing the rate ignited the subprime crisis.

4. Conclusion

In general, the government was not the only one to be blamed. There are many factors: people's speculative mindset, greedy bankers, and toxic financial derivative products. Some even attribute this crisis to the evil in human nature. However, the subprime crisis might not be inevitable if the government did not regulate the economy by adjusting interest rates frequently, making the market like a roller coaster. The bubble in the house market will burst someday anyway. The government's deregulation and the loose monetary policy will only make the situation worse. Also, the subprime crisis might have less chance to break out if the government intervened when the banks issued loans

indiscriminately, when the credit rating agencies rated a subprime mortgage AAA, and when the derivative products used high leverage. The loose monetary policy will definitely make lending money a much easier thing, which brings a delusion of economic prosperity. This prosperity originated from the system full of holes will increase people's expectation and ambition about the market and encourage them to lend money immoderately. Thus, it is important for the government to control the economics in a prosperous period, which, however, is hard because of human nature. Thus, governments must have determination and foreseeability to control the flow of economic development. As for the criticism that restricted regulation might influence the development of small companies, the government could take separate policies based on the perceived health of the company and its potential for growth. Moderate regulations will not hurt the economic but guarantee a stable and health market. Therefore, the appropriate but not over-restricted intervention is significant in a healthy financial system, which could be learned from analyzing our history.

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