A Masterpiece from the Subprime Mortgage Crisis in America

[1]**Muhammad Andri Radiany,** [2]**Ali Farhan,** [3]**Roy Sumaryono,** [4]**Wulandari Harjanti**[*]

Lecturer in STIE Mahardhika Surabaya

Abstract
Subprime mortgage crisis is a phenomenon that has a major impact on the world economy. The crisis that began in the United States has infected many other economically related countries with the United States. This study tries to parse how the economic conditions of the United States in the era before and after the crisis. From the results of the descriptive statistical analysis test on the economic conditions of the United States in the period 1998 - 2017, it was found that in the variables of inflation, investment, GDP, and interest rates there were negative differences between before and after the crisis, even though statistically did not show a significant effect, except for interest rate variable. This phenomenon shows that monetary policy oriented to controlling interest has the potential to trigger systemic risks to the economy.

Keywords: Subprime Mortgage, Interest Rates, Monetary

1. Introduction

The economic downturn of the American Adi Power a decade ago was an event that recorded history as a monetary tragedy, a world economic power fall caused by its own act in the management of financial instruments that are too speculative, which Sihono (2008) referred to as market failure and helplessness government. Despite having a large contribution to the global economy of up to 30% of the global economic cycle, GDP (Gross Domestic Product), which is equal to 20% of world GDP and positive economic growth of 4.9% in 2007, it turns out that it is unable to sustain the US economy which was hit by the credit crisis (Mahendra, 2016), the large book value of assets due to the high turnover of debt securities turned out to not reflect the value of its underlying assets, the value of debt securities that experienced a significant increase in the secondary market due to trading transactions in the end cannot be realized due to underlying assets that are too low, this phenomenon is referred to as economic bubbles (Iskan, 2010; Jociene & Pajarkas, 2014).

The collapse of the American economy is like a snowball that continues to grow and bring new victims. The integration of the world in an economic bond caused the recession it experienced sparked a crisis that had a domino effect, the crisis losses on the US subprime mortgage market of US $ 1.8 trillion (Sihono, 2009) had an impact on world investment banks that enjoyed losses of up to US $ 160 billion (Mahendra, 2016), suppressed the stock price index in Europe, as well as suppressing the number of exports of agricultural products throughout 2008 - 2009 (Firdaus, 2010).

The dark side history of debt-based monetary management has an impact on many other aspects of the economy. Indonesia as a developing country and is looking for its own economic formula for development needs to learn from America's mistakes, based on this unrest this article was written, about how a monetary policy based on debt and derivative products will cause a crisis with systemic impacts?

2. Literature Review

Subprime Mortgage Crisis

Subprime Mortgage Crisis is a crisis caused by a credit surge and a housing market that is massively ballooning (Jociene & Pajarkas, 2014). The economic bubble used by economists is a terminology that explains economic phenomena where the valuation value of an asset increases significantly until the peak point of market stability meets the level of income and purchasing power, an increase in valuation and the amount of the asset ultimately demands a decrease in value caused by low purchasing power (Bianco, 2008). Subprime Mortgage Crisis arises from a combination of crisis caused by economic buble and monetary

crisis caused by high-risk financial management, property assets that are experiencing a boom in the US economy at the same time are the underlying of derivative assets in the form of debt securities. Debtors who speculate to obtain high profits will tie their debt to securities assets. A decline in the value of the real property market causes many debt securities to be released eventually, because they are no longer considered profitable (Kiff, et al. 2007). Debt securities that cannot be realized because their value continues to fall and people's low purchasing power triggers a crisis that occurs in America, because of American domination of the world economy (American GDP worth 20% of world GDP, (Mahendra, 2016)).

Monetary Economics

The monetary economy bases its attention on the financial sector which is considered to have a central role on economic stability. Monetary economics focuses on the circulation of money in an economy, hence economic stability in a monetary perspective is measured by; a) sufficient inflation rates, b) reasonable interest rates, c) realistic rupiah exchange rates, and d) public expectations of monetary (Putra, 2015 and Machtra and Fakhruddin, 2016). Achieving monetary health in a country requires the presence of the Government to be able to put effective regulations in order to achieve the expected economic growth in the economy. Machtra and Fakhruddin (2016) say that monetary policy is carried out in two approaches, namely increasing economic activity through increasing the amount of money supply or slowing the pace of the economy by reducing the amount of money in circulation, in line with that Putra (2016) says that in principle monetary policy is centered on interest rates interest and money supply. In the perspective of the monetary economy, the balance between supply and demand on the money market in the macro economy is considered to have a vital role for a country's economic growth and development.

3. Research Methodology

A. Research Type

This research is a descriptive quantitative study that explains the impact of the phenomenon of subrime mortgage crisis through different economic conditions before and after the occurrence of subrime mortgage crisis in the United States. In this study, the sample chosen was the economic condition of the United States ten years before the subprime mortgage crisis and ten years after that, the sample selection was conducted purposively with the objective that the sample chosen was in accordance with predetermined criteria. Purposive sampling is a method of determining samples with certain considerations. The data used are secondary data downloaded from the official site on Worldbank. Data collection techniques used in this study are the literature.

4. Data Analysis

Interest Rates

Based on a different test with the Wilcoxon test on the condition of interest rates in the United States over the past two decades, shows the results that during this period the interest rates in the United States tend to decrease. Negative Ranks in the table column below show that in the last twenty years the interest rate index in the United States tends to experience a decline, the decline in interest rates is expected to trigger economic growth through demand for credit.

Table 1: Interest Rate Difference Test

		N	Mean Rank	Sum of Ranks
PostCrisis – PraCrisis	Negative Ranks	10[a]	5.50	55.00
	Positive Ranks	0[b]	.00	.00
	Ties	0[c]		
	Total	10		

a. PostCrisis < PraCrisis

b. PostCrisis > PraCrisis

		N	Mean Rank	Sum of Ranks
PostCrisis – PraCrisis	Negative Ranks	10[a]	5.50	55.00
	Positive Ranks	0[b]	.00	.00
	Ties	0[c]		
	Total	10		

a. PostCrisis < PraCrisis

c. PostCrisis = PraCrisis

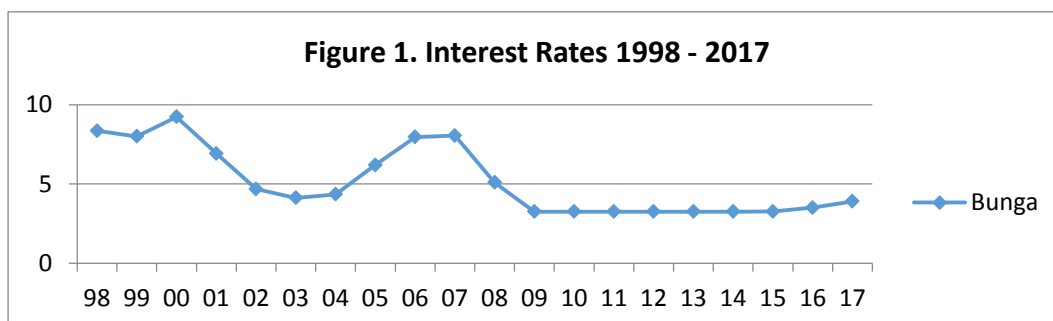Source: Author data processing
results

Table 2. Test Z - Interest Rates

	PostCrisis – PraCrisis
Z	-2.803[a]
Asymp. Sig. (2-tailed)	.005

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

Source: Author data processing results

Meanwhile the Z test results stated the value of 0.05 <0.05, it indicated that the
f interest rates in the United States was also influenced by the Subprime Mortgage
had befallen them, even though the crisis was initially initiated by interest rates that
States continued to decline. The chart below shows that after the Subprime
Crisis that occurred in 2008 interest rates in the United States experienced a deeper
than in previous years and during the 2008-2017 period the interest rates in the
es could no longer reach the same level as in previous years there was a 2008 crisis.

Figure 1. Interest Rates 1998 - 2017

Source: Author data processing results

GDP

Based on the different test with the Wilcoxon test on the condition of GDP in the United States over the past
twenty years, shows the results that during this period the interest rates in the United States have fluctuated ,.
Negative Ranks in the table column below shows the number 4, positive ranks are 2, and t ties are 4, which

means in the period 1998-2017 for 4 times in the 10-year period the American economy experienced a decline, experienced an increase of only 2 years, and 4 years. This can be seen in the table.

Z test results show the number 0.340> 0.05 which means that the Sub-Mortgage Crisis does not have a significant effect on economic growth even though economic growth after the crisis has decreased, it can be seen in table 4 and figure 2.

Inflation

		N	Mean Rank	Sum of Ranks
PostCrisis - PraCrisis	Negative Ranks	8[a]	5.38	43.00
	Positive Ranks	2[b]	6.00	12.00
	Ties	0[c]		
	Total	10		

a. PostCrisis < PraCrisis

b. PostCrisis > PraCrisis

c. PostCrisis = PraCrisis

Statistics[b] Test

	PostCrisis – PraCrisis
Z	-1.580[a]
Asymp. Sig. (2-tailed)	.114

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

Investation

Based on the different test with the Wilcoxon test on the condition of GDP in the United States over the past twenty years, shows the results that during this period the interest rates in the United States have fluctuated ,. Negative Ranks in the table column below shows the number 6, positive ranks are 4, and t ties are 0, which means that in the period 1998-2017 for 6 times in the 10 year period the level of investment in the United States experienced a decline, an increase of only 4 years. This can be seen in the table.

Z test results show the number 0.721> 0.05 which means that the Sub-Mortgage Crisis has no significant effect on investment levels even though economic growth after the crisis has decreased, it can be seen in table 4 and figure 2.

Ranks

		N	Mean Rank	Sum of Ranks
PostCrisis - PraCrisis	Negative Ranks	4[a]	6.00	24.00
	Positive Ranks	6[b]	5.17	31.00
	Ties	0[c]		
	Total	10		

a. PostCrisis < PraCrisis

b. PostCrisis > PraCrisis

c. PostCrisis = PraCrisis

Statistics[b] Test

|	PostCrisis – PraCrisis
Z	-.357[a]
Asymp. Sig. (2-tailed)	.721

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

Even though subprime mortgages did not have a significant impact on the GDP, inflation, and investment variables, it appears that after the crisis all macroeconomic variables experienced a significant decline after the crisis. This illustrates that the subprime mortgage crisis has hit the US economy, especially in all variables showing a negative difference or a decline in economic activity in the era before and after the crisis, it can also be seen in the figure below.

Figure 3: The United States Economy 1999 – 2017
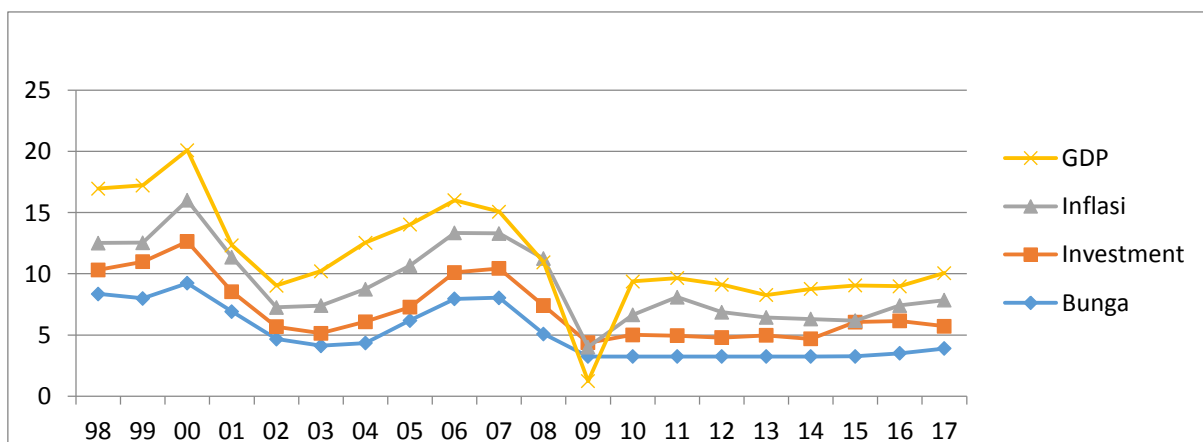
Source: Results of author's data processing

Indonesian Economic Conditions

Seeing the fact that occurred in the United States that the economic bubble arose due to mortgage loans which triggered it, starting from a decrease in lending rates the level of demand for home ownership loans increased then followed by demand on the secondary market. Based on this phenomenon, it can be understood that economic growth followed by credit growth has a risk especially when credit growth is supported by consumption credit, which has the potential to trigger aggregate demand growth beyond potential output, resulting in the economy heating up. This will have an impact on rising inflation, current account deficits and appreciation of the real exchange rate (Utari, et al). Because the economy is experiencing an expansion, banking institutions tend to have high expectations on the ability to pay customers and consequently are less careful in giving credit to high-risk groups (Etari, et al). Likewise, for Indonesia, which had a positive economic growth and credit chart during the 2001 - 2011 period, on the other hand, had credit risk

Figure 4:Indonesia's Credit Growth in 2001 – 2011
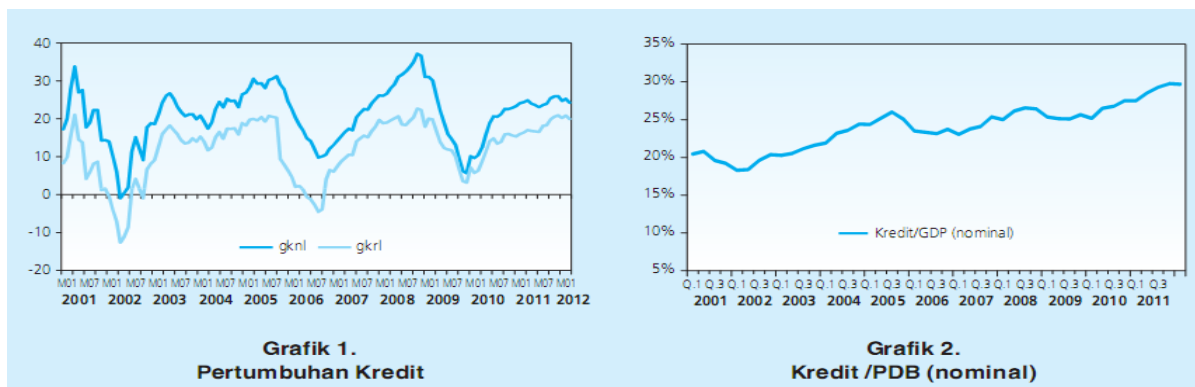
Source: Utari et al (2012)

High credit growth is also not always good for banks. The fact faced by banks is that credit growth is not in line with interest income, because an increase in credit is always followed by an increase in bad loans which causes interest income received by banks to be insignificant compared to credit risk (Sulistyowati, 2015). Based on this, Indonesia's monetary policy in the future should no longer depend solely on interest rates, given the potential risk faced by Indonesia is quite large when it relies on the monetary sector for banking interest rates. Liquidity risk, over demand that triggers inflation and the potential increase in NPLs in bank credit are some potential risks that are mutually binding as a result of interest-oriented monetary policy as an instrument of money management.

5. Closing

Conclusion
Based on the results of the analysis in the previous chapters, it can be concluded that the United States economy experienced a decline after the subprime mortgage crisis. The policy of reducing interest rates by the Fed instead of stimulating economic growth, but instead plunged it. Macroeconomic variables such as investment, inflation, interest rates, and economic growth experienced a decline after the monetary crisis that plagued the United States. From this phenomenon it can also be concluded, that the management of interest as an instrument of monetary control has a large crisis threat behind the expected monetary stability.

Limitation
This study has limitations on the methodology used, because it is limited to using descriptive statistics so that the depth of information extracted is insufficient when used as a theoretical basis for further research.

References
Book
[1.] Bianco, Katalina M. 2008. *"The Subprime Lending Crisis: Causes and Effects of the Mortgage Meltdown"* www.consejomexicano.org
[2.] Iskan, Dahlan. 2009. *Farting the economic model*. Pen Nets.
[3.] Kiff, John. MILLS, Mr. Paul S. 2007. *Money for nothing and checks for free: Recent developments in US subprime mortgage markets*. International Monetary Fund, 2007.

Journal entry

[4.] Fakhrudin. Machtra, Catona. 2016. Analysis of the Effects of Monetary Policy on Output in Indonesia. *Journal of Economics and Public Policy*. Volume 3 Number 1, May 2016 ISSN. 2442-7411.

[5.] Firdaus, Muhammad., 2010, How Severely did the Global Economic Crisis Affect Indonesian Agribusiness Exports ?, Paper published on *web.ipb.ac.id/~fem/index.php/download.html?*

[6.] Mahendra, Kalfi. 2016. Effects of the United States Subprime Mortgage Crisis on Indonesian Muammalat Sharia Banking 2006 - 2009. Jom FISIP Vol. 3 No. February 1 2016.

[7.] Pajarskas, Vaidotas. Jočienė, Aldona. 2014. Subprime Mortgage Crisis in United States in 2007 - 2008: Causes and Caunsequenses. ISSN 1392-1258. *Economics*. 2014 Vol. 93 (4).

[8.] Son, M Umar Maya. 2015. The Role and Monetary Policy on the Economy of North Sumatra. *Journal of Microeconomic Entrepreneurs*. Volume 5, Number 01, October 2015.

[9.] Son, Alfianno Zeptama. 2016. *Analysis of the Effects of Monetary Policy on Indonesia's Economic Growth 2000 - 2016*. Muhammadiyah University, Surakarta.

[10.] Sulistyowati, Chorry. 2015. Credit Growth and Bank Risk Level. *Indonesian Management Journal*. Vol 2 no 15. August 2015.

[11.] Utari, G.A. Diah Arimurti, Trinil. Kurniati, Ina Nurmala. Optimal Credit Growth. 2012. *Bulletin of Monetary Economics and Banking*, October 2012

[12.] Sihono, Teguh. 2008. The United States Financial Crisis and the Indonesian Economy. *Journal of Economics & Education,* Volume 5 Number 2, December 2008.