Research on the Relationship Between Financial Crisis and Global Asset Prices

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Abstract: This paper studies the relationship between the financial crisis and global asset prices. The research angle of this paper is different from the previous literature. It not only examines the decline in the global asset price level after the financial crisis, but also finds that before the financial crisis is often accompanied by a huge increase in asset prices. Therefore, it is not difficult to find that there is a relatively complex interaction between the asset prices index and financial crisis. Changes in asset prices is not only be used as early warning indicators of financial crises, but also portray the negative impact of financial crises on the economy and finance. The research results show that before the financial crisis, the global asset price factor is increase by up to 28%, and after the financial crisis, it is decrease by 120%. The research in this paper provides a good reference for how to prevent global financial risks, avoid and quantify the impact.

Keywords: Financial crisis; Global asset prices; Relationship.

1. Introduction

A financial crisis refers to the sharp, short-term, and super-cyclical deterioration of all or most of the financial indicators of one or several economies. It is a sharp depreciation of currencies and a huge hit to economic aggregates to financial markets based on the pessimistic expectations of the masses for the future economy. Take the US real estate financial bubble in 2008 as an example, we can see from the United States FHFA House Price Index (1991-2022) that the rise and fall of US housing prices around 2008 were quite extreme [1]. The U.S. real estate market has continued to expand since 1997, especially since 2001. The proportion of real estate sales in GDP increased from 15.9% at the end of 2001 to a low of 19.7% in 2006. The proportion of residential investment reached the highest 32% of the total investment, the annual growth rate of new housing starts exceeds 6%, and reached a peak of 8.4% in 2003. However, after the financial bubble, US housing prices fell off a cliff, falling by more than 20% within a year, resulting in housing prices back to the price of five years ago, and it is not gradually recovered until 2011 [2]. As the most expensive fixed asset owned by most people, there is no doubt that its United States FHFA house price index can be used as an indicator of the amount of people's assets to a certain extent. Under this disaster caused by credit loans, due to the greed of housing developers and housing mortgage loan financial institutions, they are no longer satisfied with lending to high-credit users to sell houses, and gradually provide low interest credit to middle-credit people and even low-credit groups. The temporary dividends made them hold the US dollars in their hands and use leverage to rush into this financial war without gunpowder smoke. The subprime mortgage crisis followed, and more and more people could no longer able to repay the mortgage. The house had to be sold at a low price by the houseowner or sold at a very low price after being repossessed by the bank. During the year, U.S. home prices fell more than 20 percent, and in some areas more than 50 percent. Through the United States FHFA House price index, we can intuitively see that most of the people's assets have suffered huge losses, and the financial crisis in 2008 had a huge negative impact on asset prices.

The global asset price is the final data based on the global asset price factor, which is affected by factors including the current year's household income and inflation. Through the table of the Median household income in the Past 12 months by States provided by the US Internal Revenue Service, we can clearly see that in 2007, before the financial crisis, the average US middle-class household income was $52,673 per year, while in 2008, the US The average middle-class household income was $52,029 per year, a year-on-year growth rate of -1.22% [3]. In 2009, due to the massive
unemployment and bankruptcy caused by the financial crisis, the average middle-class household income in the United States was even lower, it became $50,221 per year, a year-on-year growth rate of -2.91% [4]. Compared with the year-on-year growth rate of 1.87% from 2006 to 2007, the negative growth of the average middle-class household income in the United States for two consecutive years between 2007 and 2009 undoubtedly explained to us the economic difficulties of the middle class in the United States during the financial crisis [5]. By comparing the trend charts of global asset price factors, we can find that the two charts have obvious consistency, so we can draw a conclusion that the average middle-class household income has affected a certain extent trend the data on global asset prices. On the other hand, inflation will also affect the trend of global asset prices. When the price of a region rises in all aspects, it will also mean the depreciation of the local currency. In order to intuitively understand the changes in local prices, we can compare them through The Big Mac Index. Through the data recorded by The Economist, we can see that between 2005 and 2007, the average selling price of the Big Mac in the United State was $3.06, $3.15, and $3.22 US dollars, respectively, with a year-on-year growth rate of 2.94% and 2.22% [6]. In 2008, the average selling price of Big Macs in the United States instantly rose to $3.57, a year-on-year growth rate of 10.87% [7]. We can clearly see the huge abnormal increase in local prices, exceeding the normal rate of inflation. As a result, the purchasing power of the U.S. dollar fell sharply that year, and the decline in the purchasing power of the U.S. dollar as a global currency indicator will eventually lead to certain fluctuations in global asset prices, which finally caused the decrease in global asset price.

Different from previous literature studies, in order to find that there is a relatively complex interaction between the asset prices index and financial crisis, this paper draws on the research of Rey et al at 2020, uses the common factors of global asset prices to reflect the overall price fluctuations, and then observes the changes in global asset price factors during the financial crisis period. The rest of the paper is structured as follows, with a literature review in Section II, a description of the methods and data in Section III, a description of the results in Section IV, and a summary of the full text in Section V.

2. Literature review

Regarding the financial crisis, the general research direction is divided into two categories, the treatment of causes and subsequent effects. It is not difficult to see the purpose of people studying these two major themes is to prevent the recurrence of a large-scale financial crisis or to resolve the impending financial crisis as much as possible at the initial stage, and judging the extent of the financial crisis by the impact after the crisis in order to more efficiently handle the impact of the financial crisis, and quickly return to a healthy economic system.

The most research paper in the Social Science Research Network agree that the immediate cause of the financial crises is the bursting of the real estate bubble. The main reason of the most article is the same, for example, Viral V. Acharya and Matthew Richardson (2009) believe that the main problem of the huge financial crisis in 2008 lies in the banking industry and credit loans [8]. They believe that the failure of credit and the transfer of unreasonably legal securities caused the 2008 financial crisis. Austin Murphy also believes that the financial crisis was mainly due to irregular and unregulated credit loan exchanges and market mispricing [9]. However, the consequences of their research are different. Anjan V. Thakor believes that through this financial crisis, people have realized the importance of capital liquidity, and at the same time, the research management of the banking industry should be strengthened [10]. Austin Murphy has studied how to use the large-scale bailouts and nationalization of US depository institutions to dealing with financial crises.

After reading it, I wondered if there is an indicator or data related to the financial crisis, which can let us visually see the impact of the financial crisis on the economy. So, researchers can predict the financial crisis or judge the severity of the financial crisis by analyzing this indicator through record research. Therefore, in this paper, I analyzed and researched the relationship between the global asset prices and the financial crisis.
3. Data and methodology

The global asset price factor data used in this paper comes from the literature, and the data sample is from January 1980 to April 2019. Figure 1 shows the change trend of global asset price factors.

![Figure 1. Trend of global asset price factors](image1)

According to Figure 1, we can see during the 2008 financial crisis, the global asset price factor fell sharply, which shows that the financial crisis led to the decline of global asset prices. For the purpose of see the impact of the financial crisis more intuitively, this paper calculates the year-on-year changes in global asset price factors for the whole year of 2018, and the results are shown in Figure 2.

![Figure 2. The impact of the financial crisis on global asset prices](image2)

According to the changes in the global asset price factor in 2008 in Figure 2, during the period of financial crisis, the global asset price factor decreased in each month compared with the same month last year, and the degree of decline continued to increase. Among them, the decline in November 2008
reached the largest, about 120%. Meanwhile, this paper also further pays attention to the changes in asset price factors before the financial crisis, and the results are shown in Figure 3.

![Figure 3. Changes in global asset prices before the financial crisis](image)

According to the changes in global asset prices before the financial crisis in Figure 3, it is not difficult to see that in the early stage of the crisis, asset prices often rose significantly, and in June 2007, it rose to about 28%.

According to the statistical research results of this paper, during the financial crisis, the global asset price factor dropped significantly, and the global asset price fell sharply, which also depicts the serious impact of the global financial crisis. In addition, through the rapid rise in global asset prices before the crisis, it also became a catalyst for the emergence of the financial crisis. Therefore, we should not only pay attention to the early warning effect of asset prices on the financial crisis, but also pay attention to the impact of asset prices after the financial crisis.

4. Results

The rise in asset prices in peacetime must eventually lead to financial crises. Let's take an obvious example. During the war, the United States used war loans to make its own economic system progress by leaps and bounds. They continued to divide up the resources of other countries to enrich their own capitalists and citizens during that time. However, in peacetime, the domestic resources of the United States are constantly being divided, but because there is no plunder from the outside world, the total amount of resources has not changed. Therefore, there is an upper limit to the resources that each person can get. A person earning more means less for others. In this case, if we compare these finite resources to glass bottles, the large asset price rise will fill the glass with too much liquid, eventually causing the entire glass to shatter. When the prices of all assets rise sharply, the purchasing power of the currency will decline, which leads to rising prices and labor costs, and everyone will try to make more profits. From a microscopic point of view, if a producer decides to maintain the original price to sell materials, then he may be unable to use the earned money to survive, so he must also raise the price of the materials he sells, to put this fact on the macro level, then we will find that a large increase in asset prices will eventually lead to inflation. Hence, in order to continue making more money, capitalists will keep raising the prices, while in order to survive, producers must increase their income, which means selling their time at a more expensive price. Eventually this tight string will snap at one point and the balance will break. At this moment, the financial crisis also occurred.
On the other hand, after the financial crisis, the inflated asset prices will be severely impacted, just like a building block tower that was carefully built in the beginning and then hastily put the blocks later. When it collapses, it will not only the pieced that hastily put together going to fall, the carefully constructed building block part will also collapse, and it will take a long time to restore it to its original level. Once the inflated asset price is hit, the moment it collapses, the cash that originally represented the gold standard price will be reduced to toilet paper overnight, and the value represented by the asset price will be disillusioned like a bubble. People going to crazy and blindly try to sell their chips before they hit a lower price, the later the people sell the chips the more they lose. And this will be like a cliff-like decline in the stock market, if there is no big enough money to cover the bottom, they will always fall to the bottom. For example, for consumption, when the financial crisis occurs, the financial assets of residents will shrink sharply, and when financial assets account for a large proportion of disposable income, there will be a decline in consumption, and the decline in consumption will lead to a decline in consumption. Finally, it going to lead to a drop in the consumer price index. For investment, the financial crisis will strengthen the expectation of a decline in corporate assets, making it more difficult for companies to increase investment through new purchases, and bankruptcy and reorganization will become a better option. In addition, the decline in asset prices reduces the qualifications of enterprises, the value of collaterals falls, and the willingness of banks to credit declines, which ultimately leads to a decline in corporate credit. Until the government moves to give up a lot of benefits to stabilize its position and prove the value of cash again, people's distrust of cash will make it represent a crazy decline in purchasing power, and eventually lead to a sharp drop in asset prices.

5. Conclusion

By analyzing the impact of financial crisis on global asset prices, this paper further illustrates the important impact of financial crisis and other events on global finance and economy. The fall in asset prices will further lead to the depression of economic production, which is also the impact of the financial crisis on the economy through the impact on asset prices. At the same time, however, this paper examines the pre-financial crisis situation and finds that asset prices tend to surge before financial crises. The relationship between asset prices and financial crises is very complex. On the one hand, the changes in asset prices can be used as an early warning, and on the other hand, they can also be used as a judgment on the degree of crisis. Combined with the research conclusions of this paper, for the purpose of further strengthen the prevention of financial risks and prevent the negative effects of the crisis, the following policy suggestions are put forward:

Firstly, strengthen foreign economic and trade cooperation, strengthen the exchange between currencies, and increase the influence of local currencies.

Secondly, increase the national gold strategic reserve, ensure the purchasing power of the local gold standard currency, and stabilize the foreign exchange quota.

Thirdly, implement policies to avoid the emergence of financial oligarchies and monopoly.

References

[1] Bishaw, Alemayehu, and Semega, Jessica, “Income, Earnings, and Poverty Data From the 2007 American Community Survey”, American Community Survey Reports, 2008.

[2] Noss, Amanda, “Income, Earnings, and Poverty Data From the 2009 American Community Survey”, American Community Survey Reports, 2010.

[3] Semega, Jessica, “Income, Earnings, and Poverty Data From the 2008 American Community Survey”, American Community Survey Reports, 2009.

[4] Thesis, “2005 Big Mac Index”, The Big Mac Index, June 9, 2005.

[5] Thesis, “2006 Big Mac Index”, The Big Mac Index, May 26, 2006.

[6] Thesis, “2007 Big Mac Index”, The Big Mac Index, July 5, 2007.
[7] Thesis, “2008 Big Mac Index”, The Big Mac Index, July 24, 2008.
[8] Acharya, Viral V., and Richardson, “CAUSES OF THE FINANCIAL CRISIS”, Taylor Francis online, 13 Jul 2009.
[9] Murphy, Austin, “An Analysis of the Financial Crisis of 2008: Causes and Solutions”, SSRN, 4 Nov 2008.
[10] Thakor, Anjan V. “The Financial Crisis of 2007–2009: Why Did It Happen and What Did We Learn?”, OXFORD ACADEMIC, 13 May 2015.