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IMPACT OF FINANCIAL CRISIS ON THE BANKING INDUSTRY

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Impact of Financial Crisis on the Banking Industry

by

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I hereby declare that this research work is all my work, except for indicated references

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Abstract

The impacts of global financial crisis severely and adversely affected the global financial setups all around the world which can still be observed in several establishments. Not merely becoming an integral part of world's geo-economic zones, but financial crisis taught indispensable lessons to the corporate banking system as well. This study aimed to analyse the prime causes and consequences of the financial crisis of 2008 on the banking sector as well as crisis determinants by the examination of pre-crisis and post-crisis positions of particular financial institutions. The study found that the global financial crisis was mainly caused by the deregulation in the financial industry, mismanaged mortgages and definite liquidity problems leading dozens of banks and financial institutions to lose billions of dollars of capital resources, and in some cases total bankruptcy resulting in inevitable collapse of an institution, bringing severe instability to the global market.

Acknowledgements

No great work was ever could be done without either the active or passive support from a person's surrounding. Thus, it is not quite hard to comprehend how assistance from seniors could impact the execution of a project.

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CHAPTER 1

INTRODUCTION

Financial crises are not quite easy to occur in a short-term period, which is one of the very few good things about them. However, when came by, they cost the world trillions of dollars in productivity lost, massive downturn and huge credit risks that only the most well-run financial institutions may eventually overcome. Out of many occurred crises in miscellaneous parts of the globe, the global financial crisis (GFC) was the severest one.

The global financial crisis simply refers to the period of extreme stress in financial markets and other economic establishments commencing in 2007 and lasting until early 2009. Crisis formed in the initial emerge point of the USA and soon spread all over the world through linkages in the global financial system which connected entire global banking sector and therefore, economies as well.

According to the International Monetary Fund (IMF), by 2009 merely the great financial crisis had already cost the entire world US$ 11.9 trillion (U.S. dollars used hereinafter) reaching up to the equivalent of 20 percent of the world's annual economic output.[1] More than $10 trillion of this amount comes from developed markets, with the United States owning the largest share according to the IMF calculations on the particular crisis.[2] These numbers may seem quite normal to the nature of a financial crisis bailout. However, when it comes to comparison, the great Marshall Plan which was intended to rebuild the entire shattered Europe after the turbulence of World War II between 1948 and 1952, which was an absolutely successful project cost a mere $13 billion, or in other words only 5 percent of the U.S. GPD at the time.

For the most affected nations, debt has turned into a highway. The debt to GDP ratio of Ireland, for example, went up to very noticeable 32.5 percent, mainly as a result of the bailout of its two largest banks, resulting in a four-year budget cut of $20 billion to bring the ratio down to the single digits. But perhaps the fate of Ireland deserves less panic since the United States has a worse federal debt of $14.6 trillion consisting more than 94 percent of her GDP.[3]

Although it is widely believed that the global financial crisis primarily occurred in the subprime mortgage sector, or specifically in the housing industry in the USA, contagion effects of the crisis made it a quite global phenomenon with noticeable repercussions for almost every economy of the world, independent from their development level.

The global meltdown did not merely affect the financial world, it had deep social consequences mostly in form of unemployment as a direct result of shrinking economy and collapsing institutions which later lead to social dissatisfaction and public turmoil causing millions of people to turn against particular institutions and even some governments all around the world. The situation did not just caused in house foreclosures, but also created an unemployed crowd which was considered to be a definite social burden on national economies.

Financial institutions, primarily commercial banks were the major victims of the global meltdown. Some of them fortunately survived the turmoil taking drastic radical measures afterwards in this very regard, while the others could not recover from the consequences and eventually collapsed.

Lessons drawn from previous experiences show that financial crises are quite inescapable; therefore, successful risk management techniques may only lessen their possible effects or partially mitigate them at the very best, which is why banks are required to be well at understanding and analysing them.

Prime objective of this study is to studying the causes and consequences of the global financial crisis, specifically focusing on the impact of the crisis on the banking industry supported by the real life global practices around the world. In this sense, the case of Lehman Brothers which is one of the most disastrous meltdowns in the history of crisis can be deemed as a prime example. These objectives are entirely covered by the second chapter (Chapter 2) of the study work.

The importance of the study reflects the global financial crisis that affected the entire global economy being one of the most noteworthy crises in modern history of global finances which has had a negative impact on the economies of various countries, primarily the banking sector.

CHAPTER 2

Literature Review

2.1 The Emerging Crisis in Banking Sector

2.1.1 Banks at Risk: Triggers and Global Practices of the Meltdown

The global financial crisis (GFC) occurred due to miscellaneous reasons which in some sense were directly interlinked. More than ten years later economists still argue on the prime causes and roots of the global meltdown. However, it is quite obvious that the crisis was a consequence of multiple reasons and combination of causes.

While these reasons give us a cause for a further discussion, the most obvious cause can be deemed as the irrational Anglo-Saxon nature of financiers who proudly claimed to develop the risk-free method of more profit than ever at the time. We studied main causes of the global financial crisis which lead to the global market crash eventually.

- **The Subprime Mortgage Bubble and Housing Market**

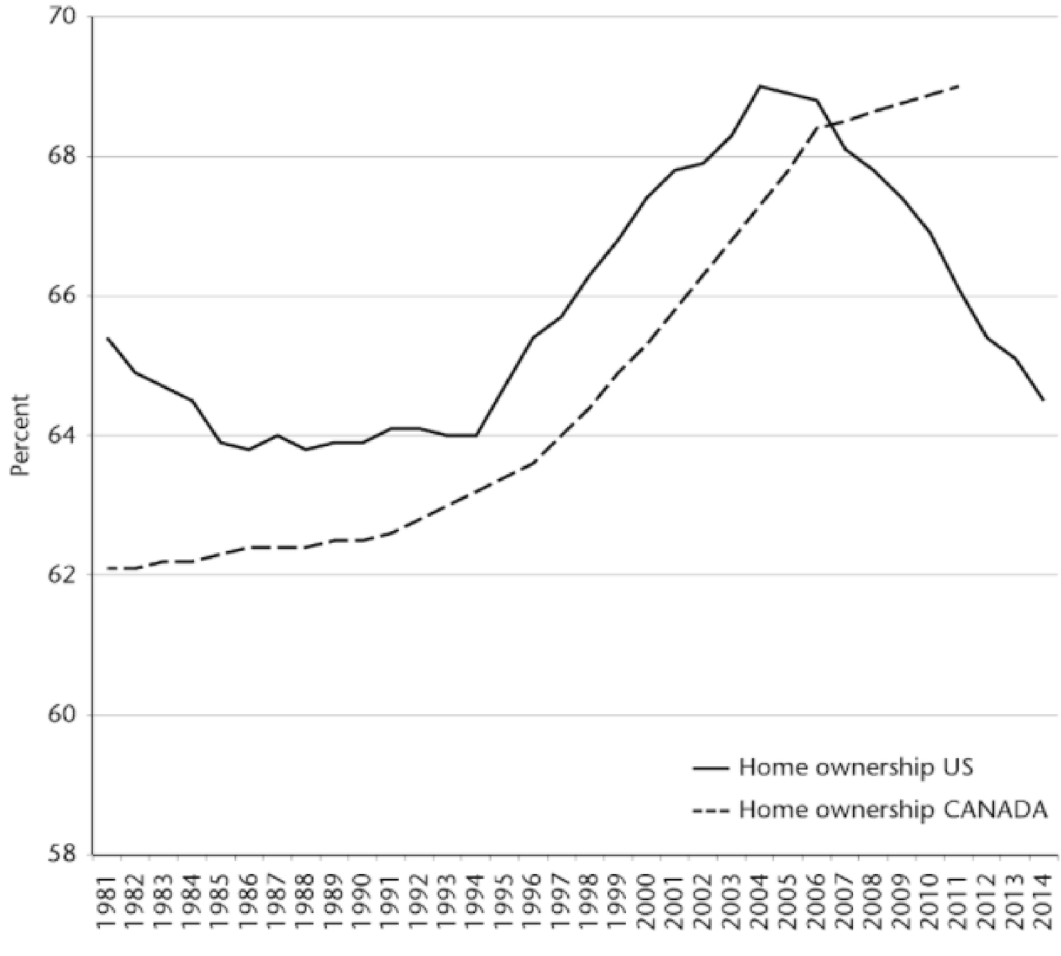
The Subprime Mortgage Bubble emerged mainly in 2006-2007 in the US was the proximate determinant of the financial sector meltdown in 2008, resulting in the worldwide crisis. The crisis was a set of complex events as a whole that simply led to the financial crisis which is characterized by mortgage foreclosures and decline of mortgage-backed securities.

To understand the Subprime Mortgage Bubble it is rather than necessary to comprehend the understanding of “subprime loan” first. The borrower of so-called subprime loans are mainly people and home seeking families with lower and mostly stagnant salary or even zero income. For this particular reason subprime mortgage loans are identified as more risky loans than prime loans which means that the interest rate of these loans are relatively high. Subprime loan borrowers are sometimes referred as “NINJA” or no income, no job, no assets (Hull 2014). More of this kind of home dreamers meant more subprime loans in the market.

We strongly believe that one of various roots of the mortgage bubble lies under the idea of home ownership of a simple citizen. Home ownership tendencies in the US began to rise up sharply after the Second World War when the average rate of private home ownership went up from 45% to approximately 65% in a decade.[4] Average rate stayed almost unchanged until 2000s, when so-called a mini-boom emerged raising the rate to 70% as one of the highest rates in the world. Commencing from this very period approximately twelve million home owners had been created just in a decade. With a high activity in the housing market, the average house prices almost doubled in mid-2006 with a rate growth of 12% a year. With this rapid pace house prices expanded further creating more and more collaterals in order to attract much more customers and home buyers pulling them into the very centre of an emerging bubble. With millions of people willing to achieve the “American Dream” by becoming a home owner, the housing market grew rapidly every passing year.

We are convinced that this rapid growth of the housing market can also be caused by the government intervention and presence in this particular sector which utterly boosted the home ownership through the governmental agencies with the main purpose of social development and welfare of the US citizens. However, this fact itself may also be a reason for a subprime mortgage crisis as well. In some author’s opinion (Barth, 2012) housing boom may also be attained without the direct or indirect government attraction and intervention to the housing market through the governmental programs and initiatives. The claim can be underpinned by Figure 2.1 with the comparison of US and Canadian home ownership rates.

As it can be observed from the figure, the US home ownership rate was significantly higher than the Canadian home ownership until 2005, two years prior to the subprime mortgage crisis where both rates become equal. From that point on the US home ownership rate kept its downfall which commenced in 2004, while the Canadian home ownership rate grew up to approximate 70% eventually after several years on. In 2012 the US home ownership rate plummeted almost 4% from its previous percent in 2004. While it is not utterly understood that what could be happen in the housing market without the government's active presence, it is rather that obvious that the population and families wishing to finally realize their "American Dream" would not have been able to buy houses without highly trusted government agencies and home purchases subsidization.

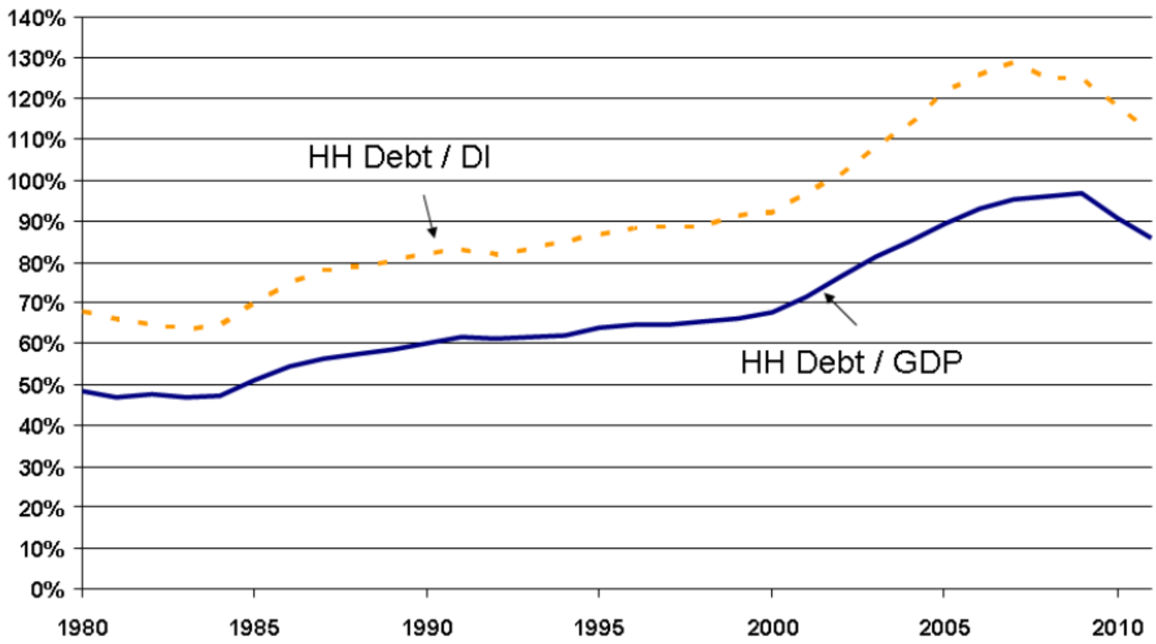


Source: United States Census Bureau and Statistics Canada

Figure 2.1 US and Canadian home ownership rate (years 1981 – 2014)

With this tendency excessive purchases in the market also triggered the subprime mortgage crisis feeding the housing bubble relatively which itself led to the global financial crisis being one of the main causes.

US housing market was booming with the temporary effect of low interest rates and easy credit conditions which respectively contributed to the housing market boom and debt-financed consumption by home owners. This inclination resulted in the increase in house prices which was approximately 124% between the years of 1997 and 2006.[5] Obviously subprime mortgages lending can be deemed as a main contributor in this increase as a result of high demand in housing market. While market was growing at a high pace some borrowers and home owners decided to take second mortgages as well due to easy refinancing conditions and sharp rises in house prices which encouraged home owners to take more mortgages secured by the price appreciation. As a result of this continuing tendency percentage share of household debt in annual disposable income rose up to 127% by the end of 2007 as opposed to lower rate of 77% in 1990 (Figure 2.2).

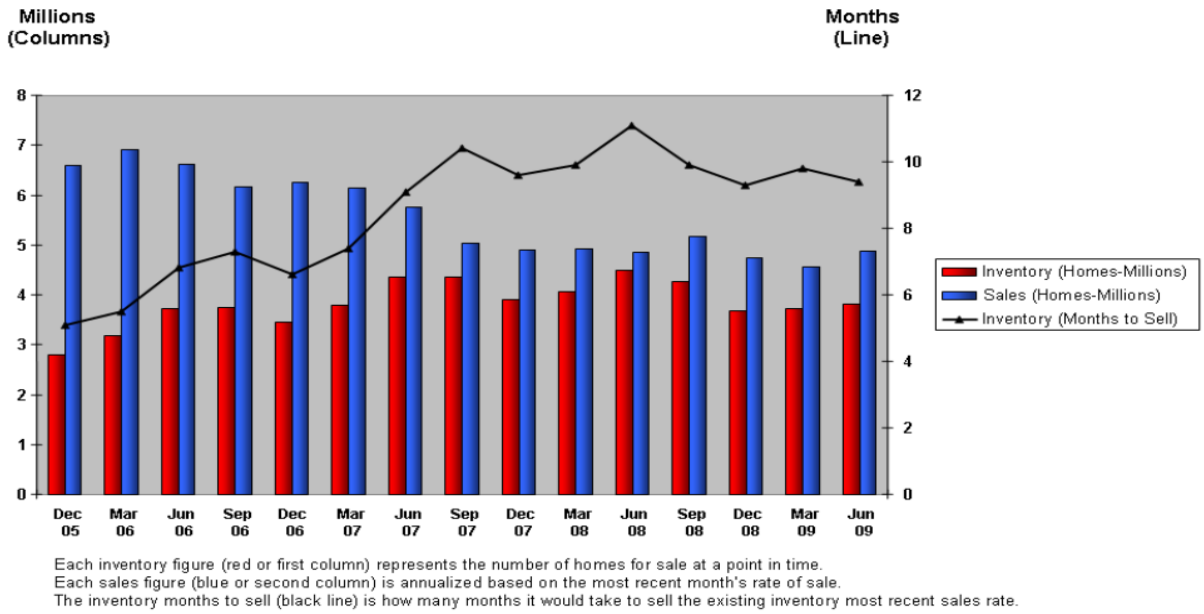


Source: US Federal Reserve

Figure 2.2 US Household Debt versus Disposable Income (DI) and GDP (Household debt relative to disposable income and GDP).

Consumers and home owners tend to save less under the market conditions at the moment and spend more, mostly by borrowing. Eventually, this led to the sharp increase in household debt. By the end of 2000 the household debt went up to $7.4 trillion which was merely $705 billion in 1975.[6] Cash used by home owners from home equity extraction saw almost a double increase from $627 billion in 2001, to $1,428 billion in 2005 as a result of extending housing bubble.[7]

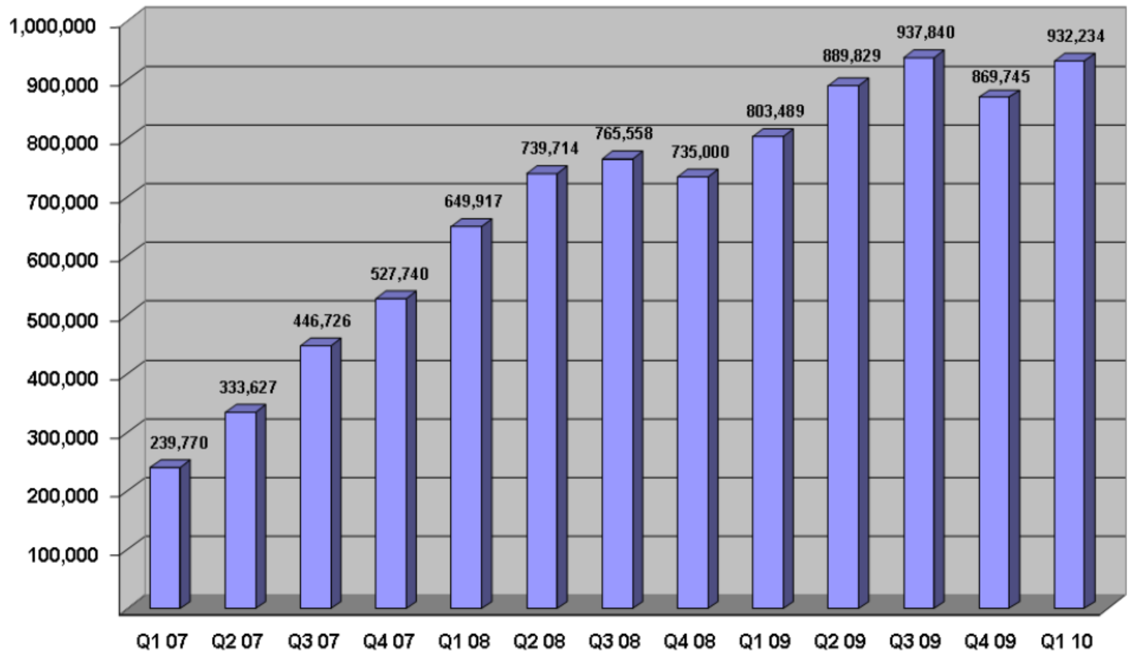
While particular tendency was continuing to exist more and more houses were built by construction companies and were subject to sales in order to meet the market demand which in turn encouraged house prices to skyrocket and hit its peak for a definite period of time until its decline in mid-2006. With opportunities of getting easy credit with less authorization stages, growth in housing prices encouraged more and more families to take subprime house mortgages with mostly stagnant wages or salaries of them. This, of course increased existing home sales in the market until 2006 and 2007 when the bubble burst out, resulting in more houses in inventories (Figure 2.3).



Source: National Association of Realtors USA (NAR)

Figure 2.3 US Existing Home Sales, Inventory, and Months Supply by quarter (December 2005 – June 2009)

However, apparently, when the crisis began to occur in the housing market and prices commenced to go down, home owners become unable to make their payments with high interest rates. Borrowers unable to make payments tend to refinancing, but as house prices began to decline in the market and in most parts of the continental US, they began to default and stop to make ordinary payments like they did usually. This tendency followed by extensive property foreclosures by housing agencies and banking institutions which eventually led to increasing supply of houses in the market, resulting in lower house prices. During the first quarter of 2007 almost 239,770 houses were subject to foreclosure, merely two quarters later this amount almost doubled reaching 446,726 houses were foreclosed. This tendency continued even afterwards the crisis until 2010 when 932,234 properties were foreclosed. The inclination can be observed in Figure 2.4 graphically.

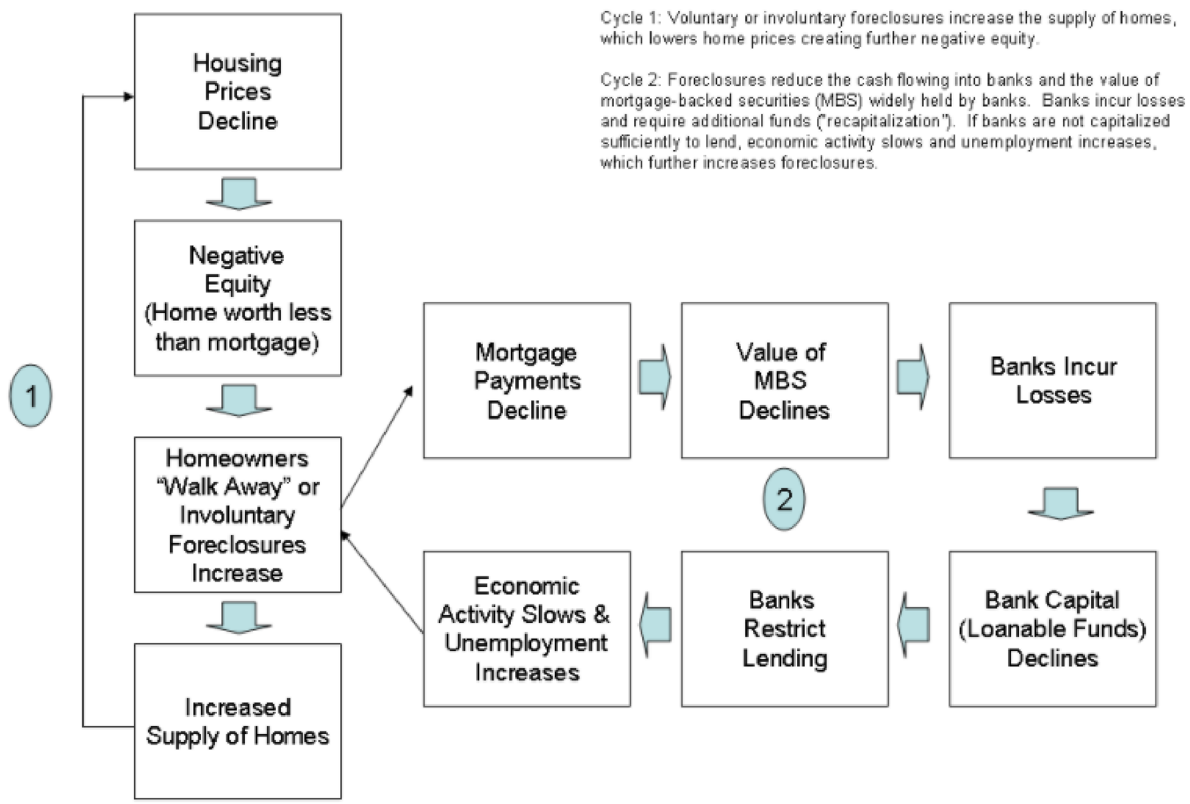


Source: RealtyTrac "US Foreclosure Market Report"

Figure 2.4 Number of US residential properties subject to foreclosure actions by quarter (2007 – 2010).

As time went by, more borrowers suspended their mortgage payments, foreclosures and homes subject to sale in the market significantly increased.

Continuing tendency did not merely affected the house and property prices, but value of mortgage-backed securities declined too, which was a huge adverse impact on the net worth and financial stability of banking sector and existing institutions within the banking industry. This in turn, made banks incur losses on



securities and significantly huge declines in bank capital (loanable funds) as well, which in turn led banks and similar institutions to restrict their lending policies to borrowers with stagnant wages, opposite to what they simply did before the collapse of the market bubble when the market was still in extensive growth of wealth. This so-called "Vicious Cycle" of market instability is visually explained in the Figure 2.5.

Source: Trade Samaritan, The Subprime Balloon September 3, 2014

Figure 2.5 "Vicious Cycles" in the Housing and Financial Markets.

We can see that the first cycle simply expresses the main causes and ways to foreclosures which results in increased supply of houses in the market, while the second cycle is primarily about the repercussions rose by massive foreclosures which result in significant destabilization in the banking sector and economic activity of a country followed by the massive unemployed group of affected citizens by the ongoing crisis. As a terrible result of subprime crisis, more than 25 subprime mortgage lenders had declared their total bankruptcy of faced inevitable losses.

As crisis grew house prices continued to decline. US housing prices had significantly declined by more than 20% in September, 2008 from the peak time in 2006.[8] This particular decline in house prices means that the home owners now have mostly negative equity in their homes, which refers to the less worthiness of their houses than their mortgage. Soon this tendency followed by foreclosures and then the increase of houses in inventories which was a result of foreclosed properties and therefore, decline in house sales respectively. In fact, house sales was approximately 26.4% less in 2007 than the previous year of 2006, and by 2008 it means there were almost 2.9 million vacant houses waiting for a sale.[9] We strongly believe that this negative inclination was also a strong adverse effect on the housing market and eventually the entire economy as well.

- **Securitization**

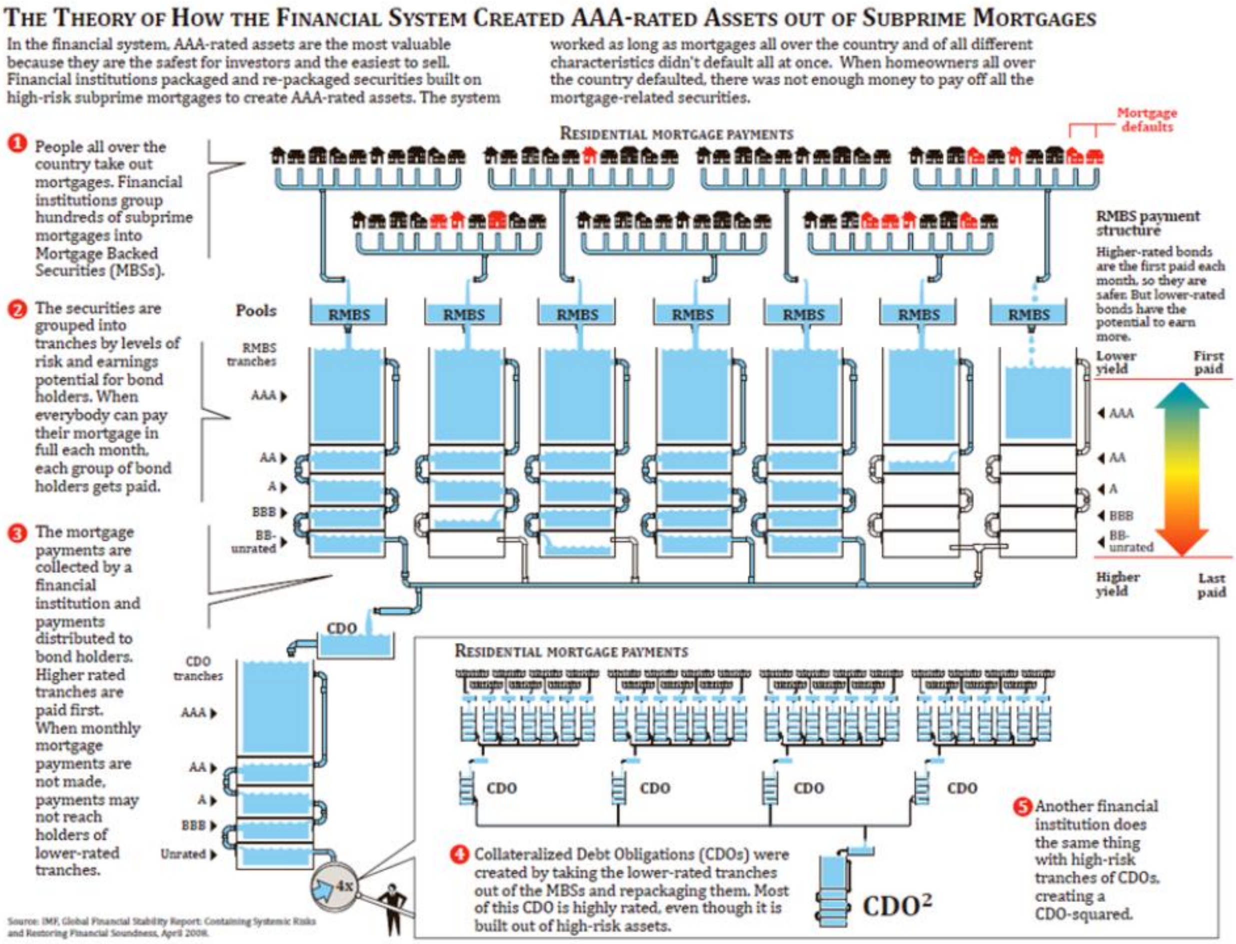
Securitization simply refers to the creation of debt securities using the financial engineering methods whose payments derive from cash flows which is generated by separate pools of assets. Irresponsible securitization operations can be deemed as one of the triggers of the mortgage bubble which lately led to the global financial crisis. Modern US mortgage securitization practices were emerged in the 1980s, mostly by the government sponsored enterprises. At that moment securities intended to be sold to investors were guaranteed and backed up by the government itself. However, soon more risky form of securitization commenced by the private commercial banks which was not insured against any possible defaults or market crash cases. In this case banks tend to sell securitized financial tools to more and more investors and get financial resources while handling a risky security to another party making themselves less effected by the risks as well as partially free them from any possible risks that may be emerged.

By early 2000s banks started to actively issue and sell asset-backed securitisation, or ABS, which gained them profits from illiquid assets. In this manner the issuer converts future cash flows into positions and then divides them into several portions with different level of investment risks. The buyer or the investor receive periodically payments from ABS which are actually consisted of the interest rate and the principal payments to be paid for a claimed asset, a house or a property. Securitization process has three main steps: pooling of assets, separating the credit risk of the asset pool from the issuer to a special purpose vehicle (SPV) and tranching assets from the pool. Depending on the risk of an asset, in SPV receivables are being a subject of division into several tranches namely senior, mezzanine and equity. These tranches are also being classified by the rate of the risk that they carry. Hence, senior tranche is an asset with low risk rate and low return as well, which is rated high (AAA) by the rating agencies, mezzanine tranche is considered to be the middle tranche and carries more risk than the senior tranche which also comes with better rate of return and mostly rated as BBB rate, finally equity tranche has the highest rate of risk with higher return than the other two tranches which is mostly bought by the hedge funds in order to make more profit. Tranches are also being repackaged into the structured financial product which is called collateralized debt obligation (CDO). With senior tranches included CDOs are rated with higher credit ratings and offer lower coupon rates as well.

Banks gained a lot from the sales of ABS and CDOs. Investors were interested in higher returns as CDOs offered than long-tern low rate treasury bills which attracted more and more investors into the market to purchase more CDOs. Banks in this sense, had chance to gain more profits, diversify their portfolio and increase lending abilities by lending more money to borrowers, to purchase homes and other properties. However, this inclination made banks use more securitization practices and keep SPVs off the balance which made the government regulation and intervention almost impossible giving a cause to growing market bubble which soon resulted in the global financial crisis.

With this pace, amount of mortgage-backed securities reached \$7.3 trillion, almost tripled between 1997 and 2007 with the securitized share of subprime mortgages increase to 75% in 2007 which is significantly more.

In order to visually understand the process of how the financial system created AAA rated assets out of subprime mortgages we can observe the following figure



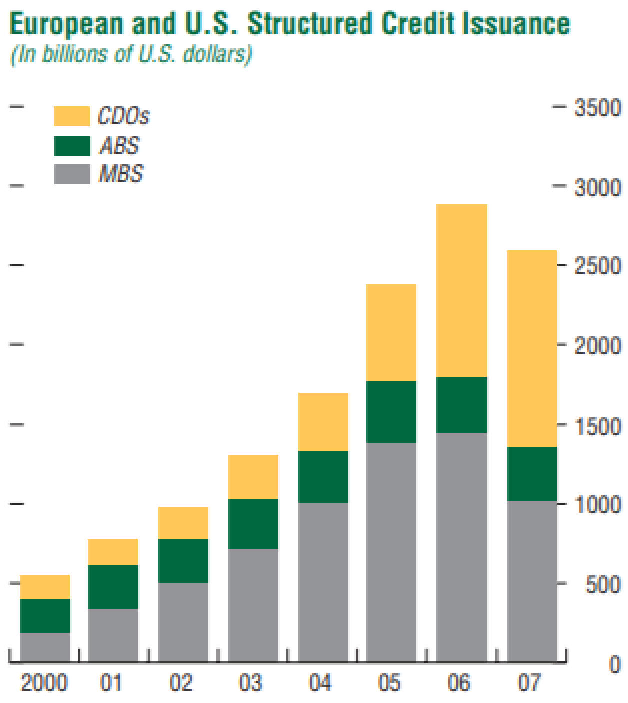
of 2.6.

Source: IMF, Global Financial Stability Report: Containing Systemic Risks and Restoring Financial Soundness, April 2008

Figure 2.6 IMF Diagram of CDO and RMBS

As a result of high market activity in 2008, America homeowners and related institutions owed approximately \$25 trillion: banks retained \$8 trillion directly by supplying subprime mortgage loans, bondholders provided \$7 trillion while the remaining \$10 trillion came only from the securitization markets alone.[10] With this direct interlink between the securitization and the subprime mortgage loans it is quite comprehensible why the irresponsibly bubbled securitization market commenced to fail in the spring of 2007 when the subprime mortgage market collapsed.

Apparently, this study underpins securitization market has also directly linked to the emerging global financial crisis as a prime trigger. Products collateralized by subprime mortgages can be classified as toxic instruments that directly contributed to the financial turmoil time by time. Figure 2.7 depicts the structured credit issuance which was more actively utilized in Europe and the US at the time.



Source: IMF

Figure 2.7 European and the US Structured Credit Issuance

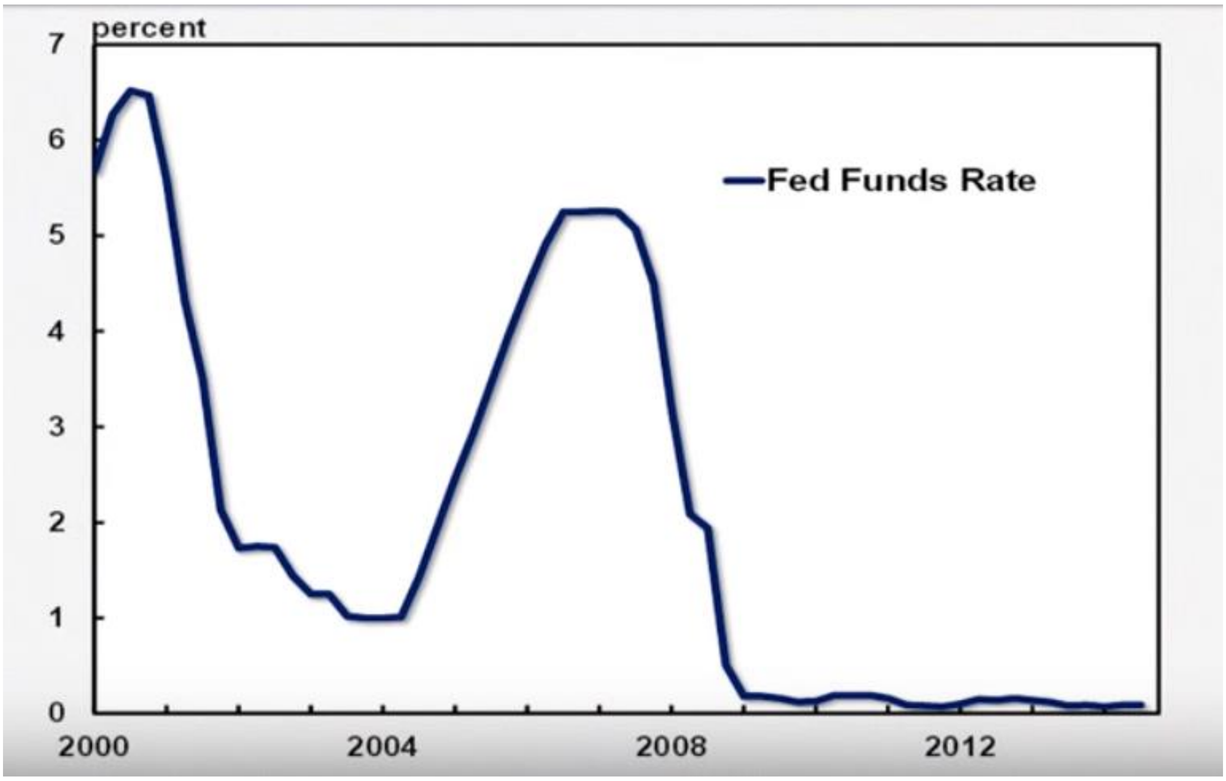
According to the figure MBS dominated the market followed by CDOs and ABS, the market itself continuously grew by the issuance of securitized instruments until the market collapse of 2007.

Finally, we can draw a conclusion from the overall tendencies that by the third quarter of 2007 predominance of structured finance products began to lose its predominance in the market. After the third quarter of 2007 these products sharply lost their highly required role. Following the beginning of the financial crisis, disclosure shortcomings associated with securitization instruments fuelled the global financial meltdown as a quite serious matter and resulted in the loss in confidence by investors which also triggered the global financial and economic downturn.

- **The Federal Reserve Interest Rates**

By this study we have also revealed that not only private sector has a share in the global financial crisis, but the central banks too have almost the same or even more share contributing to the causes and expansion of the market crash. Further details of the role of the Fed in the global meltdown shall be discussed in this part of the paper.

The basis for us to state the significance of the Federal Reserve in emerging of the crisis is basically the interest rates prior to the global meltdown. In the beginning of decade – 2001, 2002 and 2003 the Federal Reserve dropped the federal funds rate to 1% from 6.5% of target rate in previous years.[11] Figure 2.8 depicts the target rate inclination over the period from 2000 to 2012.



Source: The Federal Reserve

Figure 2.8 Federal Funds Rate

As it can be obviously seen that the federal funds rate was determined to be mainly 1% in the period of three consecutive years even below the existing interest rates in the US at the same period. In fact, the Federal Reserve was convinced to lower the interest rates due to the fact that inflation rates were lower as well which was a strong misjudgement that contributed to the housing bubble and the financial downturn as the measured inflation rate was actually below the true inflation level.

When lower interest rates were a subject in the market the so-called "Green Light" was actual for lenders borrowers and house buyers. The situation made more and more capital to flow into the market making it vulnerable to any possible related risk which may occur. The case was that a borrower could borrow a house or another property at 1% of interest rate and have an appreciating house in price at 14% or even 15% just few months after the purchase made. Eventually this tendency attracted more and more borrowers entering the housing market. Lower interest rates encouraged the people and home dreamers to take risky steps and make purchases that they would not have made and banks would not take on more leverage or make risky bets otherwise if interest rates were at least in the range of 4% or 5%.

Previous practical experiences of Fed's "too low for too long" policy also shows that Fed may also be a trigger to the financial crisis. The same policy boosted farmers to make more and more land purchases in 1970s which resulted in farmland prices collapse during 1980s which also led to banking, loan and savings industry collapse.

As an opposite policy, when the Federal Reserve decided to raise funds rate between 2004 and 2006 it resulted in price increase in adjustable-rate mortgage interest rates making it more difficult for house owners to pay which significantly encouraged them to stop making payments and cause to massive foreclosures which in turn contributed to the deflating in the housing bubble.

The Fed has also seen as a responsible part for lack of interference and audit of banks' irresponsible actions prior the crisis. Claims are that even if the Fed could examine and audit banks' actions, it did not which is believed to trigger the crisis to happen as well.

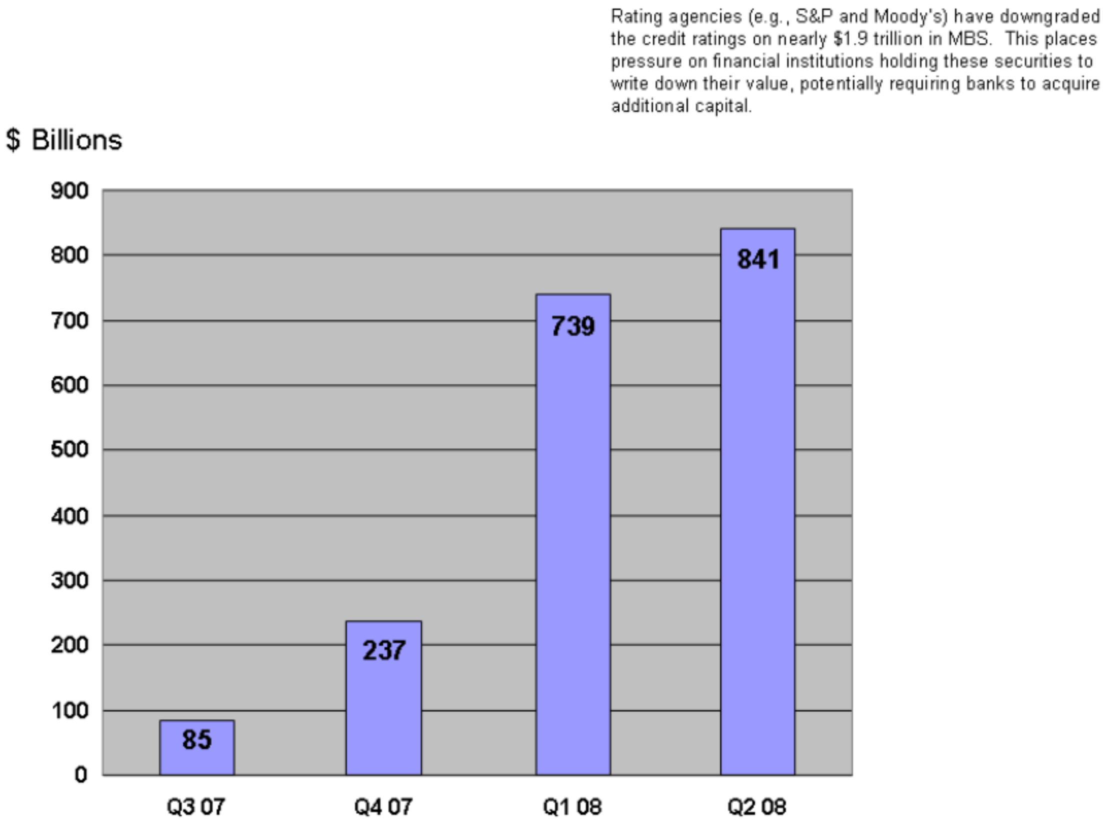
- **Rating Agencies**

We believe that rating agencies played a significant role in contribution to the downfall of the financial market. Particularly, three rating agencies: Moody's Investors Service Inc., S&P Global Ratings and Fitch Ratings Inc. can be referred as main institutions boosting the financial crisis.

In 1975, Securities and Exchange Commission (SEC) formalized the de facto status of Moody's, S&P and Fitch by declaring that only the ratings of "nationally recognized statistical rating organization" (NRSRO) would be recognized and accepted by the government as a reliable rating agency which at the same year The SEC included only these three agencies to the NRSRO list without providing any clear further explanation why other rating agencies were not included to the list. This case eventually made rating business so difficult to enter which in turn recognized de facto oligopoly for these particular three rating agencies in the market. Backed up by the government rating agencies developed their own methods of rating calculations which was allowed according to the SEC regulations. In this manner flawed computer models and calculations were also made.

As the market was in definite growth rating agencies did not focus on deep price researches and highly rated securitizations with putting less effort. Having a highly rated (mostly AAA) security, issuers tend to inject those securities and bonds into the market. Issuers of low rated securities had a threat to the rating agencies by utilizing services of other several rating agencies which would have resulted in some profit lose to rating agencies with market oligopoly. Therefore, rating agencies did not hesitate to have sale operations of dishonestly high rated securities. Investors believed rating agencies, sometimes they bought securities blindly just for their high rating. This tendency in turn made more and more investors buy AAA rated securities and encouraged the whole market participants to buy exceed amount of securities.

However, when rating agencies lowered given high rates starting from the third quarter of 2007, it created a massive market panic and resulted in decline in prices of mortgage-related securities at the first step.



Source: Fortune Magazine, April 2008

Figure 2.9 Mortgage-Backed Securities (MBS) rating downgrades, by quarter

Figure 2.9 shows the tendency in credit rating downgrades by prime rating agencies. We can observe an approximate $1.9 trillion downgrade total in the period of the third quarter of 2007 until the second quarter of 2008. With the market starting to tremble and turmoil rising, rate downgrades noticeably increased over the given period, reaching its peak in the second quarter of 2008 with more than $841 billions. This case obviously resulted in price declines of shares owned by financial institutions which significantly contributed to the market collapse.

As initial crisis practices arose in the US, we focused on this particular country more with the triggers of the global financial meltdown. However, the crisis did not just bounder with the financial setups and system of the US, it went global affecting banking sectors and financial institutions from Australia to Iceland with their native crisis features independent from their development level. As the modern banking system is highly connected the real effects of crisis spread from one country to the entire globe. Dozens of private and government banks were collapsed, budgets and entire financial systems were destroyed, the crisis undermined existing market confidence and gave a core to the social panic. To better understand how the crisis went global, this study refers to several international practices in the form of national banks to create more sophisticated vision of the meltdown.

The United Kingdom

Turmoil in the US housing market soon reached the UK when the country began two witnessing the first runs on the retail deposits of UK based bank – Northern Rock in September 2007. With its substantial role in the banking sector turbulence in Northern Rock's operations was a sign of growing instability in the financial market. Bank had a balance sheet depicting its assets over £100 billion with a significant share of 89% in residential mortgages.[12] The large number of residential mortgages held by Northern Rock commenced its end as the mortgage market was declining. This created an investor panic with more depositors willing to take their deposits out of the bank. However, after the examination of bank's balance sheet, it had been made clear that the real cause of turmoil does not lay under bank's assets, but its liabilities. As the UK credit market got affected by the credit market crisis in the US bank's opportunities to raise additional capital was much difficult.

Despite the emerging panic The Chancellor of Exchequer authorized the Bank of England to provide credit support for Northern Rock in order to prevent future major collapse within the financial institutions.

Australia

Effects of the global financial crisis did not just remain in the US and the UK. Australia was also among the nations suffering from huge bank shutdowns as well. At the beginning of the crisis Australia's two largest banks Babcock & Brown Ltd. and Allco Finance Group Ltd. collapsed under the strain of falling credit markets. These institutions were the second and third largest investment banks of Australia, respectively. In 2007 Babcock's market capitalization was over $A10 billion and it had a substantial role in Australia's financial market. Allco also was another giant of Australian financial world which experienced almost the same fate as Lehman Brothers. By 2009 both banks suffered from their pre-crisis extensive leverage policy in order to finance their ambitious business models , and when the market commenced to collapse they could not basically rollover their loans and fulfil their liabilities which eventually led them to shut-down and both banks were resolved to be placed into liquidation.

South East Asia, China and India

The global market crash also affected the Eastern Asia region and the countries like China, India, Taiwan, Japan and Indonesia. However, generally we could not observe harsh and severe financial downturn in the particular region due to good fundamentals in region's economy. Here we can observe two main tendency. As the region countries have different economic and financial policies countries operating in open financial systems got affected more than those operating in less open financial systems. Region's less open economies such as India, China and Indonesia suffered from trade disruptions as the global credit market collapsed, this in turn affected their export incomes due to the fact that they significantly rely on the international trade. However, this impact did not affect the real GDP growth, in fact China, India and Indonesia experienced positive real GDP growth through the financial meltdown. As an opposite, if we look at Taiwan which has more open financial system, we may see that Taiwan's economy did not just face low export incomes, but significant declines in industrial output and real GDP as well.

This correlation appears to suggest that countries with more open financial system are being subject to much severe meltdowns and there is a greater likelihood that the domestic economy may suffer more from market shocks and crash compared to the economies with less open financial system.

2.1.2 The Beginning of the End: Lehman Brothers Case

While we discuss practical culprits of the global financial crisis, Lehman Brothers case cannot be undermined. Study reveals that one of the reasons of growing lack of confidence in the market which in turn eventually contributed to the growing turmoil was the collapse of US banking giant – Lehman Brothers Holding Inc. Its collapse was not just a trigger to the crisis, but also a good example how the global financial market may affect a bank not depending on its size or market capitalization.

Lehman Brothers was a world enormous financial services bank. The firm actively participated at the financial market as well as was substantially active in the mortgage market being engaged tons of sales operations. It may be seem quite usual for the 4th largest investment bank of the US. However, Lehman Brothers were not different than other banks to not be "fooled" by the market activity at the period. We believe that due to the general view around the market place stating that due to the sophistication of 21st century financial markets, market participants may take as much risk as possible generated a comfort for most of the institutions of the banking system which one of them was Lehman Brothers. That sense of market confidence led Lehman Brothers to do something other more cautious banks shied away from. Apparently, Lehman Brothers borrowed more and more money to get engaged in transactions in the mortgage market. By August 2007, for every $1 the bank owned it was borrowing up to $44 which can be seem as leverage of a bank. By these borrowing operations bank's leverage ratio rose up 44 to 1 while most of banks only had $20 or $30 leverage ratio, still too high but as risky as Lehman Brothers. The borrowed money in turn used to play the property market and by 2007 bank invested $60 billion in commercial properties, hotels, shopping centres and residential properties. However, it is quite obvious that leverage multiples profits when prices go up, but it also multiples losses if the prices fall. When market started to fall Lehman Brothers perhaps was not the first but among the initial banks to get hurt.

We may have a question why Lehman Brothers was so important? Why its collapse is to be considered the beginning of more and more panic rise which triggered the financial markets all around the world? The answer for these questions may lay under the theory of “Too Big To Fail” or TBTF. While this research does not focus on TBTF as a prime reason of the global financial crisis, it cannot be denied that this theory also played an indispensable role in the global meltdown. The theory implied that enormous banking institutions are too linked and connected that if one of them fails the entire market will go down and therefore, the government would save them by injecting bail out money into the institution. This fact itself can also be deemed as a result of many banks’ irresponsible borrowing policies which one of them was Lehman Brothers. Financial turmoil made bank’s shares to significantly drop in value which unable more capital for it. Bank’s share price had been dropping since May, but soon it turned into a freefall making bank to lose more than $8 million in a minute.

After US government’s and Fed’s refusal to bail out the bank, and disagreement of UK based Barclays purchase of Lehman Brother’s assets due to the refusal of market regulator of the UK, Financial Services Authority (FSA) there was no way back, but collapse. And finally, by September 15, 2008 after long going turmoil Lehman Brothers announced bankruptcy with estimated debts of over $600 billion.[13]

With the crash of massive banking hegemon market was now dangerously exposed, shareholders were dumping stocks and other banks were withholding credits. A huge market panic was formed up which caused mortgages to dry up, stock market to tumble and businesses to go down to the wall. Lehman’s bankruptcy was immediately felt in the stock markets all over the world. Afterwards it collapse, merely in a single day the Dow Jones Industrial Index fell over by 500 points which effected the credit market significantly. Banks now are hesitating to lend any credit by freezing lending operations which in turn affected the credit market negatively.

Lehman Brother's downfall is not believed to be significant for the financial crisis for minor reasons. Its collapse made market turmoil go even deeper generating an inevitable market panic which triggered several banks to bankrupt as well. We believe that with the bailout of bank, the crisis would not rapidly expand and market face less challenges than it did afterwards the collapse. Therefore, with all points made out this study considers Lehman Brother's collapse as a severe hit to the crisis as well as a noticeable impact on the entire banking industry.

2.2 Observations on the Global Financial Crisis

2.2.1 Impacts of Financial Crisis on the Banking System

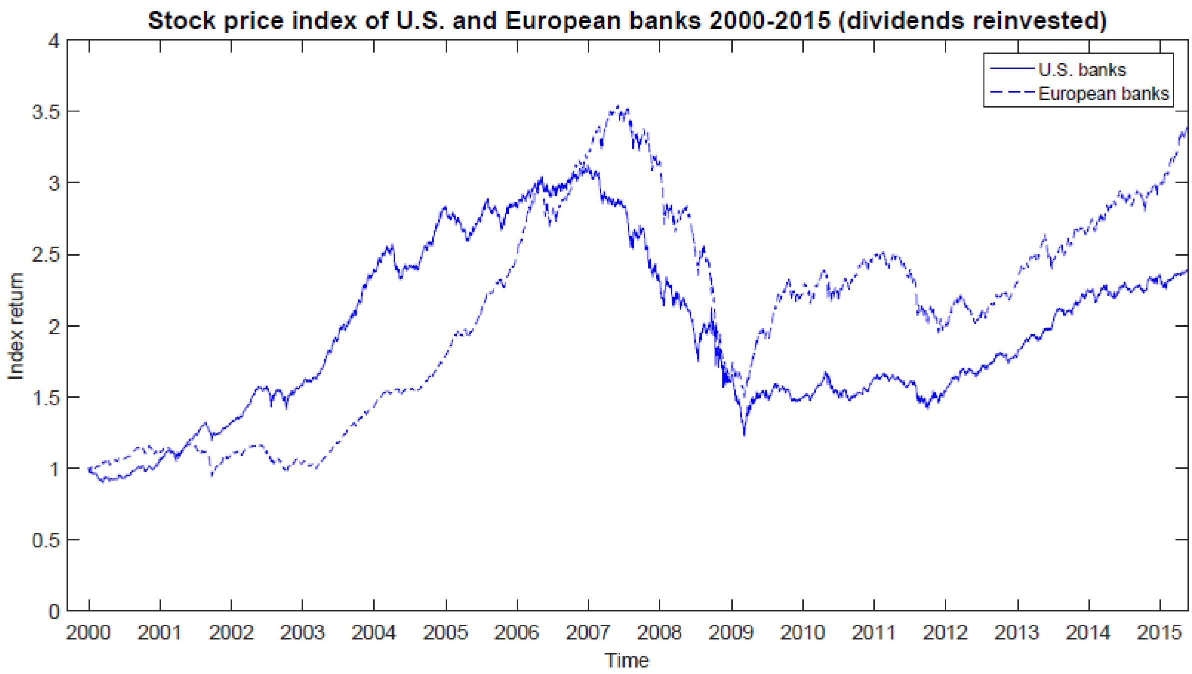
Observations of financial crisis revealed that not just crashing the market, the global meltdown resulted in some definite alterations in several indicators of banking sector institutions which depict severe impacts of the financial crisis. While over the short term the financial crisis affected and caused radical alterations in several definite determinants, in the long term period it impacted business actions and models by the banking institutions to be changed, renewed or removed. In this part of the study, impacts of the global financial crisis on the banking industry shall be analysed by examining main financial soundness indicators determined by the IMF. Our research includes following primary determinants into the study:

- Stock Price Index
- Return on Equity (RoE)
- Return on Assets (RoA)
- Loan-to-Deposit ratio (LTD)

We will comprehend those impacts by radical changes of financial stability indicators including instances from the US, European and Asian bank institutions.

Stock Price Index

Stocks are merely one out of the main financing instruments actively utilized by banks to get a huge financial support and afterwards finance banking operations. We discussed some banks having stock prices decline in this study before. However, we now have a chance to examine the entire market in order to understand crisis's impact on stock prices and therefore, on the banking industry as a whole. Trajectory of stock prices saw a radical tendency before, during and after



the crisis period.

Source: IMF

Figure 2.10 Stock price index of US and European banks (2000 – 2015)

By observing Figure 2.10 we can see stock price index tendency, pre-crisis position and post-crisis position as well. Although there are some differences in stock price inclination of the US and European banks, both regional banking institutions faces sharp decrease in their stock prices starting from 2007 which was the beginning of market crash. Crisis period obviously trembled stock prices and in turn affected the financial stability of banks. If we differentiate both US and European bank share prices, it can be seized that the continuous stock price increase of US banks starts from the early quarters of 2000. While European banks experience sustained stock returns starting from the first quarter of 2003. However, it can also be observed that the European banks recovered from the impacts of crisis on stock prices significantly than most of the US banks. Since beginning of the crisis until 2015, the US banks have lost an average 14%, while European banks lost merely 5% between 2007 and 2015. If we continue to follow the graph (Figure 2.10) we can also seize 2011-2012 Eurozone crisis which hit European banks more than their US counterparts, but still European banks show more stability in stock prices than the US banks in overall.

We may understand the impact of financial crisis of stock returns further by examining the tendency in the US and European banks separately. For that reason, we may define five quintiles based on banks' pre-crisis performance and classify them into 5 quintiles where the first quintile (Q1) contains 20% worst performing banks and the fifth quintile as 20% best performing banks (according to the pre-crisis assessments). Q3, Q4 represents average performing banks in the industry.

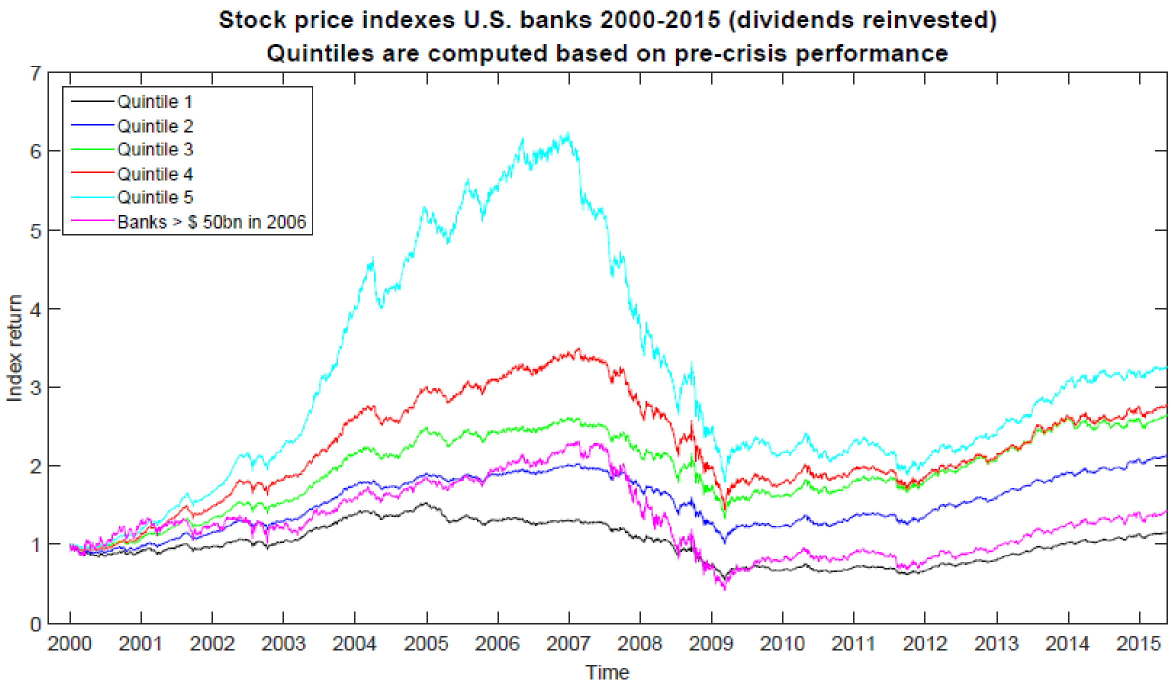


Figure 2.11 Stock price indexes of US banks (2000 – 2015)

The purple line represents the average stock return development of banks with more than $50 billion assets in 2006.

Table 2.1 US banks' average stock returns per quintile

U.S.	Q1	Q2	Q3	Q4	Q5
2000-peak	32%	102%	162%	245%	466%
peak-2009	-58%	-51%	-49%	-59%	-67%
2009-2015	185%	149%	139%	128%	113%

According to the Table 2.1 we can easily observe that within the period of 2000 until the peak of stock returns banks experienced relatively more and high returns and enjoyed high stock prices. While worst 20% US banks (Q1) experienced 32% of stock returns, the best 20% US banks had approximately 466% of stock returns. However, during the period of recession and crisis, not only worst banks failed experiencing high returns, but international and well-known banks also suffered with almost 67% lost in returns. Market environment commenced to recover later and as we can see during the post-crisis period of 2009-2015 banks experience more and more share returns compared to the crisis period.

The same inclination can be observed in European banks as well.

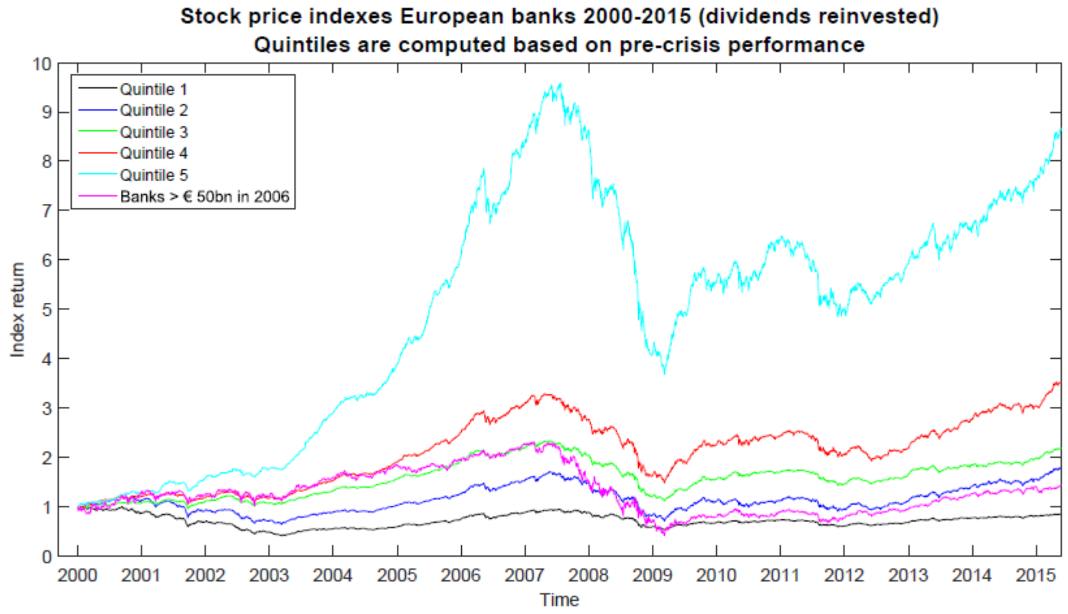


Figure 2.12 Stock price indexes of European banks (2000 – 2015)

The purple line represents the average stock return development of banks with more than €50 billion assets in 2006.

Table 2.2 European banks' average stock returns per quintile

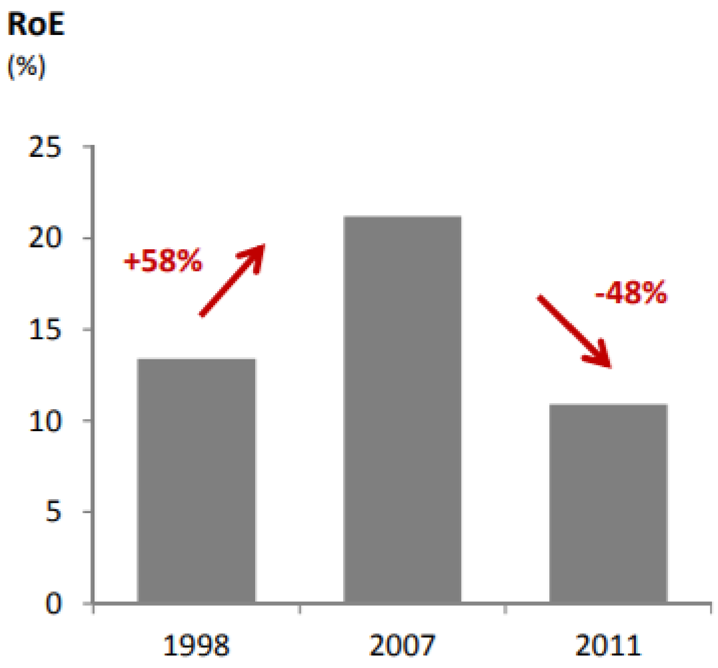
Europe	Q1	Q2	Q3	Q4	Q5
2000-peak	-5%	70%	133%	228%	795%
peak-2009	-48%	-58%	-51%	-54%	-65%
2009-2015	62%	147%	131%	230%	170%

European banks also faced a huge decline during the crisis period (peak-2009) as well, compared to the pre-crisis returns. However, apparently European banks experienced slightly high stock returns during the crisis period compared to the US banks as European Q1 had -48% of stock return while US Q1 had -58%, and European Q5 experienced -65% of stock return, while US Q5 had -67%.

With this analysis we define that the financial crisis has severe impacts on the stock prices of banks around the world. They experienced more and more loss by declining stock prices which shrunk the financing tool and left banks in terrible conditions. Therefore, the impact of the financial crisis on stock price indexes cannot be underestimated.

Return on Equity (RoE)

Return on Equity is one of the financial soundness indicators which has been listed by the IMF. It simply refers to bank's gain over the invested equity and is calculated by dividing net income to the shareholder's equity. We observed that, among one of the most significant determinants of many banking institutions' financial health, this particular indicator had also got affected by the global financial crisis resulting in some loss. As the market grew, banks' had higher RoE making them more profitable and wealthy. Even in 2007 institutions like Unicredit were criticized with 20% being considered as one of the less profitable banks. However, most of banks could not even reach that number even long after the financial crisis.



Source: Barclays Capital

Figure 2.13 Return on Equity of EU (European Union) banks

European banks experienced increasing RoE of 58% during the pre-crisis period when leverage for banks also increased almost 50%. However, when the crisis hit in 2007, the period after 2007 was a decline period for banks' RoE while leverage declined by 25% as well (Figure 2.13).[14]

The same inclination can be observed in most of Asian banks as well as in the US. When we examine banks in these economic regions and countries, we may see the tendency of decline in RoE of most banks. While in some countries this downing line was quite severe costing banks millions of dollars, some of them had less terrible decline in RoE making them face less severe market conditions and survive. We can examine the tendency by the following table (Figure 2.14) where pre-crisis and post-crisis rates have been covered.

Table 2.3 Bank Return on Equity, 2003 – 2008 (in %)

Source: IMF, 2009

Country	2003	2004	2005	2006	2007	2008	Latest
Bangladesh [a]	9.8	13.0	12.4	14.1	13.8	21.3	June
PRC [b]	—	13.7	15.1	14.8	19.9	—	June
Hong Kong, China [c]	17.8	20.3	19.1	—	—	—	December
India	18.8	20.8	13.3	12.7	13.2	12.5	March
Indonesia	26.6	34.5	26.4	30.2	25.7	26.0	August
Japan [d]	-2.7	4.1	11.3	8.5	6.1	1.5	September
Korea	3.4	15.2	18.4	14.6	14.6	—	December
Malaysia	15.6	16.7	16.7	16.2	19.7	—	December
Philippines	8.5	7.1	8.8	10.6	10.8	9.6	June
Singapore [e]	8.7	11.6	11.2	13.7	12.9	11.9	September
Thailand	10.3	16.8	14.2	8.8	7.3	—	December
Memorandum							
Australia [f]	24.2	16.0	14.7	16.8	18.1	17.0	June
Canada	14.7	16.7	14.9	20.9	16.1	28.9	September
United States [g]	15.0	13.2	12.7	12.3	7.8	3.3	September

Study reveals that RoE ratings are quite vital for banks due to the investor reactions. When the global meltdown hit the market banks suffered a significant decline in RoE making investors less interesting in operations with banks which contributed on the capital decline of the banking sector resulting in severe losses. With all these conclusions and examinations we also believe that RoE determinants were among the financial stability indicators which suffered from the financial crisis.

Return on Assets (RoA)

RoA is to be considered more reliable parameter of a bank's profitability. Therefore, we decided to include this particular determinant to the study as well. RoA simply refers to how a bank or an institution utilizes its assets properly to generate more and more profit. It is measured by dividing company's net income to the total assets they possess. We believe RoA should be used more extensively in management remuneration schemes.

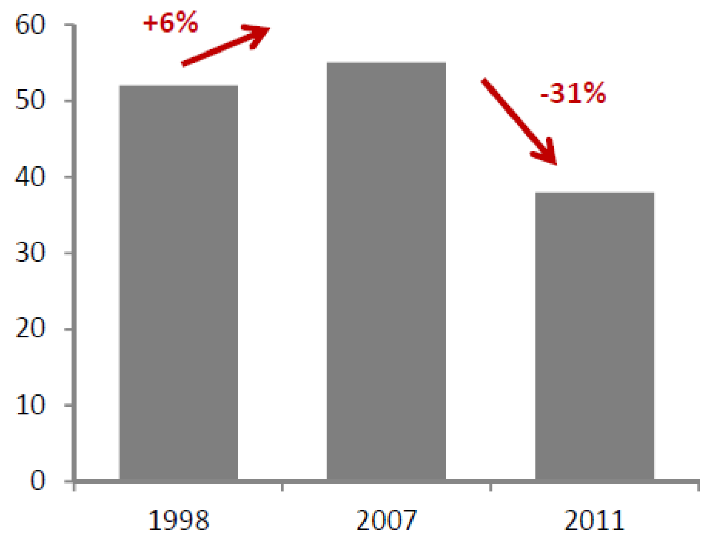
RoA was one of the indicators of profitability that got impacted by the financial meltdown and showed a noticeable decline during the crisis period.

Compared to the pre-crisis period we can observe an immense decline in assets returns of major EU banks by examining the Figure 2.14.

BPS

(Basis Point)

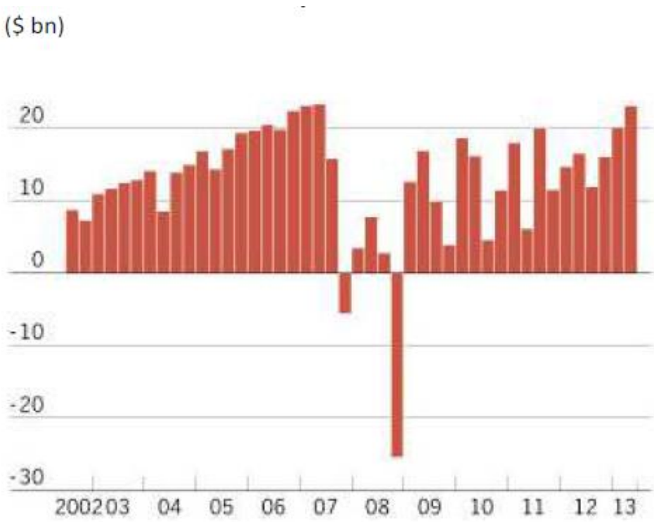
1BPS=0.01%



Source: Barclays Capital

Figure 2.14 Return on Assets of major EU banks

The evidence shows that RoA remained almost constant during the pre-crisis period, however, it shrank rapidly up to 31% which is believed to be caused by the lower leverage which also was an adverse impact of the global financial crisis.
The same inclination can be observed in US banks as well. Figure 2.15 shows decline in total net income of the top US banks.



Source: Bloomberg

Figure 2.15 Total Net Income of major US banks

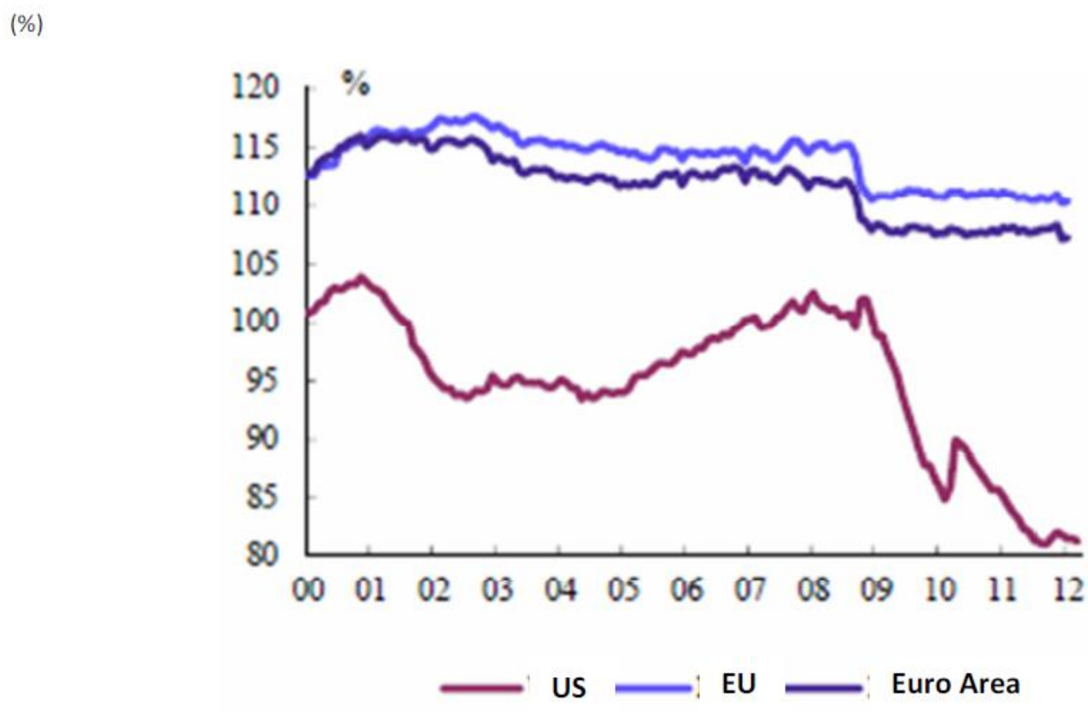
Apparently, due to the high dependence on asset based operations US banks did also suffer from the declining activity in market and the financial meltdown, resulting in the total lost varying from approximately $10 billion to $30 billion. As we can see, although post-crisis period was much more profitable, it took almost five years for banks to recover their profitability and have high gains again as they did during the pre-crisis period.

Market crash significantly affected RoA negatively which is one of the main determinants of a bank's profitability. This decline had an immense impact on investors willing to invest in the banking sector. However, as the indicator sharply declined, investors refused to invest and withdrawn their pre-crisis investments which also contributed to more rapidly growing market panic.

Loan-to-Deposit ratio (LTD)

Loan-to-Deposit ratio is one of the indicators that investors rely on while examining a bank's profitability in order to determine whether to invest in or not. Study shows that this particular ratio also was affected by the financial crisis due to the market crash and in turn hit the banks' profitability level as well. Loan-to-Deposit ratio simply refers to the statistic indicator to determine bank's liquidity. It is calculated by dividing total loan amount to the total deposits that a bank holds and is widely used by investors. If the ratio is too high that means a bank may not have enough liquidity and have some significant troubles with covering the obligations that it holds during the crisis and turmoil period. However, a bank having low LTD may also refer to its low profitability, meaning that a bank has less gains in order to grow and develop.

We have found out that banks had a tendency to have higher LTD ratios during the pre-crisis period, specifically in 2005, 2006 and 2007. This perhaps is a result of banks providing more and more credits and loans to the market as well as to the borrowers. Some banks even tend to borrow money and lend it due to the growing market and high profitability during the pre-crisis period. However, when the meltdown hit, radical decline may be observed in LTD ratios as banks suspended their loan operations, withdraw them or borrowers could not repay their loans. This in turn, resulted in declining ratios as banks hold their resources to overcome the market crash. We can examine the market inclination and the effects of the financial meltdown on the LTD ratios of US and EU banks by following the Figure 2.16.



Source: SNL Financial, Eurostat

Figure 2.16 Loan-to-Deposit ratio of the US, EU and Euro Area banks

The effects of the financial crisis remained eve after the crisis, during the post-crisis period due to strict policies that banks implied in order to recover the global crisis.

All four determinants may also be seem as definite results of the financial crisis. Declining indicators show how harsh the meltdown was and how it had a significant impact on the entire banking industry, not just several banks whatsoever. We therefore, focused on above particular four indicators in order to make it quite specific to understand and visually examine the real impacts of the global financial crisis on the banking industry through its profitability determinants.

2.2.2 Lessons of the Global Financial Crisis

Banks draw huge lessons from the global financial crisis and market turmoil. Up to this point we focused on the main causes and impacts of the meltdown to the banking industry and the entire economic relations of countries. We shall now focus on definite lessons that most of banks learnt from the repercussions of the global financial crisis. This study sums up the most significant points that banks figured out to be quite important to follow. Those are following:

- First of all, after the crisis hit banks understood that there are several reasons for them to fail and not to recover for a long time. They realized that it was the leverage ratio in most of the time that affected their internal financial stability and led to the utter destruction by the ongoing global financial breakdown. $30 to 1 or $40 to 1 leverage ratios were way more dangerous to hold and quite inevitable to affect the financial soundness during the crisis and even post-crisis period. Therefore, after the global meltdown realizing the very problem itself, banks regulated and reformed their leverage ratio in order to avoid further shrinkage. The banking industry do not have hegemonic leverage to create a huge systematic issue like it did during the global financial crisis.
- Secondly, financial institutions realized that more of deregulation is actually totally unpredictable to what will be happen and leads several banking institutions to play unfair in the market. Although most of banks were in favour of low rate of government or Fed regulation in the market, after the global meltdown they understood that due to less regulations some of banks played unfairly affecting the stability and the balance within the financial markets. Fed was also among those who agreed that more regulation in the

market is needs. Government authorities should at least “keep an eye” on the market tendencies in order to prevent another crisis from happening. In this sense, Dodd-Frank Act in the US gave Fed more power to regulate the system and de-risking process of the banking institutions while the creation of the Consumer Financial Protection Bureau was another significant step to follow the market tendencies and act in the name of public in order to protect the public interests. Similar steps were taken in Europe and some countries in Asia.

- The global meltdown seems to change banks’ asset management policies as well. Now banks are more careful about buying and selling assets in order to avoid the loss. In this sense, markets grow slowly but much safer than it was during the beginning of 2000s. Banks consider investment offering twice and make careful investments to the market than how it was done 10 – 15 years before.
- Turmoil affected banks’ view to the risk management as well. Now banks give more attention towards the management of risks and assets by hiring professional staff specifically concerning about these issues. Risk management tactics improved and are getting better regarding liquidity and credit issues. Global risk management increased since 2008 in a big and significant scale making this field more attractive and lowering management fees as well.
- Crisis made banks and their investors more psychologically prepared to the next unpredicted turmoil. It is obvious that the most affected or failed banks were the institutions with more panic. However, as now the communication among banks and their investors increase now both sides are well-prepared to any possible meltdown without any panic and loss due to it. Banks give importance to connect their customers more by informing them with general market tendencies and inclinations making them aware of up-to-date issues within the market.

While these are the main lessons that this study covered, banking industry learnt are more and more lessons from the main course and tendencies of the global financial crisis over the last ten years. Following these lessons an practices, we believe it will be possible to maintain financial stability in the industry for a long time.

CHAPTER 3

Methodology and Results

3.1 Methodology

Having already introduced the main concept of our work, in this chapter we present the methods used in order to achieve the intended objectives of our study. This study referred to the most primary and widely used research methods, both qualitative and quantitative.

In terms of qualitative methods, we referred to the global academic databases such as EconBiz, Social Science Citation Index, Thomson Reuters; journals and magazines such as The Economics, Financial Times, Forbes as well as very wide range of books and working paper options from Google Books, Google Scholar and Elsevier.

Moreover, we had a fortunate chance to take quite indispensable interview from a well-known and reliable economist Mr Brian S. Wesbury who contributed to the second chapter of this study by his assessments and directions on the course of the global financial crisis of 2008. These instruments in particular had a decent role in defining the main causes and consequences of the global financial meltdown which were intended objectives of this research to achieve.

Documentary analysis, government policy records, minutes of meetings (Fed and US Congress) allowed us to determine main causes and prolonging reasons of the global market crash as well as identify main triggers such as Subprime Mortgage Bubble and Housing Market, Securitization, Fed Interest Rates and Rating Agencies which have already been examined and indicated in the study work (Chapter 2). Qualitative methods have been particularly useful while researching the practical impacts of the global financial crisis on banking industry around the world, countries and regions such as the United Kingdom, Commonwealth of Australia as well as the South East Asia with several definite real bank examples and instances.

Quantitative methods emphasize objective measurements, statistical and numerical analysis. As the main impacts of the global financial crisis cannot be comprehended without quantitative analysis and examination, we focused on the wide usage of quantitative tools and data in order to ease the process of understanding and visually explain general tendencies and inclinations within the financial market.

Study refers to wide usage of quantitative instruments such as figures and tables in order to transmit intended information in a way better and easy way for a reader to understand. Research includes database usage from the sources such as US Federal Reserve, National Association of Realtors (NAR), IMF Global Financial Stability Report, IMF (other data), Bloomberg, Eurostat and Barclays Capital. Main quantitative data was used within the second chapter of this study work. We examined the main tendencies in subprime mortgage market, periodic alterations in Fed interest rates, credit issuances, tendency in house foreclosures, security markets in the initial part of Chapter 2.

Main Financial Soundness Indicators were emphasized and played an important role in understanding main impacts of the global financial crisis on the banking industry. Therefore, research work refers to several graphic illustrations to understand pre-crisis and post-crisis tendencies, declines in prime determinants of Stock Price Index, Return on Equity (RoE), Return on Assets (RoA) and Loan-to-

Deposit (LTD) ratio as these indicators have been selected as main indexes to comprehend definite impact of the financial crisis on the banking industry.

Research also includes stock price tendencies of main US and European banks to expatiate crisis reflection on stock returns of main players of the banking industry. Using the database of The Economist Intelligence Unit, we examined those alterations statistically by introducing quintile method (Q1, Q2, Q3, Q4, Q5), by categorizing the worst performing 20% US and European banks as Q1, and the best performing 20% US and European banks as Q5. Examination made by researching stock prices of variable banks and determining percentage changes in stock returns.

By using both methods we believe that we appropriately transmitted research objectives, explained every main points and gave a chance to a reader to comprehend entire concept as well.

3.2 Results

This study revealed several outstanding results, we may firstly comprehend main causes of the global financial crisis. According to study the most primary reasons and triggers of the meltdown are housing bubble, securitization, interest rates and rating agencies as well. However, in our opinion the most noteworthy reason is deregulation policy within the banking system and government authorities which led to the emerging crisis and prolonged it as well.

Research also reveals that the crisis affected banking industry by impacting the main stability indicators ratio such as Stock Prices Index, RoE, RoA and Loan-to-Deposit ratio (LTD) which can be deemed as real consequences of the global financial crisis over the entire banking sector. We examined stock return by statistical ratios revealing that this particular index got affected quite early and in a short-term there had been significant alterations reflecting true financial and economic impacts of the global financial crisis.

Overall, although the global financial crisis seems too much inevitable, it was possible to prevent it or lessen destruction to the market by choosing better and well-planned business and market plan.

CHAPTER 4

Conclusion

4.1 Recommendations

Upon concluding the study we have several recommendations and suggestions for the central banks and commercial banks to follow. The global financial crisis taught us a lot of lessons, therefore, we have to follow new methods and ideas in order not to get affected by another likewise financial crisis or a market crash.

We do believe that useful recommendations to follow would lead to better banking policy and business models. In this sense, research recommends banks following points to rely on.

- As central banks have great authority and regulation powers, we do recommend them to issue instructions to raise minimum capital funds of the institutions within the banking industry. Central banks should oblige banks to apply macro and microeconomic risk management policies as well.
- Central banks also should set up dynamic and flexible monetary policy in order to support banks to have better liquidity conditions during the pre-crisis and post-crisis period. For this matter regulated low interest rates would also be a decent instrument to achieve better liquidity conditions for banking industry.
- Banks should also make quite sure that their financing efforts are legal and their financing sources are reliable. Those sources should carry less risks under the normal market conditions. Otherwise, risky toxic assets could turn

into a global meltdown and collapse of the banking sector operations and transactions.

- Transfer of toxic and risky assets was a significant issue during the global crisis. In fact, it was one of the reasons triggering and prolonging the global crash. In order not to face same consequences, central banks should have strong controls over the banking industry institutions (especially those dealing with foreign investments) to not to receive and transfer risky financing tools such as toxic assets.
- Bailout experiences may not be seem quite appropriate by some economists. However, we do believe that governments should support those banks suffering from severe crisis conditions, and even if their total crash would led to the market turmoil governments and central banks would be better to financially support them to overcome the meltdown in order to prevent panic and total market destruction (and avoid issues like Lehman Brothers Case).

Additionally central banks may introduce guidelines for the banking sector institutions as well as for the public in order to make them aware beforehand of possible crisis scenarios. Similar practices have been implied in European countries and were quite successful for generating public awareness.

Banks should also be focused on better risk management practices and development of IT (Information Technology) systems. Studies show that failure in bank's IT systems may also result in internal turmoil and failure in online operations which are undeniable part of modern day banking industry. In this sense, banks should apply better computer based practices as well as hire much sophisticated staff to carry on transactions within their IT systems.

4.2 Suggestions for further studies

There are new challenges in learning financial crises. However, in order to strengthen desirable outcomes researchers may focus on several suggestions that we offer while conducting a research on the same or related topic.

Further studies may focus on time period extension. This study gives data from 2015 as the most final year. However, further researchers may focus on very recent years by examining latest tendencies and inclinations in the market and have a wider range of comparable years in their research. This would give a reader better understanding of impacts of the financial crisis on the banking industry for a long-term period as markets are changing even month by month. Fresh data would make a reader aware of the latest tendencies as well.

The study used several determinants and main financial soundness indicators such as Stock Price Index, RoE, RoA and Loan-to-Deposit (LTD) ratio. However, as there are more indicators giving a complete idea about banks' financial health and stability. Researchers may focus on examining more and more variables and include their results into the paper work. Broader range of indicators may also introduce a reader more data to comprehend objectives of study very well.

Finally, we suggest further studies to include wider range of comparable country variables and specific regions in order to expatiate impacts of the global financial crisis on miscellaneous banking institutions of different regions and eco-zones. This will give a reader much more choice to examine real impacts of crisis in terms of practical explanations and observations in different countries.

With focusing on these points we believe further studies might be more successful than previous one and eliminate informational challenges while providing readers broader range of research results and reliable outcomes.

Endnotes

1. Edmund Conway, “IMF Puts total Cost of Crisis at £7.1 Trillion,” *The Telegraph*, August 8, 2009, (http://www.telegraph.co.uk/finance/newsbysector/banksandfinance/5995810/IMF-puts-total-cost-of-crisis-at-7.1-trillion.html).

2. International Monetary Fund, “A Fair and Substantial Contribution by the Financial Sector: A Final Report for the G-20,” June 2010, IMF, Washington, DC, http://www.imf.org/external/np/g20/pdf/062710b.pdf).

3. Christopher Chantrill (compiler), Federal US Debt as a Percentage of GDP, December 2010, (http://www.usgovernmentspending.com/downcharts_gs.php?title=Federal%Debt%20as%20Pct%GDP&year=1950_2010&chart=H10-fed&units=p).

4. George K. Zestos, *The Global Financial Crisis: From US Subprime Mortgages to European Sovereign Debt*, Routledge, 2016, *pp. 21 – 42*.

5. "CSI: credit crunch", *The Economist*, 18.10.2007, (http://www.economist.com/specialreports/displaystory.cfm?storyid=9972489).

6. Z.1 Historical Tables (1974), 2008 release, (http://www.federalreserve.gov/releases/z1/Current/data.htm)andcurrentZ.1), Table B.100, *lines 31*, *48*.

7. *“Sources and Uses of Equity Extracted from Homes”*, (http://www.federalreserve.gov/pubs/feds/2007/200720/200720pap.pdf), (PDF).

8. http://www2.standardandpoors.com/spf/pdf/index/CSHomePrice_Release_112555.Pdf.

9. “Vacant homes 2.9 MM”, (http://biz.yahoo.com/cnnm/080513/051208_q12008_home_prices.html).

10. *“NPR: Economists Brace for Worsening Subprime Crisis”*, (http://www.npr.org/templates/story/story.php?storyId=12561184).

11. Brookings Institute – U.S. Financial and Economic Crisis, June 2009, PDF, *p.14*, (http://www.brookingsedu/papers/2009/0615_economic_crisis_baily_elliott.aspx).

12. Northern Rock Annual Report, 2006, *p. 82*.

13. Lehman Brothers 2008. Press release, 15 September 2008, Lehman Brothers Holdings Inc. Announces it intends to file Chapter 11 Bankruptcy Petition, New York: LBHI.

14. *Profitability of Banks Before and After the Crisis*, The Alpbach Financial Symposium, Marco G. Mazzucchelli, 30August 2013, *p. 2*.

Bibliography

[1] Asian Development Bank Institute Working Paper Series, *“What is the impact of the Global Financial Crisis on the Banking System in East Asia”*, Michael Pomerleano, 2009, *pp. 12 – 15*.

[2] Jeffrey Friedman, Richard A. Posner, *What Caused The Financial Crisis*, University of Pennsylvania Press, 2011, *pp. 107 – 183*.

[3] IMF Working Paper, *The Impact of the Global Crisis on Banking Globalization*, Stijn Claessens and Neeltje van Horen, 2014, International Monetary Fund, *pp. 8 – 18*.

[4] Benn Steil, *Lessons of the Financial Crisis*, Council on Foreign Relations, March 2009.

[5] George K. Zestos, *The Global Financial Crisis: From US Subprime Mortgages to European Sovereign Debt*, Routledge, 2016, *pp. 1 – 42*.

[6] Paolo Savona, John J. Kirton, Chiara Oldani, *Global Financial Crisis: Global Impact and Solutions*, MPG Books Group, UK, 2011, *pp. 19 – 51*.

[7] Peter Hoflich, *Banks at Risk: Global Best Practices in an Age of Turbulence*, The Asian Banker, John Wiley & Sons (Asia) LTD, 2011, *pp. 32 – 50*.