



## MK7227 Postgraduate Dissertation

Student Number: U1527891

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A dissertation submitted in partial fulfilment of the requirements of the School of Business  
and Law, University of East London for the degree of **Master in Finance and Risk  
Management**

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I declare that no material contained in the thesis has been used in any other submission for an academic award

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| Author Affiliation<br><i>Name of school where you were based</i>  | ADJOUA ANAIS DIANA APETE<br>UNIVERSITY OF EAST LONDON                      |
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**Royal Docks Business School, University of East London**

*THE GLOBAL FINANCIAL CRISIS IN THE USA  
AND THE FAILURE OF CENTRAL BANKS*

**MSC Finance and Risk Management**

**U1527891**

**13/09/2016**

## **Abstract**

The mortgages crisis was one of the main causes of the global financial crisis in 2007, leading to the globalisation of the crisis, and the collapse of the financial market. In this dissertation, our first attempt will first be to review the different economic breakdown that have been affected the financial market due to the different previous financial crisis. The researcher thinks important to examine some of the previous financial crisis in order to ascertain the differences between those ones, and the last crisis. This paper will also review the different causes and consequences of the global financial crisis of 2007- 2009 (and its aftermath), focusing on the main causes and negative impact in the financial sector of the United States. In fact, policy makers have been trying to establish different solutions to the different problems that the financial industry and the global industry have been facing over the years. In addition, policy makers need to be aware of the changing dynamic in the financial industry in order to upgrade policies and find responses to regulations in order to avoid a future possible occurrence. In order to fully address the issues facing by the banking sector and the economy, we have been looking at the different economic factors behind the global financial crisis through this dissertation. To that end, we assessed and analysed the main reasons that caused the bubble to explode. Then, we will see the impact of the crisis especially in the United States, before concluding with our policy recommendations.

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## Introduction

It is primordial to understand the phenomenon of financial crisis in order to have a clear view of the causes and the different effects of the financial crisis of 2007 on the world economy especially in the United States. In addition, in order to determine how globalization plays a major role in the spread of the global financial crisis, we need to have a deep understanding on how the crisis started, and the extent of the impact of the market collapse. For this reason, it seems important to have some knowledge regarding the different types of financial crisis preceding the last crisis that may occurs to any country leading to a change of policies that can alter the negative effects of a financial collapse. These different aspects will be examined in the critical literature review, then will be follow by the research methodology chapter. This chapter refers to the discussion of the different findings regarding the research question followed by a deep analysis based on the research thesis while would be concluded with accurate facts and recommendations. According to Eichengreen (1987), a financial crisis can be defining as a disturbance to financial markets, associated with falling asset prices and insolvency among debtors and intermediaries, which spread through the financial system, disrupting the market's capacity to allocate capital. This definition is also supported by Mishkin (1991), who stated that financial markets are unable to efficiently channel funds due to the fact that financial crisis create a disruption in which selection and moral hazard problem become much worse resulting mostly from bank panics pushing the central banks to play their role as a lender of last resort. According to them, these situations were related to banking crisis, speculative bubble, or stock markets crashes.

The financial market has been experiencing several 'up and down' due to the occurrence of the different financial crisis issues since 1929. The most recent one is the financial crisis of 2008 which has been definitely the greatest crisis faced by the global financial market. In fact, despite the fact that this crisis appeared 9 years ago, its effects are still affecting the world economy and investors still fear the possibility of another crisis. Because the last financial crisis had so huge negative impact on the economy, investors and economists showed a great fear due to the last financial crisis of 2008. For this reason, financial crisis and the collapse of the financial market has been the subject of many researches because economists and investors tried to understand how the crisis started, and its impact on the economic growth and development in order to avoid a future occurrence. The instability of unregulated financial transactions and American subprime allocation spread the crisis worldwide.

This paper talks about the financial crisis related to the American subprime which has been affecting the international financial sector since June 2007. This crisis reveals several weaknesses, inconsistencies, gaps related to the previous financial institution's regulations.

This dissertation is mostly focused on exploring the financial crisis, establishing its causes and effects on the international financial world. In fact, in order to understand the consequences of the financial crisis, we need to know the origins of the crisis, and examines the different factors leading to the collapse. Because of the negative impact of the crisis on the real economy, and despite all the previous researches made in this area, it still important to do more research related to this issue in order to get a better understanding of the causes and avoid repeating the same mistakes with for main objective the promotion of economy stability and economy growth. One of the main factors of the financial crisis was due to the uncontrollable allocation of mortgages subprime. In fact, the American society used to spend more than they had or produced. In fact, the American housing market was a real problem during this period because banks found that borrowers were unable to reimburse their mortgages repayments and loans. So, with a large numbers of borrowers missing their loans payments, banks were forced to repossess the house and the land associated but with a lower value, and stop lending; it was the beginning of the credit crunch leading to a liquidity crisis. The housing collapse was one of the main causes of the financial crisis according to experts and economists who have been examining this issue over the years. In order to resolve this issue, they pushed financial institutions to adopt new regulations with the goal to avoid unnecessary and excessive leading. Willing to resolve these loan issues, the Federal Bank decided to inject a large amount of liquidity into the financial markets by using the quantitative easing method (QE). Unfortunately, in 2008, the crisis worsened with the crash of the stock markets around the world. This has for result, the lack of consumer's confidence in the financial infrastructures leading to banks run.

Many organizations lost their financial standards and left a negative impact on stock market and a bad impression on many investors; in fact, the bubble left a non-forgettable print in the history of the world market. For example, the collapse of Lehman Brothers brought down the entire financial market and redefine the entire world economy.

This paper is divided in three main sections: the concept of financial crisis, the main causes and impact of the global financial crisis, and the failure of central banks despite their efforts to solve the financial crisis.

This study will be summarized into six chapters. The first chapter will talk about the financial crisis, the background around the financial crisis and the research objectives we stated for this study. In chapter 2, we will use academic journals in order to support our theory and also



covered the origins of the financial crisis, the causes and its impacts and possible ways of preventing a future occurrence.

In the chapter 3, the research questions and its objectives will be review in the research methodology of this study. Data analysis will be analysed in the Chapter 4. Finally, conclusions and recommendations will be explained in the last chapter of this research study. The main objective of this research is to examine the different factors leading to the financial collapse, and determine how it impacts the world economy, and reviews the new policies following the financial crisis.

In this study, we will provide answers to the following questions:

- What are the different factors leading to the financial crisis?
- How the financial crisis affects the world economy?
- Implementation of the quantitative easing and the failure of the central banks?
- What were the new financial policies following the financial crisis?
- Why economists were afraid about the possibility of a new financial crisis after the collapse of the financial crisis?

Central banks can be defined as a financial institution responsible for overseeing the entire monetary system of a country by regulating monetary policy, inflation, financial stability and so on. During the financial crisis of 2007-2009, central banks tried to manage the financial crisis by adjusting the interest rate in order to reduce bank costs, encourage spending and keeping the economy from falling into recession. As the crisis intensified, central banks like the Federal Reserve and Bank of England decided to cut sharply interest rates in order to boost the economy. Unfortunately, despite of all their extraordinary measures adopted in order to solve the issues related to the crisis, it was a total failure. Indeed, one of the extraordinary additional measure was the quantitative easing. In fact, in order to implement quantitative easing, central banks create money in order to purchase assets like government bonds in order to stimulate the economy by encouraging spending and lowering interest rates. Quantitative easing also known as QE is the policy used as the expansion of the central bank's balance sheet through asset purchases, financed by central bank money. The main objective was to take money and buy assets in order to replace the different assets sold to the Federal Reserve known as government gilt. We will see how central banks failed to boost the economy despite the conventional and unconventional policy measures taken in order to loosen the monetary policy.

This research will help us to prove that the financial crisis of 2007 has been one of the greatest crisis faced by the financial market by establishing the differences faced by the financial world pre and post crisis. This research will examine the impact on financial crisis

specifically on the United States. In order to do that, we collected monthly indices prices from international stocks market in order to support our theory. However, due to the possibility of some mistakes or omission during the data collection, it is important to collect the data very carefully by downloading data from Bloomberg terminal. This research has for purpose to assess the consequences of the financial crisis on the different countries mentioned above. We will review the new regulations adopted by the banking system after the collapse of the market economy and the implementation of the quantitative easing policy. Finally, we will explain how the central banks didn't achieve their objectives despite their efforts to increase spending and help achieve the 2% inflation target by injecting money into the economy.



# Critical Literature Review

## 2.1 Introduction

Since the Great Depression of the 19<sup>th</sup> century, the financial markets faced its greatest crisis in 2007 leading to several long term negative effects. However, despite the fact that this financial crisis appeared nine years ago, its effects are still affecting the economy system in many ways. This chapter address different critical literatures review related to the causes of the financial crisis, its impact, and the unconventional measures such as the quantitative easing policy, the promotion of spending, or the flexible monetary policies taken by the central banks in order to limit the effects of recession didn't stop the failure of the central banks.

The first section of this dissertation presents a historical review of the different financial crisis. The main causes of the crisis will be explained in the second section. The next section would focus on the impact of the financial crisis and the general failure of central banks. Finally, the last part will be a brief conclusion related to the global financial crisis of 2007.

## 2.2 Historical setting

Since several years, the financial market has been experiencing several issues ranging from the collapse of the stock markets to the different financial crisis or banking failures. Most of these financial issues left their mark on the real economy and pushed researchers to do some reviews in order to understand the disruption of the financial market during the different previous economic collapses. The global financial crisis of 2007 has been considered to be the worst financial disruption by many economists since the Great Depression of the 1930s.

Other examples of economic disruption include the crisis of 1857, 1893, 1907, and 1929 to 1933. If financial crisis seems to have different causes and circumstances, it is certain that they have for negative effect to slow down the economy. For example, the financial crisis of 1907 also called the panic of 1907 took place in October 1907 when the New York Stock Exchange in USA dropped dramatically of 50% having for consequence several banks run and trust company issues. The panic caused a period of economic recession with primary cause's market liquidity issues and unregulated side bets. In addition, the failed attempt to corner the market on stock of the United Copper Company in October 1907 triggered the panic leading many local banks and businesses into bankruptcy.

Another example will be the banking crisis of 1933 known as the Great Depression in 1930s. However, this crisis started in the United States in 1929 and spread to other countries lasting until late 1930s. This crisis was triggered by the fall in stock prices in the United States and became worldwide after the stock market crash of October 29, 1929. Jeff Desjardins (2016) stated that the worldwide GDP fell by about 15% between 1929 and 1932 making this crisis the longest and deepest depression of the 20<sup>th</sup> century. It is important to mention that this crisis has been taken as example since several years in order to show how far the world's economy can decline.

Another major crisis was the Asian financial crisis which started in East Asia in July 1997 leading to the fear a global financial crisis due to financial spread. In fact, the crisis started in Thailand with the collapse of the Thai baht forcing the government was forced to float their own currency known as the baht to support its currency peg to the US dollar due to the lack of foreign currency.

The crisis of 2007 known as the Great Financial Crisis was due to the collapse of the subprime mortgage associated with the housing boom after two years of increasing policy rates were the main factors leading to the financial crisis in early 2007. The defaults on mortgages affect investment and commercial banks through the use of complicated derivatives. As major result, we have been experienced a long period of recession through a credit crunch and the collapse of equities markets despite the measures taken by the Fed and other central banks in order to boost liquidity.

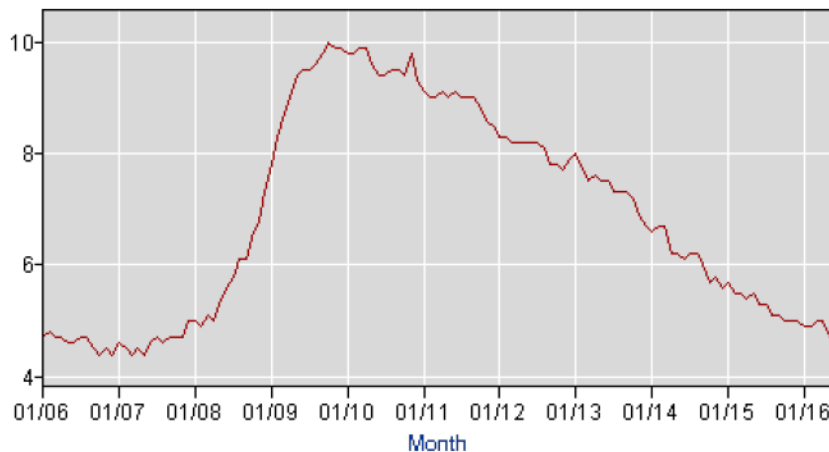
The European debt crisis also called the European sovereign debt crisis started in Europe in 2009 involving several countries like Cyprus, Greece or Portugal. In fact, they were unable to repay their government debt without the help of the International Monetary Fund or the European Central Bank. This crisis was created by several causes like private debts or the banks run and government attempts to slow down the economy after the bubble. In order to resolve this crisis, the European Union decided to create new financial measures such as the European Financial Stability Facility or the European Stability Mechanism in order to support the economy. Not to mention that the ECB decided to provide cheap loans and loosen interest rates in order to maintain money flows among the major European banks and resolve the crisis.

In conclusion, since several years, the world economy has been experienced several financial crises due to different causes. Some crisis was more serious than others or were more restricted to certain countries like the Asian financial crisis. However, regardless their causes, they all have a negative impact by slowing down the economy and by creating recession.

## 2.3 Origins and causes

Financial crisis is not a new event and as discussed above, the world economy has been experiencing several economic downturns but the precedent crisis of 2008 is not certainly the last one. The financial crisis went worldwide during 2007 and began with the mortgage lending markets. In fact, since 2007, two important mortgages known as Freddie Mac and Fanny Mae experienced some difficulties and decided no longer to purchase high risk mortgages. In addition, the bankruptcy of New Century Financial Corporation known as a lending mortgage lender to the riskier company which filed for bankruptcy. This has for consequence to push credit agencies to loosen their risks requirements of asset-backed securities in 2007. Collapse of financial markets, macroeconomic issues, and deregulation made the crisis of 2007, the most severe crisis since the crisis of 1933 and the economy still recovering. In fact, a lot of people lost their jobs, and the economy was struggling to rebound for many years. The financial sector has grown so complex that it became more difficult to regulate and supervise financial institutions. For these different reasons, the crisis pushed houses prices to fall and the number of foreclosure to rise dramatically. Central banks have been created in order to allow them to supervise a country's financial stability through proper regulation and supervision. In fact, the regulation of the financial sector failed to keep on track with the evolution of the financial market. The goal of this chapter is to determine the main origins of the financial disruption. The financial crisis started in 2007 with for main factor the house price bubble of 1997. In fact, investor Bob Taiken (2009) said "At this point, bubble is the only thing keeping us afloat". In response to the financial market volatility, the Dow Jones Industrial Average (Dow) is an index composed of 30 of the largest publicly-listed companies including banking institutions registered its largest single day point drop on 29 September 2008. In fact, during this period the DOW registered four of the five highest point gains and loss in terms of volatility between September and December. In addition, the unemployment rate increase dramatically from 2008 to 2011. According to the data collected by the United States department of labor, the labor force statistics from the current population survey extracted on July 14, 2016, showed us the unemployment rate before the crisis, during the crisis and now on the graph below.

### Labor Force Statistics from the Current Population Survey



**Source: Labor Force Statistics**

On the table above, we can see that before 2008, the unemployment rate was approximately equal to 4.4%. However, from 2008 to 2010, the unemployment increase from 4.4 percent to approximately 9.9% which was the highest value of unemployment rate during 2011. From 2012, the unemployment rate started to decrease until now with 4.7% as the lowest value. (Labor Force, 2016).

The rise in house prices demonstrated a real increase in demand for housing. In fact, from 2000 to 2005 the US houses prices doubled dramatically over this period. According to Marshall (2009), the significant increase in the demand for housing is due to several factors like low interest rates, support for the subprime market, and speculation. A strong evidence showed that receiving a subprime mortgage was a lot easier and cheaper in the US.

In addition, an individual study conducted by Demyanyk and Van Hemert (2008) find out that the loan system as well as macroeconomic conditions, the credit quality of new subprime mortgages fell each year from 2001 to 2006. In his testimony during the US committee on Banking, Housing and Urban Affairs, Hearing on the US credit market, Chairman James B.Lockhart (2008) in his hearing explained that government-sponsored mortgages Fannie Mae and Freddie Mac failed to properly assess risks:" Low documentation, low verification



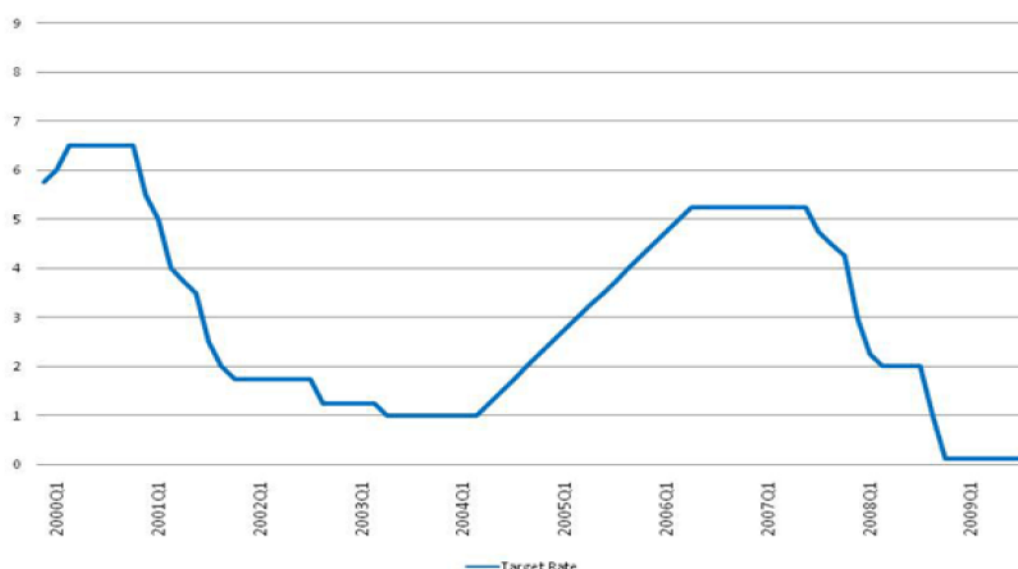
and the non- standards mortgages have been bought and guaranteed by Fannie and Freddie more than they had in the past. One explanation is that Congress through the Department of Housing and Urban Development lowered their standards for low-income families. This government deregulation has also received strong criticism because of an increase in house prices accentuated by property speculation. Bruce Karatz (2006) stated that «in some markets, 10% to 15% of buyers were speculators.»

The bubble was global in many ways and lead to important issues in the securitized mortgage market and in the economy. The Financial Crisis Commission has been created in 2011 in order to determine the different causes of the financial crisis to the American people. Based on previous research and their own assessment they have been trying to explain what happened, how it happened and how the crisis could have been avoided. The Financial Crisis Inquiry Commission (2011) stated that panic spread due to the lack of transparency of the balance sheet of major financial institutions view as “too big to fail”. Several researchers and papers reviewed the causes of the financial crisis Giannetti, M. (2007), Vishwanath, T. and Kaufmann, D. (2001), Barth, M.E. and Landsman, W.R. (2010) claimed that the use of complex financial instruments contributed to the uncertainty and the lack of transparency leading to the financial crisis of 2008. One of the consequences resulting from the lack of transparency and banking deregulation was the inability and the unwillingness of lenders to meet their payments. With the decline of mortgages interests, the option of selling the property or refinancing the mortgage declined dramatically.

Another cause was an increase of the government and non-financial company's debt, and household's debt since 2007. In fact, the amount of debt related to the financial sector increased from \$3 to \$36 trillion according to the Financial Crisis Inquiry Report (2010). The crisis was avoidable because it was mainly due to the actions and inactions of people. This can be illustrated by the fact that the Federal Reserve couldn't monitor the regulation of toxic mortgages despite the fact that they have the possibility to set prudent mortgages lending standards.

One of the main reason of the important effects of the bubble in the United States were due to the policies of the Federal Reserve back in 2003. Chairman Ben Bernanke (2010) gave a brief review of the US monetary system from 2002 to 2006. Based on his statement, since 2011, the economic situation has been experiencing a moderate recession due to an important decline in stock prices. In addition, the invasion of Iraq in March 2003 and the terrorists' attacks in 2001 associated with several corporate scandals in 2002 affected the US economy in the early past decade.

## The Target Federal Funds Rate



Source: Federal Reserve Board.

1

The target federal funds rate has been represented in the graph above (Fred-St Louis, 2009) and set by the Federal Open Market Committee from 2000 to 2009. The Federal Reserve has for goal to manage the interest rates set by each banks when they lend to each other, and the federal funds rate. In response to the recession of 2001, the target federal funds rate decreased from 6.5 percent in 2000 to 1.75 percent in 2001. The new monetary policy in response to the recession in 2001 was initiated trough two important channels. In fact, the recovery from the recession remained weak until 2003. GDP rose just above 2 percent in 2002 and at an insufficient rate in 2003 leading to an increase of unemployment rate. The second factor was the possibility of an unwelcome decline in inflation, and one of the FOMC's response was to set interest rate near to the zero lower bound.

The Financial Crisis Inquiry Commission (2009) created by the American government with the objective of understanding the causes of the global financial crisis also stated that the world economy has been experiencing almost 30 years of deregulation and conclude that regulators have the power to protect the financial market but chose not to. They conclude that important failures in financial regulations and supervision contributed largely to the instability of the financial system. We know that financial crisis was caused by too a lack of

regulation and perpetual issues in the financial system. Since the last twenty years, economists stated that banks and financial institutions have been taking too many risks due to deregulation resulting to insolvency with a strong amount number of weak mortgages in our financial system.

In order to avoid financial distress, and meet Basel II requirements, banks needed to regulate their risks. They were looking for a way to protect the riskiest securities by managing carefully a financial derivative known as credit default swap insuring the holder of the MBS against risk default.

Merendino,A (2014) and Kumar, N. and Singh, J.P(2013) agree by pointing out the importance of the Federal Reserve, and how they play a major role during the crisis by influencing the level of national credit through their monetary policies. In fact, they have the right to inject money into the economy in order to decrease interest rates or withdraw their money in order to increase interest rates. They can also decrease the money supply by selling government to bonds to banks or purchasing government bonds from banks in order to increase the supply.

The crisis started with the American housing market with house prices decreasing from more than 30 percent in 2006 and was considered as the most important decline since the 1930s on a national level. During this last phase of the boom, the household debt had increased significantly over several years as we can see on the figure below.

For instance, The Supreme Audit Institutions and the Financial Crisis Inquiry commission, and some researchers as Merendino,A (2014) stipulated that the American housing was the main cause of the financial crisis.

Alan Greenspan said it was “a once-in-a-century credit tsunami” when he talks about the crisis. However, it was preceded by a financial crash with less repercussion like the US stock market crisis of 1987, the financial crisis and the Great Stagnation of the 1990s, the Asian financial crisis and the New Economy Crash of 2000. This one was certainly the worst one because it outreached the precedent one and put the entire economy in a state of deep and continuous decline.

Financial institutions have for main role to collect money from savers and lend it to borrowers. Without financial intermediaries, it is difficult for companies to conduct their daily activities. However, financial institutions still have limits; in fact, they do experience systemic risk which can be characterized by the freezing of capital markets, or the failure of major banks. In other words, systemic risk can be seen as the possibility that an event could lead to economic instability or contribute to the collapse of the economy. In general, these

institutions are very large in regards to their different industries and companies considered “too big to fail” was a major contributor to the financial crisis of 2008.

With the bankruptcy of Ownit Mortgage Solution in 2006 and the failure of the largest lender known as New Century Financial, the subprime default led to the systemic failure of two important hedge funds invested in subprime assets-backed securities in June 2007. While prices of debt obligations began to fall with the defaults of subprime, lenders started asking for more collateral. The collapse of the financial system was first induced by the collapse of house prices. Besides the global financial crisis, there were some issues in the financial system which were the major causes of the economic problems. As discussed above, the crisis began with the collapse of the housing mortgages in 2007. However, during the crisis, most of the money were held in debt- based institutions, investment banks and were financed over short-term debt so in this case when there is a significant problem, lenders don't know when they will get their money back. Because of the correlation between the interaction and the real economy, the problem started in subprime mortgages and then spread too many other areas of the financial system. The crisis worsened with the failure of Lehman Brothers and the collapse of the insurance company known as American International group. From 2007 to 2008, there was an agreement among investors that poor incentives in the US mortgage industry had caused the problem. Traditionally, banks would raise funds, do some analysis and interview regarding borrowers, and then lend out the money to those approved. In the case where the borrowers defaulted, the banks would bear the losses. Banks carefully assess the credits scores of borrowers by providing good incentives. However, over time, the previous system changed and regulations were altered. In the new process, the banks or brokers were paid based on the mortgages that have been accepted, so they have for goal to sell as many as possible without taking care of the borrower's defaults.



## 2.4 Impact of the financial crisis

There was an intensive fear surrounding the financial world after the collapse of Lehman Brothers in September 2008. This fear spread so far that banks stopped lending to each other leading the risk premium of interbank increasing from 1 % to approximately 5% (European Central Bank, 2009).



**Source:** [www.tradingeconomics.com](http://www.tradingeconomics.com)

In order to stop and reduce the effects of the financial crisis, central banks around the world like the Fed or Bank of England decided to inject their own money into the financial markets in order to boost the economy and encourage people to spend but it wasn't successful. This has for result a global drop in all banking activities. Despite their fiscal and monetary actions in order to limit the effects of recession, the downturn in activity lead to a strong unemployment rate around the world.

The global crisis threatened the collapse of large financial institutions, and the housing market resulting in eviction and foreclosure. In addition, it leads to the decline in consumer wealth, and a drop in financial activity leading to the Great Recession and the European sovereign-debt crisis. The financial crisis had a real impact on the European economy leading to adverse feedback effects on loan books, allocation of credit, and assets valuation. Some countries have been more economically vulnerable than others reflecting the exposure to real estate bubbles or the presence of a large financial center. The impact on economic activity happened through three transmission channels. The first one was the connection within the financial system itself. The second channel was wealth and confidence effects on demand (Heim, 2009). The last channel is the global trade which is the world trade collapsed

at the end of 2008 as business investment and demand for customer durables. There was also an impact on the potential growth.

As we can see on the graph below, before the crisis, the European Union experienced an economic boom with a rapid GDP and credit growth due to euro adoption and EU convergence.



**Source: [www.tradingeconomics.com](http://www.tradingeconomics.com)**

Until the end of 2008, the European Union became resilient to the global financial crisis mostly due to the fact that the European Union had negligible exposure to the subprime assets. However, from September 2008, the financial collapse gained in intensity and hit hard the European Union. In fact, exchange rates were strongly affected, stock markets experienced huge losses and bond spread became more volatile. The crisis also had a huge impact on capital flow associated with a strong deceleration in credit and deposit growth in the banking sector. The disruptions in domestic and international markets lead to severe recessions in several European countries.

## 2.5 Quantitative easing and the failure of central banks

In September 2008, after the failure of Lehman Brothers, because of the fact that international financial markets became dysfunctional and credit conditions tightened markedly, investors lost confidence in the financial market after its collapse. Corby.V (2010) argues that a central banks has for main objective to contain a day limit the impact of a financial crisis on the real economy. The first step is to restore calm and confidence into the financial markets in order to avoid banks run.

Central banks have for main objective to manage the damage and limit the effects on the world economy during the financial crisis, and restore confidence in the banking system. In fact, central banks have for goal to manage monetary policy and may play a role in inflation rate. Financial institutions and commercial banks are under the control of central banks.

In general, they react after economic crisis or bubble burst in order to reduce damage to the economy rather than stop the bubble. In September 2008, various agencies began to take comprehensive steps in order to contain the consequences of the crisis. In fact, the Federal Reserve took several steps to resolve financial instability. Chairman Bernanke (2008) said: "Broadly, the Federal Reserve's response has followed two tracks: efforts to support market liquidity and functioning and the pursuit of our macroeconomic objectives through monetary policy. "

The Federal Reserve decided to take the following steps in response to the financial instability:

1. Lowering the Federal Funds rate from 5.25% to 2.25% and the discount rate from 5.75% to 2.25%, and then decreased the federal funds rate target to 0.25%.
2. Central banks lowered interest rates as well and charged banks regarding short-term loans.
3. In order to allow them to lend to banks and non-banks institutions, the Federal Reserve created a variety of lending facilities.
4. A \$600 billion program has been planned in order to buy the mortgage backed securities, in order to reduce mortgages rates
5. In 2009, the size of the Federal Reserve's balance sheet by the federal open market committee decided through the purchase of an additional \$750billion of mortgages backed securities.
6. In 2009, they also buy up to \$300 billion of Treasury.

In association with other banks, the bank of England decided to loosen monetary policy using special policy measures in response to the spread of the global crisis.

Quantitative easing can be defined as a monetary policy used by central banks in order to boost the economy when the regular monetary policy became ineffective. In other words, quantitative easing can be defined as the purchase of asset financed by central bank money, commercial banks and other financial institutions. The quantitative easing asset purchases had economically significant effects. In fact, a central bank implements quantitative easing that rising financial assets and lowering their yield, while increasing the distribution of money. The policy of buying or selling short-term government differs from the policy of quantitative easing. In order to stimulate the economy, central banks decided to buy short-term government bonds and loosen up the market interest rate by using expansionary monetary policy. Quantitative easing is useful for the economy because inflation does not fall below a target. According to the International Monetary Fund, economist and the US Federal Reserve have been undertaken since the financial collapse has attenuate some of the economic problems since the crisis. In addition, one of the reason that may cause higher inflation is quantitative easing if there is an overestimation in the amount of easing and the purchase of liquid assets is created by the purchase of liquid assets.

However, if banks remain reluctant regarding the problem of liquidity faced by the real economy to lend money, quantitative easing still failed to support the central bank's expectations. In addition, they tried to lower interest rate in order to boost the economy and promote spending.

In fact, the depreciation of a country's exchange rate by the increase of the money and lowering interest rates lead to a capital outflow from a country, reducing foreign demand for a country's money, leading to a weaker currency. In addition, the government also authorized central bank to pursue a number of activities targeted in order to improve the functioning of specific financial markets. The financial crisis inquiry commission in its report (2010) as well as the international monetary fund points out that the government was not enough prepared for the crisis and their inadequate response to the collapse contribute to the uncertainty and bank panic in the financial markets. Based on their research they found out that organisms, special commissions, central banks such the Federal Reserve, the Treasury department and others agencies were far away behind the curve because they didn't have a clear view of the financial system and its evolution. They also incriminate policy makers and regulators because they didn't have any strategic plans in order to contain the effects of the crisis and didn't realize that a bursting of the bubble could bring down the entire financial system.



The Federal Reserve acted as a major actor in the management of financial problem promoting the injection of liquidity and interest rates lowered to 2% in 2008. The term auction facility was the second policy approach adopted by the Federal Reserve as a means of offering short-term liquidity. The third policy was the Term Securities Lending Facility auctioning \$200 billion in Treasury securities in order to increase bank liquidity and resolve the problem of solvency faced by banks around the world. The last policy was the takeover of Bear Stearns facilitated by the Federal Reserve. The Federal Reserve was focused on increasing liquidity for banks and used the injection of money in the economy as a means to reduce risks in the economy. In addition, the Federal Reserve points out the fact that they were unable to control risks spreads on most of its balance sheet. According to Taylor, the Federal Reserve should have required a different approach rather than determine limited liquidity as the main problem.

### **Summary**

Several lessons can be drawn from the previous crisis in order to avoid the same mistakes and prevent a future occurrence. The financial market experienced an important development and became more complex to regulate because of the different issues related to the economic collapse. In fact, institutions and their products have become very difficult to supervise. For this reason, since the financial crisis of 2007, new policies have been implemented in order to avoid a new collapse.

## Research Methodology

### 3.1. Data description and sources

The procedure we used in order to supplement the literature review as well as the methodology research will be explained in this chapter by the researcher. Because of the availability of a large range of sources regarding this subject, the researcher decided to collect essentially secondary data in the field of finance and economics. This research has been realized in order to determine the effects of the financial crisis on the world economy and the failure of central banks especially in the United States and will serve as well a support for the literature review. Establishing the major effects of the global financial crisis on the world economy, we will use the following research questions in order to achieve the main objective of this project:

**Research question:** The global financial crisis in the United States and the failure of central banks.

First of all, we are going to outline the research question and objectives previously set as the main focus of our research work. The critical literature review in the previous chapter will be used as the main support to the research methodology section.

In this chapter, we will explain the different sources we used to collect our data associated with the description of economic indicators we decided to apply in this dissertation. In addition, we will explain how we collected the different data in order to assess the impact of the financial crisis during the pre-crisis, during the crisis and after the crisis.

Statistics for the financial assets of the biggest banks will also be shown in order to assess how some financial institutions were found too big by researchers and economists such as Gianetti.M(2007). This view is also supported by the Financial Inquiry Commission (2010); in fact, after analysing the main causes leading to the collapse, they explained how the big four banks (JP. Morgan Chase, Wells Fargo, Citibank, and Bank of America) were considered as “too big to fail” leading to a lack of transparency in their balance sheet.

Several economic factors such as the unemployment rate, the interest rate, the Gross Domestic Product, the inflation rate and the allocation of subprime mortgages given on a 10-years period will be presented in the section below. The approach we used for the collection of these data and the realization of this research project will also be specified in the data collection. In order to achieve this research paper, we are going to explain how this

dissertation has been conducted with the goal to answer our research question. Our dissertation will also focus on finding the answers to the following objectives:

**Research objectives:**

Objective 1: What are the different factors leading to the financial crisis?

Objective 2: How the financial crisis affects the world economy?

Objective 3: Implementation of the quantitative easing and the failure of the central banks

Objective 4: What were the new policies following the financial crisis?

In this chapter, we are going to explain how this dissertation has been conducted and we will discuss how we are going to answer the objectives we previously discussed. In fact, in order to discuss our research objectives, we are going to use our critical literature review for main support in the development of the data analysis. In addition, we will use secondary data done by different researchers, economists, commissions set by the government in order to get a better understanding of the causes of the financial crisis and prevent a new occurrence. The primary objective of this research project will be to determine the different causes and consequences of the financial crisis and the failure of central banks especially in United States.

**Research question:** The financial crisis of 2007-2009 and the failure of central banks

In order to achieve the main objective of this research which is to determine how central banks failed during the global financial crisis, the following research question would serve as a guide throughout this project.

### **3.2. Data collection**

All the data collected play an important role in the achievement of the research outcome. In fact, our data collection measures the real gross domestic product, the interest rate, the balance sheet of the biggest banks, the credit growth, the allocation of subprime mortgages, and the money supply or unemployment rate will be collected through the Federal Reserve website, the trading economics website, and the terminal Bloomberg was essential for the realisation of this research project. Bloomberg is a computerized terminal which allows investors, students, and economists to get a real-time access to financial, trading investment tools, up to date companies' news feed data provided by Bloomberg. In order to get access to the Bloomberg's terminal, users need to pay a monthly fee or use the identification code

provided by universities to their students for the purpose of their studies. One of the main products offered by Bloomberg L.P is one of the most heavily, and professional program in the financial marketplace known as Bloomberg terminals. Most of the data collected will be based on the most recent literature and researches already done on the subject through the use of electronical sources like Science-Direct, Emerald, the Federal Reserve website and Google Scholar in order to collect and mostly use secondary data for this research project. In addition, financial journals, commissions, and conferences were also used by the researcher to obtain the latest updates on the research subject in financial crisis in order to find an answer to the research question and research objectives.

### **3.3. Research Approach**

We are going to mostly use secondary data regarding the gross domestic product, interest rate, unemployment rate, inflation rate, credit growth, and the allocation of subprime mortgages rates for the following periods: 2005 to 2015. In addition, we will use the data collection in order to evaluate the causes and consequences regarding the global financial crisis before and after the crisis of 2007; the next step will be to analyse the new policies taken after the crisis in order to avoid a new occurrence.

Boslaugh (2007) defined secondary data as one type of quantitative data that has already been collected by someone else for a different research. However, in the case of primary data, the researcher has to elaborate, collect, analyse data, and even designing surveys by himself. For the achievement of this research project, the researcher chooses to use secondary data because of the availability of information's through other sources, and previous research projects. Indeed, it can be advantageous to use secondary data instead of primary data because it is easier to carry research, provides a large access to database and historical data. In addition, the fact that data collection is already completed allows the researcher to save precious time for data analysis and money allowing the researcher to choose and analyse recent theory regarding our research project to old data, and gets more value than from the original data.

Vartanian (2010), stated that “secondary data can include any data that are examined to answer a research question other than the questions for which the data were initially collected.” Secondary data come from many sources and may be available in published texts, cases studies, media, books, authors websites, university records or large government funded datasets. In addition, secondary data can also be restricted and public-use and may be of higher quality especially in the case of studies funded by the government like the Financial



Commission Inquiry (2010), involving larger samples that are more representative of the data collection.

However, despite of several advantages mentioned above, secondary analysis also presents some limitations like the fact that secondary data can be very large and complex. In addition, the quality of the data should never be taken for granted, because important and variable information can be missing and may be scarce. The fact that official statistics have been collected by agencies seems to have more advantages than qualitative data collected from surveys and interviews.

However, it is important to evaluate the validity and reliability of secondary data in order to make sure that the data collected from the different secondary sources are up-to-date. According to Andrews, Higgins, Andrews, Lalor, (2012), Schutt, (2011), and Smith, (2008) stated that “In a time where vast amounts of data are being collected and archived by researchers all over the world, the practicality of utilizing existing data for research is becoming more prevalent”. The fact that secondary data analysis can be collected by someone else in order to meet the requirements of another research objective do not exclude the fact that primary research data followed the same steps than any other research method. In fact, secondary data consists to investigate and learn what people already know and what remains to be learned about a specific subject through reviewing secondary sources and investigations that others have been conducting in a specific area of interest. One of the major steps in secondary data analysis is to review previously collected data in a specific area of interest. The second step is a flexible approach with evaluative steps that consist to collect and evaluate primary data (Doolan & Froelicher, 2009). Based on the huge access of previous data, collected for other researchers, it is important to define secondary data analysis as an advantageous research method.

In addition, we are going to evaluate the changes in interest rates during the crisis and try to determine how central banks failed to handle the variations of interest rates due to the financial collapse. We will see how the Taylor rule has a huge impact on how interest rates and didn't meet the expectations set by the Federal Reserve. The Taylor Rule can be defined as the interest rate forecasting model invented by Taylor in 1992 (Investopedia, 2012). Since we are going to evaluate, and analyse the variations of interest rate in order to have a better assessment of the financial crisis. In addition, it seems important to evaluate the Taylor's rule as well as the relationship between the Taylor's rule and the Federal Reserve' implementation of monetary policy. One of the Taylor's assumptions was the fact that the Federal Reserve determined future interest rates based on the rational expectations theory. The mathematical model of Taylor assumes that interest rates do not need an adjustment only in the case where

workers, consumers, investors, firms, and economists expect positive expectations but they don't have to take into account long-term economic projects.

Below, this is the Taylor's rule formula:

$$i = r^* + \pi + 0.5 (\pi - \pi^*) + 0.5 (y - y^*).$$

Where:

$i$  = nominal fed funds rate

$r^*$  = real federal funds rate (usually 2%)

$\pi$  = rate of inflation

$\pi^*$  = target inflation rate

$Y$  = logarithm of real output

$y^*$  = logarithm of potential output

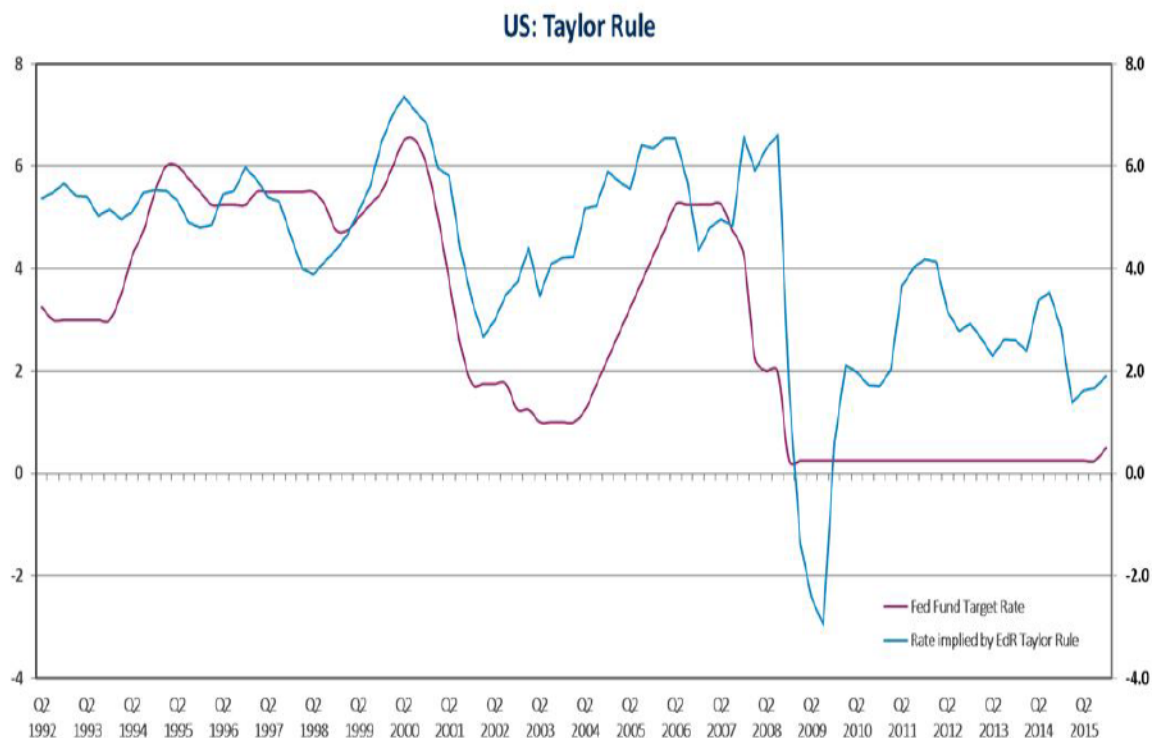
In response to changes in economic condition, Taylor argues that central banks should use the mathematical formula mentioned above when central banks and policy makers conducted monetary system and alter interest rates. So, we are going to see how the Taylor's mathematical formula was established to adjust and set specific rates in order to stabilize the economy on a short-term while maintaining and promoting long-term growth at the same time.

The Taylor's rule was based on three factors:

- Targeted versus actual inflation level
- Full employment versus actual employment levels
- Short-term interest rate with full employment

The power of the Federal Reserve and the independence of its monetary policy has been put in question by the US presidential candidates, investors, and economists. In 2015, the Federal Reserve Transparency Act was designed by the Federal Reserve in order to make them responsible for their actions. This act also adopts a clear rule for setting interest rates in accordance with the Senate. From 2009 to 2015, the Federal Reserve set a zero interest

policy, and deviated from the interest rate recommended by the Taylor Rule as we can see on the chart below. (Investopedia, 2012)



**Source: Investopedia**

In order to answer our question's research and establish how central banks failed to address the issues related to the global financial crisis of 2007, we are going to explore the impact of Taylor rule and the Federal Reserve's implementation policy. In fact, for many years, some researchers argue that US central banks should use a discretionary policy instead of using the Taylor's mathematical formula:

- Taylor-type rule: it is a simple, and transparent method that consumers, companies, economists and investors could understand. Based on this rule, it would enable the Federal Reserve's to prevent uncertainty and financial instability. Economists supporting the Taylor rule was concerned about the fact that the Federal Reserve had been too accommodative for almost twenty years of deregulation. In addition, they didn't use the optimal interest rate measured by the Taylor's assumption after the global financial crisis.

## **Data Analysis**

### **4.1 Introduction**

This chapter mentions the findings of the research conducted in order to determine the different effects of the global financial crisis in the USA on the international financial market. In order to have a deep understanding of the causes and impact of the crisis, it seems primordial to identify the major economic indicators like the gross domestic product also known as the GDP, the unemployment rate, the credit growth, and the allocation of mortgages during the financial collapse. In fact, these economic indicators can be used as reliable factors and serve as foundation for the economic development of a country's economy. We have been analyzing the different data collected through secondary research method in order to establish the different sectors affected by the global financial crisis, the researcher discovered that because of the great level of interdependence of each country is a result of the phenomenon of globalization. According to Mendoza (2009), based on two observations, the author suggest that financial globalization played an important role in the global financial crisis. Indeed, the fact that a large amount of credit growth in the United States by foreign borrowing lead us to think that such a surge in debt in the United States can be seen as a consequence of financial globalization. In fact, Onyukwu (2009), argued that the global financial crisis and economic crisis was due to the contagion effect, which is the result of the interdependence of financial systems. In order to assess these issues, we will see how the US credit boom almost doubled from 1982 to 2008 and was mostly financed by foreign lending.

### **4.2. Economic variables**

#### **4.2.1. The credit growth during the global financial crisis**

Liquidity is the centre of all financial intermediaries, because it is related to the notion of credit. According to Diamond (1983), asymmetric information allows banks to create liquidity through their assets. In addition, banks provide liquidity to the real economy by allocating credits to borrowers, and to depositors by making funds available to them on demand. These different functions of banking system leave banks vulnerable in terms of a high demand of liquidity from borrowers which can have for consequences a bank run by depositors. It is important to note that when banks provide liquidity to borrowers, the loans given are considered like relatively illiquid assets for banks. So, in the need of liquidity in



order to boost the economy, banks may be forced to sell loans or use them as collateral especially in the case where market liquidity becomes scarce.

According to Investopedia (2014), credit refers as an agreement in which borrowers receive a particular amount of money for a specific interest and agrees to repay the lender at a particular date in the future. In addition, the decreasing assets or increasing liabilities and equity on the company's balance sheet can also be defined as credit.

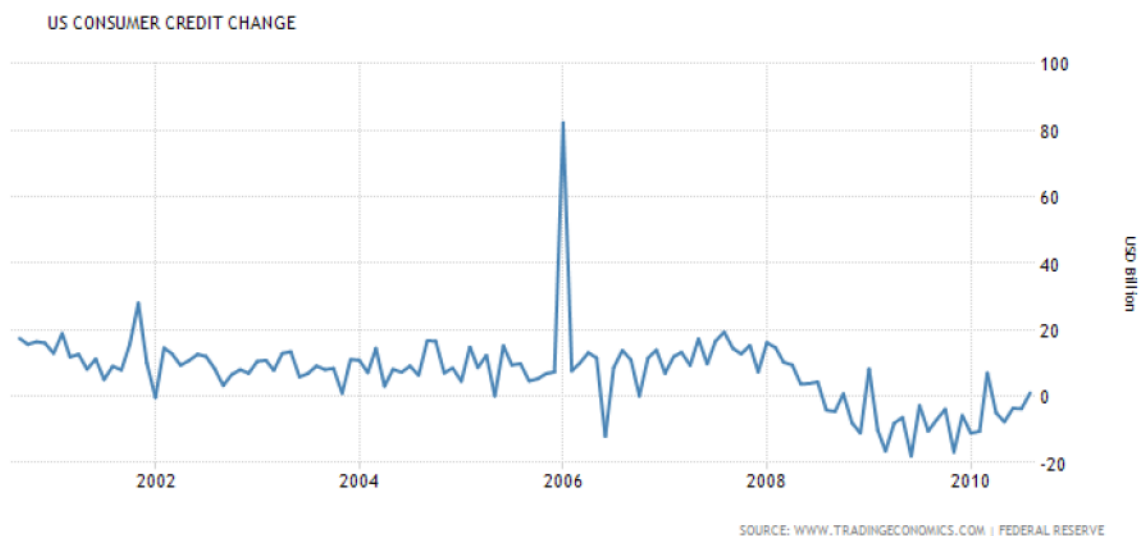
Concerning credit growth, the increase in the amount of credit that banks lend to companies, institutions, individuals, or business can be defined as credit growth(Bhatnagar,2006). It is important to have a basic understanding of credit growth because it plays an important role in the global crisis of 2007. In fact, the collapse went global in 2008 mainly because of the banking panic which pushed the international economy system into deep recession.

This panic started with the credit boom in 2007, followed by the meltdown of subprime mortgages and all other types of securitized products. In this chapter, we are going to focus on two types of credit in order to ascertain the credit growth during the global financial crisis of 2007. In fact, the data we have to collect regarding the credit growth during the global financial crisis will be commercial and industrial loans, and the consumer credit change. In fact, the first type of credit known as commercial and industrial loans is really important because they constitute a major component of assets that commercial banks report on their balance sheets.

In order to ascertain how credit plays an important role in the global financial crisis, the researcher downloaded the US commercial and industrial loans on the Federal Reserve website between 2005 to 2014. On the graph below, we can see that there was a significant increase from approximately 2005 for an amount of about 1150 millions dollars to 1550 millions dollars in 2014. However, this increasing amount in commercial and industrial loans is immediately followed by a deep decrease in 2009. In fact, we can a decrease in 2009 from almost \$1600 millions to \$1200 millions followed by a slight increase in 2011(for an amount of 1120) until 2013 (for an amount of almost \$1600 millions).



The second type of credit data we collected on the Federal Reserve website as well is the American Consumer Credit Change. Consumer credit can be defined as the monthly release from the Federal Reserve Board that estimates changes in the dollar amount of outstanding loans to individuals, and funds which are mainly used to purchase consumer good, excluding loans backed by real estate.



Between 2002 and 2005, the US consumer credit was relatively low. In 2002, the US consumer credit was almost equal to 0. In 2006, the consumer credit increase dramatically to 80 million and decrease to a negative value of almost -10 millions in 2006 leading to the credit boom and the beginning of the financial crisis. On the graph, above we can see a slow increase between 2006 and 2008 (from - 20 millions to almost 20 millions). However, in 2008, the credit rate started to fall again progressively until reaching a negative value of - 20 million for the second time in four years.

### **4.2.2 Effects of the global financial crisis on the US credit supply**

The global financial crisis started to show its effects on the real economy between 2007 and 2008. In fact, stock markets have fallen, leading to the collapse of large financial institutions and the intervention of the government for the bail out of their financial systems. These effects on the real economy, lead to a lack of liquidity from 2007 to 2009. Banks that relied mostly on deposit and equity capital financing were the only one to have stable sources of financing, and continue to lend money to others banks. In contrast, banks with less liquidity on their balance sheets, have to increase their asset liquidity and reduce lending. The different efforts made by the financial institutions in order to slow down the liquidity crisis experienced by banks led to a profound decline in credit supply. In addition, we can see that the increase in loans on banks' balance sheets started to have a negative value because the Federal Reserve started to purchase assets from investors, issuers, and mutual funds in order to boost economy.

### **4.3. Unemployment Rate**

In order to understand the relevance of this economic variable in determining the effect of the global financial crisis on the US economy, we first need to understand the definition of unemployment.

Unemployment rate can be defined as the percentage of the total labour force that is unemployed but still looking for employment and are willing to work (Investopedia, 2014). In fact, the unemployment rate is a measure used to determine the current number of people looking for a job. Economists are concerned about unemployment rate when the unemployment increase in comparison to a country's growth domestic product measured in the long run. According to the bureau of labor statistics (2015), the U.S department of labour publish the unemployment rates in the Unites States on a monthly basis along with many characteristics.

The global financial crisis pushed the economy into recession, leading to a deterioration of the labour markets conditions in many countries according to the OECD outlook (2008). In fact, after the start of the recession in 2008, unemployment started to rise sharply leading to an increase of 1.6 million or 5% as value of unemployment rate. Because of the important consequences of the global financial crisis on the unemployment rate, the International Monetary Fund and the International Labour organization decided to issue an assessment of the outlook for unemployment following the aftermath of the crisis, because of the challenges that have been faced by the workplace in creating enough quality jobs in order to sustain

growth and development (International Monetary fund, 2010). Global unemployment which have been over 6 percent for several years between 2004 and 2007, increased dramatically in 2009, which was a rise of over 30 millions of unemployed people since 2007. More jobs were needed with an annual labor force growth of 1.6 percent adding 45 million job seekers per years to the global labor force.

Not to mention that unemployment rate is one of the best economic variable showing how well an economy is performing. According to the International Monetary Fund, more than 440 millions new jobs will be needed in order to reverse the unemployment caused by the global financial crisis.

#### 4.4 Effects of the Global Financial Crisis on unemployment rate

From the secondary research conducted to obtain data on the rate of unemployment in United States, were obtained for the years 2006 to 2016. From the data above, we can have observed that during the early stages of the global financial crisis originated from the United States of America already evidenced in the critical literature review, there was no significant increase in the unemployment rate in the United States between 2006 and 2016.



On the graph above, we can see that between 2006 to 2008, the unemployment rate was relatively low (approximatively equal to 5%). However, there is an important increase in 2008, following the beginning of the global financial crisis of 2007. In fact, the unemployment rate almost doubled in United States (from nearly 5% to 10%) from 2008 to 2011. After the recession, the unemployment rate started to decline progressively in 2011 until now. We can see that the crisis was so epidemic that it took the 5 years to the US economy to regain a low unemployment rate (approximatively equal to 5%).



## **4.5 Inflation rate**

Inflation, can be defined as the extent at which the prices for goods and services increase using different measures of inflation as the consumer index price also known as the CPI (BBC, 2014). In fact, inflation have the capacity to influence the interest rate borrowers have to repay on their savings, loans and mortgages. Based on these different reasons, inflation can be considering as one of the most important economic variables in the assessment of a country's economy besides of the interest rate and the gross domestic product. For this reason, the researcher decided to explore the inflation expectations in the United States, volatile enough to impact several countries during the economic crisis of 2007. In our different researches, we found that two factors which were liquidity and other economic factors have such an influence on inflation since the global financial crisis. One of the consequences of the global financial crisis can be shown by the negative inflation values. In fact, the decline in inflation rates, lead to a price changes which turned into negative values pushing economists to think about steps in order to prevent deflation (Jeanne, 2009). This chapter attempts to determine the effects of the global financial crisis on the inflation rates especially in the United States. In order to see how inflation rate didn't meet the economist's expectations, we will see how they differ from the central banks' objectives. In fact, if inflation rate were well implemented, they shouldn't be dependent to possible news and still be stable. In order to measure the effects of the global financial crisis, we can use either inflation surveys.

## **4.6 Effects of the global financial crisis on inflation rate**

With the spread of the global financial crisis, and after several years of strong economies and credit expansion, policy makers are trying to find a solution to the consequences of the financial collapse including inflation. The global financial crisis leads to an increase in inflation for a short period. In fact, official figures demonstrated that the inflation rate increases from 4.7 % in August 2008 to 5.2 % in September 2008(Wall Street). Economists demonstrated that it was the highest inflation rate since March 1992.



**Source: Trading economics**

US inflation rate data have been collected on a 10 years' period (from 2005 to 2015) on the website of trading economics. In fact, on this graph, we can see that in 2008, the US inflation rate increase from 2 % to almost 6% in response to the global financial crisis. However, we can see that interest rates decline dramatically to a negative value of -2 % in 2009, then followed by an increase of interest rates to 2%. The decrease in interest rates was initiated by the central banks in order to reduce the effects of the financial global crisis. In fact, central banks took special measures to loosen monetary policy and supply demand. However, despite their efforts to loosen their policy, central banks estimated that it would be impossible for the economy to meet the 2% inflation target. For this reason, the goal of their new policy was to inject money into the economy in order to boost nominal spending and achieve the inflation target level.

#### 4.7- Interest rates

Interest rate is an important economic indicator because interest rates is the cost of borrowing money from banks. In addition, it is important to mention that there are different types of interest rates.

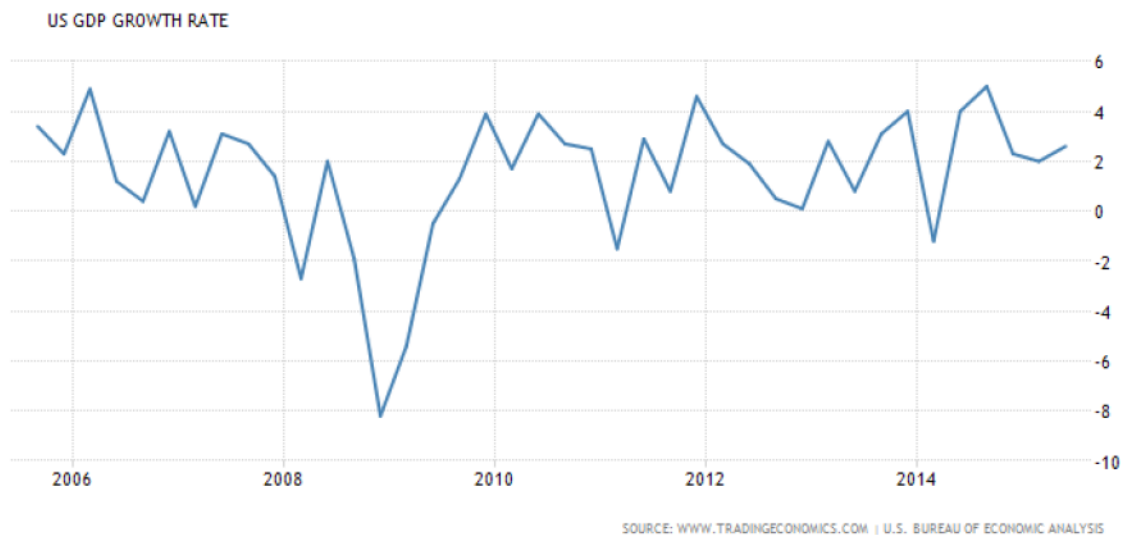


**Source: Trading economics**

On the graph above, the interest rate collected for the following periods from 2005 to 2015, showed an important increase of interest rates from 2006 to 2008. In fact, the interest rates during the global financial crisis increase dramatically from almost 0% to 5%. In 2009, interest rates started to decrease progressively until 2%. (James, 2014), refers to interest rates as being the cost payable by the borrower to the lender as a result of borrowing a sum of money known as the principal from the lender for specified period of time. According to James (2014), monetary policies refers to the process by which the central banks or the monetary authority exercises its power to change short-term interest rates to control the supply of money in the country. This power is usually exercised in order to promote the economy stability of the country by targeting specific indicators such as the gross domestic rate, employment rate, and inflation rate.

#### 4.8 Gross Domestic Product

Among all the different economic variables, the gross domestic product also known as GDP is definitely the most important economic indicators because it reflects the state of a country's economy. GDP can be measured through three different channels which are the output measure, the expenditure measure, and the income measure. This economic variable is a means for the determination of the setting of interest rates. In addition, GDP is also used for the planning of economic policy.



On the graph above, we can see that the GDP decrease dramatically in 2009, with the following values (from 4% in 2006 to a negative value of almost – 8% in 2009). Finally, we can see an important increase to 4%.

#### 4.9 The subprime mortgages crisis

Mortgages can be defined as an agreement that allow a lender to take a specific property if the borrower failed a payment. In fact, the financial crisis went global because of the allocation of too much credit. In fact, banks create too much money by allocating loans on a regular basis. In order to respond to the high demand of loans, new money has to be created. Indeed, the amount of money and debt almost doubled in 7 years.

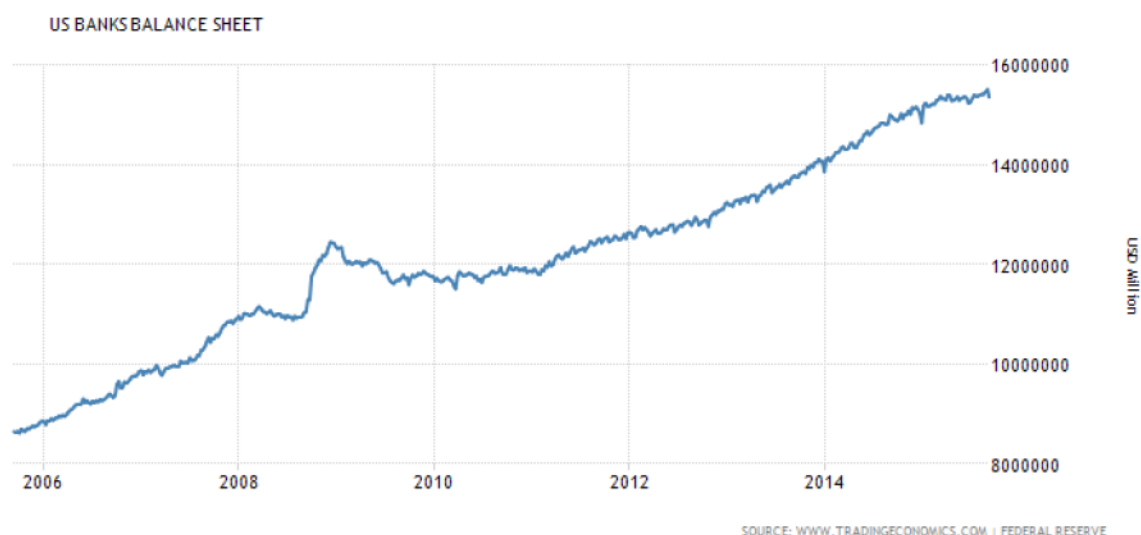


Source: Trading Economics

We can see on the graph above that there was important increase in the amount of the US subprime mortgages from 2006 to 2009. In 2009, the US mortgages rate decrease progressively from 2009 to 2015 (from 6.5% to almost 4%).

#### 4.10 The Big Four Banks

The global financial crisis reveal that some majors were too big and their balance sheet were so large that economists initiated the notion of “too big to fail”. It means that if these financial institutions failed, they could harm the financial system and turn down the financial system and the economy because of the lack of transparency of their balance sheet associated with deregulation. In this section, we will be focusing on the “Big Four” banks known as JP Morgan Chase, Bank of America, Citibank, and Wells Fargo. In fact, we will see the balance sheets of the four largest banks. In order to ensure the financial market to perform despite the global financial crisis in 2008, the central banks decide to promote the major transactions in the biggest banks. This section provides a better understanding of the ‘too big to fail’ notion and should serve as a basis for the development of new reforms in order to prevent a new occurrence.



Source: Trading Economics



On the graph above, we can see that from 2005 to 2015, the balance sheets of US banks increase dramatically (from 90 million dollars to almost 160 million dollars). However, we can observe a little decrease in 2009 for an amount of about 110 million. This graph from the trading economics website demonstrated how big banks can be and perfectly explain the notion “too big to fail”. Policy makers definitely need to monitor important banks in order to avoid another financial instability.

## Conclusion

The financial economy has been experiencing for several years' different financial collapse such as the Asian financial crisis in 1997, the Great Depression in 1933 or the European debt crisis. However, the most severe financial crisis was the financial crisis of 2007 which has severe consequences for several years. One of the major consequences were the unemployment rates which has been increased dramatically from 2008 to 2010. Some important changes in the allocation of mortgages and credit, GDP or interest rates were also among the consequences related to the financial crisis. These changes pushed policy makers to review and change the different policies and regulations. The impact of the financial crisis was so huge that there has been several research about this topic in order to understand the causes and prevent a new occurrence. In fact, the Federal Reserve charged the Financial Inquiry Commission has been created in 2009 by the American government in order to investigate the causes of the financial crisis and understand how the central banks failed in the resolution of the crisis. One of their conclusions were the fact that the world economy has always been experiencing deregulations largely due to the instability of the financial system. According to several economists, deregulation was a real problem because since the last twenty years, it allowed banks and other financial institutions to take major risks resulting to insolvency and a failure to regulate mortgages. In addition, based on the repercussions of the global financial crisis, many researchers agree on the fact that asset price and the increase of credit supply have been one of the major causes of the financial crisis of 2007 because they initiate many issues. In fact, an increase in credit can lead to economical downturn associated to significant negative macroeconomics effects. The financial crisis of 2007 had demonstrated that economic activity and financial stability can be affected by unpredictable assets changes. However, policy makers still need to learn their mistakes and be more careful about the different economic policies in order to prevent a future occurrence. In addition, with accounting standards that have been put in place and explain how to manage large financial institutions worldwide. Among the important lessons we need to retain about the financial crisis will be the fact that financial institutions need a change in the design of regulations for the prevention of a new crisis. The last collapse demonstrated that financial markets have several advantages, but also presents strong negative effects forcing policy makers to change regulatory policies. So, in order to avoid a new occurrence, some new rules have been put in place in order to make liquid banks transparent and establish new accounting standards such as Basel III, making clear on to manage huge and complex financial structure. However, it we still need to determine what types of changes regarding

the different institutional structures can help best reduce financial markets systemic risks. After the mistakes made during the resolution of the global financial crisis, and the lessons from the financial instability, central banks still need to adopt the best practices and policies in order to limit the repercussions of the economic instability. However, according to (Claessens,2013) many countries chose to not adopt a change in their policy responses. This means that they were not able to address the issues regarding the deregulation during the financial instability. It is important to determine what will be the best responses to the different issues related to the economy turnaround. In fact, the different financial turnaround has shown the limits of the policies put in position and the failure of central banks in the dealing of economic instability. Kannan, (2013) through several researches show that a change in policies can reduce the impact and the duration of financial turnaround. However, others researchers argue that such policies can worsen recession outcomes (Taylor, 2009 and 2011). Financial crises often generate strong effects across financial markets and have global issues. There was an active debate among researchers and economists about how monetary policy should change in response to the increase of assets prices and credit growth.

In conclusion, due to years of regulations and a lack of strict fiscal and monetary policies, the financial crisis of 2007 has been a real burden for the financial markets because of the different consequences due to the different consequences of the global financial crisis. In fact, central banks have for primary function to control the nation's money supply through different actions such as interest rates. In fact, they have the power to act as a lender in special circumstances and inject money to the economy during periods of bank insolvency or financial crisis. However, despite their strong influence, central banks didn't manage to find a solution in the resolution of the financial crisis. Many researchers have been made in order to ascertain why central banks despite all their effort to resolve the crisis failed. One of the major reasons for the failure of central banks seems the lack of strong policies and the fact that some majors' banks such as Lehman Brothers were too big to fail and the failure of such big banks were a precursor for the financial crisis.

## Recommendations

Knowing that the allowance of mortgages was one of the main problem of the global financial crisis, some steps can be useful in addition of a change in policies. For a better understanding of the global financial crisis, the researcher tried to use new series data and secondary research especially the different recent study we can find after the post global crisis. In addition, researchers need to use recent data regarding domestic debt, house prices, and mortgages needed to get a deep and rich understanding of debts allocation, and the different changes that occurred in the housing market. It will be useful to create new methods in order to classify the different financial crises and get enough knowledge regarding financial disruptions associated with policies issues related to these episodes. Some of which are not always financial crises. Some economic collapse and financial instability which are not always financial crisis are still important to analyze. It seems logic that adequate and well-regulated policy should prevent financial collapses. Policy makers, investors, and economists can retain some lessons from the previous financial disruptions and use them as possible case studies regarding policy responses and macroeconomic consequences. Market failures and economic instability can have their impact reduced by the setting of prudential policies. A change in policies contribute to financial stability and, reduce the negative effects of a possible economic turndown (De Nicolò,2012). However, we still need to establish specific policies. In order to avoid a new possible occurrence, financial institutions need to establish strict policy in order to determine when they have to intervene and how to intervene. Because of the increase in asset prices and credit growth, policy makers first need to determine the extent to a possible increase. Then, credit growth and an increase in assets suggest risks, set and apply new policy responses in order to eliminate those risks and reduce their impact on the real economy. Because of the increase in public debt stocks in several countries, there is still a lot of work to do regarding new regulation's standards. In addition, in order to raise additional private capital, the government may directly inject public capital into banks. In order to stabilize the banking system, the Federal Reserve will need to stay focus on the setting of new policies in order to prevent of a new possible liquidity collapse. The first step will be to facilitate the repayment terms on existing mortgages in order to reduce the defaults risk and foreclosure which may occur in the future. The second step will be to promote expansionary monetary and fiscal policies abroad. It is not possible to take a deep look to every banks, but we can avoid the American economy to build up too many economic imbalances such as consumer debt, excessive bank's capital for the prevention of an economic turndown and a major modification regarding the lending policies in the



banking sector. Because the main objective will be to avoid a deep recession., policy makers definitely need to take some major actions. The federal reserve and the American government has been trying to find a way to stabilize the financial markets by making in place a plan known as the Troubled Asset Relief Program (TARP). This program had for goal to purchase riskier assets from the banks in order to eliminate uncertainty throughout September 2008. Following the stock collapse in September 2008, new expensive tools and policies have been creating in order to resolve the global financial crisis. The Federal Reserve chose to inject liquidity into the economy, while the Congress and the Treasury chose to facilitate credit, make some adjustments to the housing market, take some measures in order to boost liquidity in addition to the injection of money in the economy. If deregulation was a major problem to the global financial crisis, even if policy makers need to set stricter policies, over-regulation will harm the dynamism of the economy even if we don't know clearly how serious the damage will be. In fact, a lot of more regulation in order to regulate the financial instruments will be required to reduce the likelihood of future systemic failures and to better put in position private and public interests.



**BIBLIOGRAPHY**

Acharya, V., Philippon, T., Richardson, M. and Roubini, N., 2009. The financial crisis of 2007-2009: Causes and remedies. *Financial markets, institutions & instruments*, 18(2), pp.89-137.

Acharya VV, Richardson M. Causes of the financial crisis. *Critical Review*. 2009 Jan 1;21(2-3):195-210.

Arnold, P.J., 2009. Global financial crisis: The challenge to accounting research. *Accounting, Organizations and Society*, 34(6), pp.803-809.

Barrell, R. and Davis, E.P., 2008. The Evolution of the Financial Crisis of 2007—8. *National Institute Economic Review*, 206(1), pp.5-14

Beck, T., Demirgüç-Kunt, A. and Levine, R., 2009. Financial institutions and markets across countries and over time-data and analysis. *World Bank Policy Research Working Paper Series*, Vol.

Bernanke, B., 2007. The subprime mortgage market. *Chairman of the Board of Governors of the US Federal Reserve System*.

Blundell-Wignall, A., Atkinson, P.E. and Lee, S.H., 2008. *The current financial crisis: Causes and policy issues*. OECD.

Cecchetti, S.G., 2008. *Crisis and responses: the Federal Reserve and the financial crisis of 2007-2008* (No. w14134). National Bureau of Economic Research.

Cooper, G., 2010. *The origin of financial crises: central banks, credit bubbles and the efficient market fallacy*. Harriman House Limited.

Diamond, D.W. and Rajan, R., 2009. *The credit crisis: Conjectures about causes and reme*

Duca, J.V., Muellbauer, J. and Murphy, A., 2010. Housing markets and the financial crisis of 2007–2009: lessons for the future. *Journal of Financial Stability*, 6(4), pp

Gramlich, E.M., 2007. *Subprime mortgages: America's latest boom and bust*. The Urban Insitute.

Financial Crisis Inquiry Commission and United States. Financial Crisis Inquiry Commission, 2011. *The financial crisis inquiry report: Final report of the national commission on the causes of the financial and economic crisis in the United States*. PublicAffairs.

Foster, J.B. and Magdoff, F., 2009. *The great financial crisis: Causes and consequences*. NYU Press

Goodhart, C.A., 2008. The background to the 2007 financial crisis. *International Economics and Economic Policy*, 4(4), pp.331-346.

Goodhart, C.A.E., 2011. The changing role of central banks. *Financial History Review*, 18(02), pp.135-154.

Helleiner, E., 2011. Understanding the 2007-2008 global financial crisis: Lessons for scholars of international political economy. *Annual Review of Political Science*, 14, pp.67-87.

Ivashina, V. and Scharfstein, D., 2010. Bank lending during the financial crisis of 2008. *Journal of Financial economics*, 97(3), pp.319-338

Jickling, M., 2009. Causes of the financial crisis.

Joyce, M., Lasaoa, A., Stevens, I. and Tong, M., 2010. The financial market impact of quantitative easing.

Krishnamurthy, A. and Vissing-Jorgensen, A., 2011. *The effects of quantitative easing on interest rates: channels and implications for policy* (No. w17555). National Bureau of Economic Research.

Mayer, C.J. and Pence, K., 2008. *Subprime mortgages: what, where, and to whom?* (No. w14083). National Bureau of Economic Research.

Nier, E.W. and Merrouche, O., 2010. What caused the global financial crisis? Evidence on the drivers of financial imbalances 1999-2007.

Obstfeld, M. and Rogoff, K., 2009. Global imbalances and the financial crisis: products of common causes.

Poole, W., 2010. Causes and Consequences of the Financial Crisis of 2007-2009. *Harv. JL & Pub. Pol'y*, 33, p.421.

Reinhart, C.M. and Rogoff, K.S., 2010. Growth in a time of debt (digest summary). *American Economic Review*, 100(2), pp.573-5

Rötheli, T.F., 2010. Causes of the financial crisis: Risk misperception, policy mistakes, and banks' bounded rationality. *The Journal of Socio-Economics*, 39(2), pp.119-126.

Taylor, J.B., 2009. *The financial crisis and the policy responses: An empirical analysis of what went wrong* (No. w14631). National Bureau of Economic Research.

Wallison, P.J., 2009. Cause and effect: government policies and the financial crisis. *Critic*

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