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EMERGING OF THE SUBPRIME MELTDOWN: FROM ROCKETING HOUSING PRICES TO FALLING FINANCIAL INDICES

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Abstract

This paper examines the actions of the key players in the context of the crisis transformation from meltdown of the U.S. subprime market to international shortage of available liquidity. The research examines the reasons of the financial meltdown such as reckless usage of risky financial innovations, low level of state control of the sector, predatory lending practices and information asymmetry of risk distribution between loan originators and investors. It is concluded that current banking practices should be reconsidered and major financial agents require further investment education to eliminate the information asymmetry which lead to inaccurate risk evaluation. Finally, observing the transition of the crisis to the European continent it is claimed that certain backwardness in adopting of innovative financial instruments appeared beneficial for such emerging market as Russia and created the environment attractive for foreign direct investment inflow.

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Introduction

The U.S. housing market in 2007 unexpectedly met correction, with the prices started to sink. At that time the forecasts were mostly optimistic and no one really could expect the term “recession” to become widely spread across the news lines. While the definition of the recession may vary around sources the fact that the US economy is having the hard times does not arise any dispute.

The massive amounts of liquidity which became available in 2001 after the dot-com bubble, had to be reinvested and houses were selected as the safest direction. With low interest rates set by the Fed, the lenders were struggling for attracting larger number of number of borrowers even despite their low creditworthiness. Taking into account the rising prices there was always an option for customers to refinance their loan. Everything went smooth until the number of delayed payments started growing alarmingly. This automatically corrected the supply and demand forces and the housing prices began to fall. Unfortunately, Wall Street geniuses were too good in building complex financial schemes and after the first signal of the market decline it became obvious that the borrowers were supposed to pay not straight to the loan originators, but to a wide range of international investors starting from UK insurance companies to Norwegian pension funds. At that time it became clear that the whole financial world is infected, nevertheless, no one could clear calculate the price of the treatment.

Research Question

The thesis inquires what has allowed the crisis outgrow from the level of nominal values of decreased housing property to the uncertainty on the international markets. The research question of this thesis asks whether the current financial crisis is the result of solo or multiple actors' faults or rather it is caused by the shortages of today's financial system and its regulation. Defending the actors, I argue that most of their decisions were rational; however, these decisions were limited to the volume of knowledge available. Even the ninja borrowers can not be blamed individually by acting improperly, as their decisions about the ability to pay off the mortgage has been softened by the general optimism and extensive marketing campaigns which encouraged new mortgage origination. As long as we assume that there is a positive correlation between beliefs and preference formation one can not accuse the actors of committing mistakes.[1] They had a belief, built by other agents that the market would boost indefinitely long. Ultimately, crisis avoidance could be possible only in terms of alternative market conditions, still, this idea is utopian as long as the "guys from Wall Street" are the major accelerators of the U.S. economy.

Considering the above mentioned, the first hypothesis to be tested is that actors behavior was irrational. The second one to be checked is that the current world subprime spread was largely a result of reckless application of innovative financial instruments.

Debate

The whole meltdown can be divided into two parts: the problems which appeared on the U.S. subprime lending market and the liquidity crisis leading to the recession of the whole U.S. and world economy. Therefore, the discourse analysis is separated into two parts.

The first part of the debate is connected to the financial crisis itself. The classical theories about the financial collapse include the work of Hyman Minsky[2]. He introduced the financial instability hypothesis of credit cycles by which borrowers differentiate depending on

[1] Richard Zeckhauser, "Behavioural Decision and Behavioural Finance", http://www.spp.nus.edu.sg/lectures/Behavioural_Decision_and_Behavioural_Finance.pdf (accessed Mar 15, 2008).
[2] Hyman Minskym, *Stabilizing an unstable economy*, (A Twentieth Century Fund Report, Yale University Press, New Haven and London, 1994), 11.

their ability to pay off the loans without refinancing. His theory strongly correlates with the situation observed in August 2007 in the U.S. The better the external conditions are - the higher are the incentives to obtain addition funding without confidence of paying the credit back. Kindleberger considers Minsky's assumptions too pessimistic and by adding additional factors to the model leaves a possibility to avoid the crises in case authorities use stronger regulatory powers.[3]

The second part of the debate review is dedicated to the analysis of the housing market. The Economist warned of an impending implosion of housing values in 2004. Due to several factors, the U.S. housing prices were rising faster than long-term inflation, incomes, rents and the ability of most Americans to pay for their mortgages.[4] Real estate prices growth, as the initiator of the whole crisis, is analyzed by Cuts and Van Order who provide a distinctive overview of the lending market, analyzing the decision taking process between borrower and financial institution.[5] They also inject the behavioral finance decision-making approach, claiming that information asymmetry is the factor leading the lender to accept high risk despite the probability of borrower's default. Schiller also uses this idea of asymmetry in order to promote his concept by which majority of Rinvestors was considering houses as the best option for savings.[6] Based on these assumptions Schloemer expresses the need to urgently increase the requirements for subprime borrowers and was one of the first who stated the approaching of the meltdown.[7] Van Hemert and Demyanyk noted that the quality of loans decreased throughout six previous years and securitizers were well aware of the risk.[8] As Dew

[3] Charles Kindleberger. *Manias, Panics and Crashes: A History of Financial Crises,* (John Wiley & Sons, New York, 1996), 20.
[4] The Economist, "Our Price House Indices," http://www.economist.com/finance/displaystory.cfm?story_id=2319345 (accessed Feb 6, 2008).
[5] Amy Crews Cutts and Robert Van Order. "On the Economics of Subprime Lending," http:// www.freddiemac.com/news/pdf/subprime_012704.pdf (accessed Feb 8, 2008).
[6] Robert Shiller, "Understanding Recent Trends in House Prices and Home Ownership" http://ssrn.com/abstract=1017546 (accessed Feb 9, 2008).
[7] Melissa Jacoby. "Homeownership Risk Beyond a Subprime Crisis: The Role of Delinquency Management" http://ssrn.com/abstract=1074442 (accessed Feb 10, 2008).
[8] Yuliya Demyanyk, and van Hemert, Otto, "Understanding the Subprime Mortgage Crisis"

mentions, the lenders accepted this fact as they had no other option to keep the competitiveness, apart from bringing more liberalization of the minimum requirements.[9] Overall, the problem could have been eliminated at much cheaper price in case the necessary measures were taken early by the market regulators which could introduce stricter rules of the game.

Seeking those to blame for the mess, certain economic scholars, as Schiller, stress on the point that all the actors made the number of errors and therefore their pattern of behavior could not be seen as rational.[10] In contrast, Ernst as a sociologist, considers that their type of behavior could be named rational and proves this statement discussing borrowers.[11] So far, the evaluation of all the major players' actions in terms of rationality has not been present in the literature and part of this thesis is aimed at eliminating this gap.

Research Methodology

In order to prove the validity of hypothesis the methodology is based on the thoughtful analysis of financial media publications. Despite the fact, that the subprime crisis has hit world economy significantly, the scholars' attention towards the topic is so far limited. The current level of study of the issue is still dominated by the breaking news with losses calculations reports, rather then extensive comprehensive analysis.

This study is based on the critical evaluation of wide range of approaches towards determining the nature and the initiators of the crisis. The negative side of this method is that currently the views of the economists noticeably vary and in certain cases are even biased.

http://ssrn.com/abstract=1020396 (accessed Feb 3, 2008).

[9] Kurt Dew, "The Definition of Bank and the Subprime Mortgage Crisis: Tying Bank Regulation to Banks' Risk-Return Trade-Offs in the 21st Century," http://ssrn.com/abstract=1019175 (accessed Feb 7, 2008).

[10] Robert Shiller, "The Subprime Solution: How Today's Global Financial Crisis Happened, and What to Do about It", http://press.princeton.edu/titles/8714.html (accessed Mar 7, 2008).

[11] Keith Ernst, "Steered Wrong: Brokers, Borrowers, and Subprime Loans", http://www.responsiblelending.org/pdfs/steered-wrong-brokers-borrowers-and-subprime-loans.pdf (accessed Mar 11, 2008).

The statistical analysis allows defining the key episodes of the collapse evolution. Moreover, I conduct the research based on data presented by the third party agencies and present it in a larger timeframe, rather than use the data attached to the news articles.

While the thesis is mainly based on the financial indicators evaluation, the sociological ideas allow to maintain the better understanding of the economic decisions of the actors. Comparative analysis is used in order to portray the difference of players' actions in environment of information asymmetry. Finally, by case studying of two countries having certain similar features, however, presenting different outcomes, it is possible to apply the method of difference to extract the factor which determines the possibility and speed of the crisis spillover.

Thesis Structure

The paper is divided into four chapters.

In the *first* chapter the theoretical legacy of Hyman Minsky dedicated to the nature of the crisis is analyzed and applied to the current meltdown. In order to better understand why interpersonal connections between the key actors led to the painful consequences the ideas of information asymmetry together with financial behavior of the masses and the level of its rationally are presented.

The *second* chapter focuses on the features of the U.S. housing patterns and alarming trends which were becoming increasingly widespread from 2003 – admittance of subprime customers with poor credit records to credit resources. Generally, the crisis was born in this sector and its later spread occurred due to the Wall Street's financial innovation – securitization.

In the *third* chapter, the patterns of securitization are presented and step by step process of mortgage-based securities sale is discussed. As the result, it becomes possible to distinguish actions of every group of actors and evaluate it independently in terms of the level of its rationality. This part stresses on the main possible causes of the crisis stated by scholars. From the first perspective the fault is imputed to the reckless borrowers which got used to live in credit and did not bother themselves about long-term financial planning. The second concept accuses managers which were pushing too hard and were skipping necessarily credit checks. Moreover, with partly fraudulent schemes of zero down payments they artificially were heating the housing prices. The third concept, used by the investment bankers and high officials of the Fed, argues that the problem was naturally inherited to the markets and the state institutions are unable to resist the cyclic waves of the economy.

In the last *fourth* chapter, the spillover of the crisis is analyzed. As long as investments in mortgage-backed securities were becoming attractive opportunity for the financial actors around the globe not surprisingly that the crisis has hit Europe as well. The two countries with different economic models are selected to present the differences in the way the crisis has affected their financial framework. By comparing this effect, the pattern of vulnerability is extracted and the conclusion about the financial innovative techniques is made.

Chapter I. Theorizing Financial Instability

1.1. Minsky's instability hypothesis

The crisis which hit the world economy in the 2007 could be named as unexpected. Generally, the fact that it drastically differs from the previous meltdowns makes it complicated to apply a single theory to it. Still, Financial Times and the Economist have recently referred to some classical theories describing the financial crises noting work of Minsky as an explanatory model of the business cycles.[12][13] Analyzing Minsky I distinguish the points of the credit crunch which partially fulfill his theoretical conjectures. Several other theoretical backgrounds are applied as explanations of the intermediate steps taken by agents which lead to the severe consequences.

Hyman Minsky core model is known as financial instability (sometimes also referred as "fragility") hypothesis. The general idea of the theory is that the structure of the economy is inherently destabilizing and becomes more vulnerable after a period of prosperity. [14] He has introduced the logic of the cyclic nature of financial crisis, meaning that the stability produces future fragility. In order to be competitive and increase profits during the years of prosperity the financial institution has to decline the transactions' safety margin which potentially could lead to the high risks. Examining the cycle more thoroughly the following points should be outlined.

First, Minsky has differentiated among three different types of borrowers who were receiving the loan in order to generate profit from their investments. "Hedge borrowers" are

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[12] John Authers, "The Short View: Minsky Moment", *Financial Times* , Jul 12, 2007, http://us.ft.com/ftgateway/superpage.ft?news_id=fto071220071328004292 (accessed Mar 2, 2008).

[13] The Economist, "Riding The Cycle", *The Economist*, Jasn 12, 2008, Jhttp://www.economist.com/finance/displaystory.cfm?story_id=10498937 (accessed Mar 17, 2008).

[14] Jan Kregel, "Mınsky's Cushıons Of Safety: Systemic Risk and the Crisis in the U.S. Subprime Mortgage Market", http://www.levy.org/pubs/ppb_93.pdf (accessed Feb 17, 2008).

getting a loan to purchase an asset and the income which is generated from this asset is sufficient to pay both the interest and principal payment for any amounts borrowed. This type of borrower is considered by Minsky to be a stabilizing factor. The second type of the investor is “speculative borrower”, who is capable of paying the interest, however lacks enough funds for the principal payment. This type of borrower has to refinance or roll over their debts. The third type, called “Ponzi borrowers” are unable to pay off both the principal and the interest payments. They can pay off the debt only in case the market value of their investment is constantly increasing.[15] “Ponzi” investors become euphoric over their ever increasing profits, and fail to recognize any of the impending events that can lead to disaster.

Another classification offered by Minsky differentiated the following phases of the typical business cycle: displacement, boom, euphoria, profit taking, and panic. The current crisis displacement phase happened when the Fed has lowered its Federal Funds target rate down to one percent in 2003 making the loans available and generating the speculation on the housing market. Business owners watch their assets which are steadily and rapidly increasing in value, the owners speculate that their profits and margins will continue to expand, and bankers follow along those speculations by offering higher and higher loans to value accepting increased risk. During the boom and euphoria phases the financial institutions in order to attract more customers first begin accepting speculative and then even Ponzi borrowers. This happens because the risks are lowered using the securitization, which would be discussed in the next chapter, a process according to which banks transfer the default probability to investors and their main goal becomes to maximize the number of the issued loans. The profit taking period began in 2006, when some hedge funds started betting against the housing market and playing against the major trend.[16] Paulson and Co made $3.7 billion

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[15] Ibid.

[16] John Cassidy, “The Minsky Moment”, *Newyorker*, Feb 4, 2008, http://www.newyorker.com/talk/comment/2008/02/04/080204taco_talk_cassidy (accessed Feb 20, 2008).

in 2007, achieving the largest figure in hedge fund industry and outperformed George Soros, being on the second place.[17] The last period, panic, would be observed in the third chapter, the phase when the crisis hit the global economy.

The crucial idea of the credit cycles in the Minsky's theory is the fact that during the boom the credit standards are loosening and lenders permanently look for the ways to avoid the extensive regulations. Transforming the Minsky's key points towards the subprime issue following parallels could be seen. The households with low income were optimistic about their future: unable to make the down payment they still have been applying for mortgages considering that the growing prices would allow them to cope both with the principal and interest payments. The mortgage brokers from their own perspective were aimed only at issuing the maximum number of loans in order to raise their commission. Therefore, they usually were too flexible about skipping the additional verification and accepting low credit scored applicants. While at the beginning of the cycle this kind of practice was rather an exception with the real estate prices continuing to grow the lending practices became more and more reckless.

Minsky's theory tells that the credit cycle upswing happens at the time when new business opportunity is born and the majority of the financial agents are trying to implement it to drive their profits. Wall Street has always been on the forefront of creating investment opportunities and vehicles that bring additional profits, not necessarily for the investors, but ultimately for them as financial players. Some of those investments are in the core of the current meltdown and may ultimately have a devastating effect on many individuals, communities, countries and governments. Profit euphoria stops investors from adequate

[17] Jenny Anderson, "Wall Street Winners Get Billion-Dollar Paydays", *NY Times*, Apr 16, 2008, http://www.nytimes.com/2008/04/16/business/16wall.html (accessed Apr 20, 2008).

evaluation of the possible risks and this way a bubble is born. The bubble leads to the debt payments which borrowers can not service any longer.[18]

Minsky focused his research on understanding financial meltdown and the way it evolves. The definition of the financial crisis by Hyman Minsky as of a situation brought about when money demand and money supply become disconnected, particularly when the demand for money exceeds the money supply in a relatively quick manner, fits well the today's situation. Maturing of the markets and increasing speculative character of the investments finally lead to the instability of the financial system. To put it short, he considered that "stability is destabilizing", noting that "in prosperous times, when corporate cash flow rises beyond what is needed to pay off debt, a speculative euphoria develops, and soon thereafter debts exceed what borrowers can pay off from their incoming revenues, which in turn produces a financial crisis".[19] According to Minsky, the financial collapse hits when banks and lenders tightening credit availability even for companies that can afford the loans and subsequently the economy contracts.

The financial instability hypothesis can be applied not only to the subprime sector, but to the leveraged loan market as well, where companies which most likely in the regular business environment would default were able to get the new corporate loans as the "Ponzi borrowers". Altogether, not surprisingly Roubini concludes that the crisis reminds typical Minsky credit cycle as it can be partially described by inherited features of the cyclic model of the economic development.[20] Still, not all the scholars agree with the applicability of Minsky's theory to the subprime mortgage crisis.

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[18] Michael D. Bordo, "The Crisis of 2007 :The Same Old Story, Only the Players Have Changed", http://michael.bordo.googlepages.com/The_same_old_story.pdf (accessed Apr 2, 2008).

[19] Thomas Tan, "Introducing the Minsky Theory - Stability Is Destabilizing", May 8, 2008 http://seekingalpha.com/article/76313-introducing-the-minsky-theory-stability-is-destabilizing (accessed May 10, 2008).

[20] Nouriel Roubini, "Are We at The Peak of a Minsky Credit Cycle?", Jul 30, 2007, http://www.rgemonitor.com/blog/roubini/208166 (accessed Jan 12, 2008).

Kregel accepts that while the current situation has the attributes of the Ponzi borrowing scheme, however, disagrees with the claim that the crisis hit the system due to loosening of the verification standards. He notes that the current loose system of validation process is inherited into modern financial system and the crisis has just revealed the shortcomings of creditworthiness evaluation technique. As long as the lender by securitizing allows third party investors to purchase mortgage backed-up securities he no longer bares the risk.[21] While in the days when Minsky's theory has been created, the banks ability to evaluate the creditworthiness was essential, as such institution as rating agencies were not present. Today, the credit rating agency and banks have divided the traditional banking functionality: the revenues of the agencies are not correlated with how well they would appreciate the risk and therefore risk underestimation became a common practice. Overall, Kregel stresses that the basic structure of modern financial system, which made the credit too cheap and financial fragility inevitable, should be changed by introducing severe financial regulatory standards.[22] Referring to the question about the government intervention, Minsky comes to similar conclusion naming "intervention and institutional structures" as a necessity of successful economy.[23] Alternative attitude are also present, Krugman being an opponent of regulation claims that "recessions can and should be fought" noting that the best solution for that is economy management based on the liberal rules. [24]

Leading analysts were predicting the possibility of the crisis long before it hit, however they were optimistic about market being able to cope with it with its own forces.[25] Ex chief

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[21] Jan Kregel, "Minsky's "Cushions of Safety", Systemic Risk and the Crisis in the US Subprime Mortgage Market", Nov 27, 2007, http://www.networkideas.org/featart/mar2008/Mortgage_Market.pdf (accessed Jan 12, 2008).

[22] Ibid.

[23] John Cassidy, "The Minsky Moment", *NewYorker*, Feb 4, 2008, http://www.newyorker.com/talk/comment/2008/02/04/080204taco_talk_cassidy (accessed Feb 20, 2008).

[24] Paul Krugman, "The Hangover Theorem: Are Recessions the inevitable payback for good times?" http://www.pkarchive.org/cranks/hangover.html (accessed Mar 11, 2008).

[25] Marc Kleinman, "Chris Wood: the man who predicted the subprime crisis",*Telegraph,* Sep 23, 2007,

economist of the World Bank, Joseph Stiglitz doubts this assumption. Rejecting the invisible market hand phenomenon he stresses on the importance of the intervention to produce more effective outcomes. In 2002 referring to the dot-com crisis the author notes that "much of the mania that led to the bubble economy was based on exploiting investor psychology".[26] While dot-com enterprises were definitely much more risky investment than the real estate, the bubble has been created again with the losses exceeding the information technology sector meltdown. He extensively uses the idea of information asymmetry between the players, noting the importance of the government's actions to minimize the difference of perceptions and expectations. The named asymmetry did not allow in the current crisis to make a selection between the risky and safe investment. As could be seen later in this paper the Fed's actions were mostly based on the high levels of the growing optimism and strong belief of a stable tomorrow rather than evaluation of the possible risks of the rocketing real estate market. One can observe the contradiction of the ideas: markets are supposed to be the most efficient way in case every agent acts rationally. However, as it was already mentioned the rational behavior is constrained by imperfect distribution of information which creates the asymmetry and prevents actors from making the perfectly "right" decisions.

1.2. Rational behaviour and information asymmetry

Another side of the theoretical approaches which should be discussed is connected to the mass behavior, as certain scholars consider the borrowers to be responsible for the crisis. As long as most economic theories are based on the assumption that individuals act rationally, this type of behavior should be defined. As Savage argues the rational behavior consist of the

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http://www.telegraph.co.uk/money/main.jhtml?xml=/money/2007/09/22/ccprof122.xml (accessed Mar 18, 2008).

[26] Joseph Stiglitz,"There is no invisible hand", *The Guardian,* Dec 20, 2002, http://education.guardian.co.uk/higher/comment/story/0,,863559,00.html (accessed Mar 25, 2008).

following components: from the set of alternatives the actor is aware of estimated distribution of the outcomes and, therefore, acts to maximize his utility.[27] The main players of the subprime crisis would be evaluated towards these assumptions in the third chapter, determining how rational they were. Herbert Simon, a winner of the Nobel Prize in Economics, studied the psychological perspective of the decision making process and presented the concept of "bounded rationality".[28] The main idea of his discourse is the fact that individuals are not making the optimal decisions, but rather act accordingly to their environment, restrictions and possibilities. Instead of adopting optimal decisions they rather prefer those that are "good enough".[29] Moreover, in case the Simon's approach is combined with the concept of herd mentality the actions of the subprime borrowers could be understood even better.[30] In case everyone can get a mortgage without a proper creditworthiness check and no initial down payment required, it automatically leads to the higher number of households accepting mortgage brokers' deals. The families would rather get in the bigger debt keeping optimism about finding new sources to pay-off the loans rather then rationally evaluate the probability of affording the new house.

The key question is how different the current subprime meltdown is from the previous financial crises. Reinhard considers that the current crisis has a lot in common with the previous meltdowns. By studying a number of previous financial collapses he compares the following pre-crisis figures: real housing prices, market price indices growth, GDP growth rate and account balance to GDP ratio. In all four cases the U.S. looks staying on a "typical trajectory" of a pre-crisis situation. Surprisingly, while checking public-debt ratio the author concludes that the debt has been increasing rather slowly. Therefore using Tolstoy's famous line "Every happy family is alike, but every unhappy family is unhappy in their own way"

[27] Leonard Savage, *The foundations of statistics* (New York : Dover Publications, 1972), 74.
[28] Herbert A. Simon, *Models of My Life* (New York: Basic Books, 1991), 217.
[29] Ibid., p.312-334.
[30] Tony De Thomasis, "Avoiding The Four Major Investor Mistakes" http://www.dethomasfinancial.com/newsletters/Jan_2007.pdf (accessed Apr 25, 2008).

every crisis distinction should be admitted, however the parallels could also be drawn. The same line can also be interpreted the other way: while every rational, well-informed, utility-maximizing agent reaches the optimal outcome in the same way, every real person, firm or policy maker that misses that point has missed it through their own unique behavior which finally leads to the information asymmetries.[31]

The information asymmetry also depicts the risk of over optimistic beliefs and valuation of the assets. It was the nominal value of the increasing prices which positively affected the expectations. As long as in the international business nothing can be priced as fixed, it is the expectations about the nominal value of the goods make the trade possible.[32] Except the housing prices and the home building the economies have not suffered any visible damage. While there was no significant slowdown across the economy the crisis moved the nominal prices of certain assets down to their true cost. The borrowers were considering houses as a permanent value, however the system does not allow the difference between the real and nominal value of the asset to be spreading infinitely.

[31] Australian Government Productivity Commission "Behavioural Economics and Public Policy", Aug 9, 2007, http://www.pc.gov.au/__data/assets/pdf_file/0005/79250/behavioural-economics.pdf (accessed Mar 25, 2008).

[32] John Regan, "What the 'Subprime' Mess Is Really About", Nov 17, 2007. http://www.lewrockwell.com/orig5/regan-j2.html (accessed Mar 29, 2008).

Chapter II. Evolution of the U.S. Housing Market

2.1. Rocketing prices and growing optimism

This chapter focuses on the peculiarities of the housing market in the United States as the field where the credit crunch was born. Certain changes occurred in the last ten years made the market vulnerable and hence led to the severe consequences. As Green and Wachter argue the current subprime mess could start only in the U.S., where the long period of the macroeconomic stability, rising phase of the business cycle brought substantial amounts of liquidity which allowed mortgage market to resist increasing interest rates and avoid any fluctuations for a long period.[33]

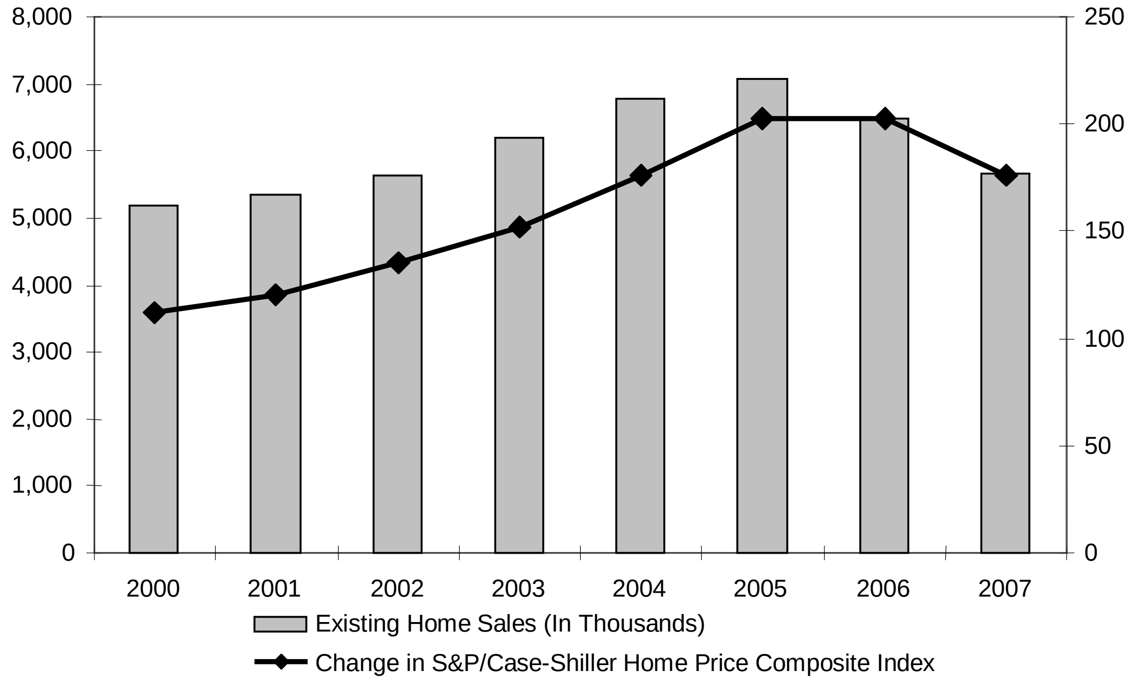
Around 2001, the nation emerged from a short economic downturn and started to invest in the real estate. The reasons for selecting housing market were primarily based on the optimistic belief of houses as the safe investment, especially considering reluctance to involve in any kind of risky investments after dot-com burst losses. Therefore, increasing numbers of households combined with the institutional investors contributed to make investments in residential real estate significantly better, than it had been in the past. Housing prices had been rising at a modest level for the previous decade despite the shocks which information technology sphere introduced, and therefore investment into real estate sector was regarded as reasonable. Even the scholar's position up to 2005 was optimistic, as Himmelberg and Mayer concluded that the phenomenon of raising prices could be natural and it did not mean that the houses were "systemically mispriced".[34]

[33] Richard K. Green and Susan M. Wachter, "The American Mortgage in Historical and International Context ", *The Journal of Economic Perspectives*, Vol. 19, No. 4 (Autumn, 2005):93-114.

[34] Charles Himmelberg, Christopher Mayer and Todd Sinai, "Assessing High House Prices: Bubbles, Fundamentals and Misperceptions" *The Journal of Economic Perspectives*, Vol. 19, No. 4 (Autumn, 2005): 67-92.

The resulting increase in demand in real estate was fueled by the decrease in interest rates, causing a lower barrier for prospective home buyers and residential property more affordable even as housing prices were rising. Boosting traditional market immediately attracted those transaction-driven - builders, bankers and mortgage brokers. The more mortgages they "sold" the more money they were making. Thus the faster homes were built, the more homes were sold, and the more money has been involved in the turnover. Investment bankers were similarly mortgage quantity-, not quality-driven. This means that they were compensated based on the total value of the mortgages packaged and sold to investors. Sales of existing homes and prices rose dramatically from 2000 to 2005, as shown in the graph 1.

Graph 1. Changes in Homes Sales Volume and Price Index



Source: National Association of Realtors, S&P

These sales peaked in 2005, and started to decline. This simultaneously led to the opposite of the home sales expansion, with a subsequent decline in revenues sectors affiliated with real estate. In order to determine the reasons why the volumes of the home sales began to decline and, therefore, the prices did the composition of the borrowers should be discussed.

2.1. Subprime borrowers and the growth of foreclosures

Mortgage Bankers Association presents three types of mortgage borrowers: prime, ALT-A and subprime. The majority of loans are given to prime customers - trustworthy clients with outstanding credit history, who are able to meet all the documentary requirements and have solid annual income. [35] The ALT-A refers to the loans being less risky then subprime, however, with the quality lower than prime. Borrowers of ALT-A type have clear credit records but lack certain documents to be qualified as prime.[36] The subprime-mortgage borrowers usually accept higher interest rates as of poor credit records.[37] Today, the official way to attribute the borrower to the subprime sector is the FICO credit score below 620 combined with the previous delinquency in the past 24 months.[38]

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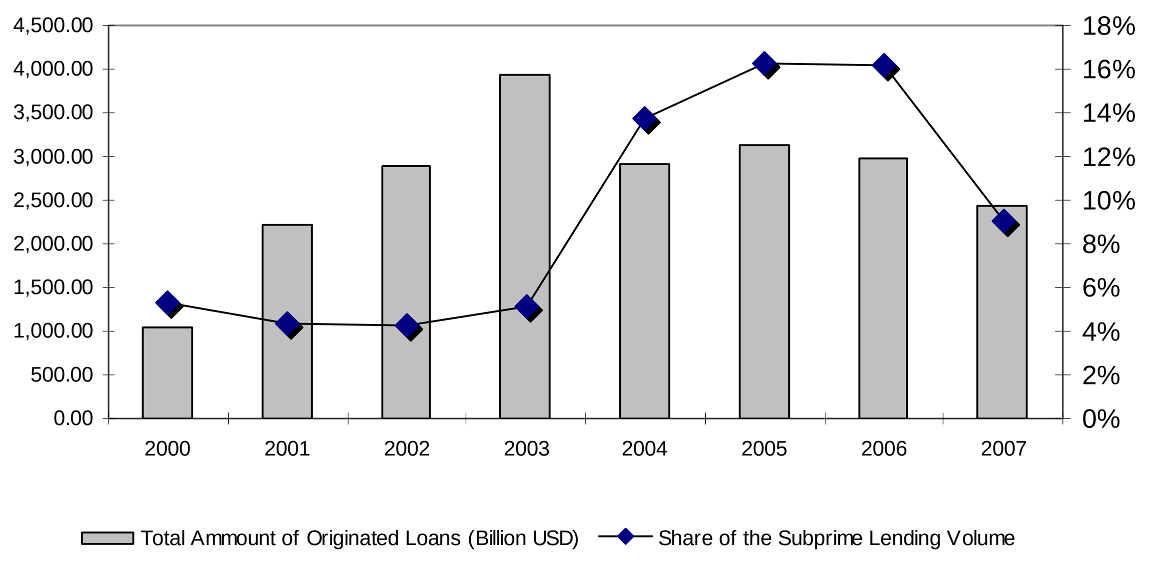
[35] School of Economic and Finance, University of Hong-Kong, Subprime Mortgage Crisis, http://www.econ.hku.hk/~yjtang/fina2802/SubprimeCrisisOverview.PPT (accessed Apr 17, 2008).

[36] Alistair Barr, “Subprime Mortgage Woes may be Spreading: Losses are Creeping up on so-called Alt-A Home Loans”, *MarketWatch*, Mar 12, 2007, http://www.marketwatch.com/news/story/subprime-mortgage-problems-may-spread (accessed Apr 5, 2008).

[37] The Economist, “Will turbulence in America's subprime mortgage market spread?”, Mar 8, 2007, http://www.economist.com/finance/displaystory.cfm?story_id=8829612 (accessed Jan 5, 2008).

[38] Steve Hargreaves, “Who can't get a mortgage now “, Aug 11, 2007, http://money.cnn.com/2007/08/10/real_estate/mortgage_rates/index.htm (accessed May 5, 2008).

Graph 2. Origination of Mortgages



Source: Inside Mortgage Finance

As can be seen on the graph 2 the share of subprime lending to total volume of the originated loans has tripled in the last five years. The 2003/2004 could be considered as a crucial moment: while the number of mortgages has declined the lenders had to seek for new borrowers by making loans more attractive with an extra long pay-off period or special introductory “teaser” rate. The astonishing facts – eighty percent of all the loans offered in 2004-2006 included “teaser”, the financial advertising technique discussed later. This type of loan offers borrowers had two to four years of below-market mortgage rates. In a traditional mortgage, the principal payment declines every month, as full interest and a portion of the principal payment is included in the monthly bill. During 2004 to 2006 37% of the loans the borrower were paying off included only the interest rate for the first couple years, not the principal payment. These rates are called “teaser” as no loan originator can maintain a below-market rate for more than several years. At some point the mortgage payment must rise to match the market rates. In addition, many subprime mortgages included ARM’s - adjustable rate mortgages - which were tied typically to the Federal Funds target rate at the time of the resetting of mortgage interest rates. Since the Fed started raising rates from historical low in

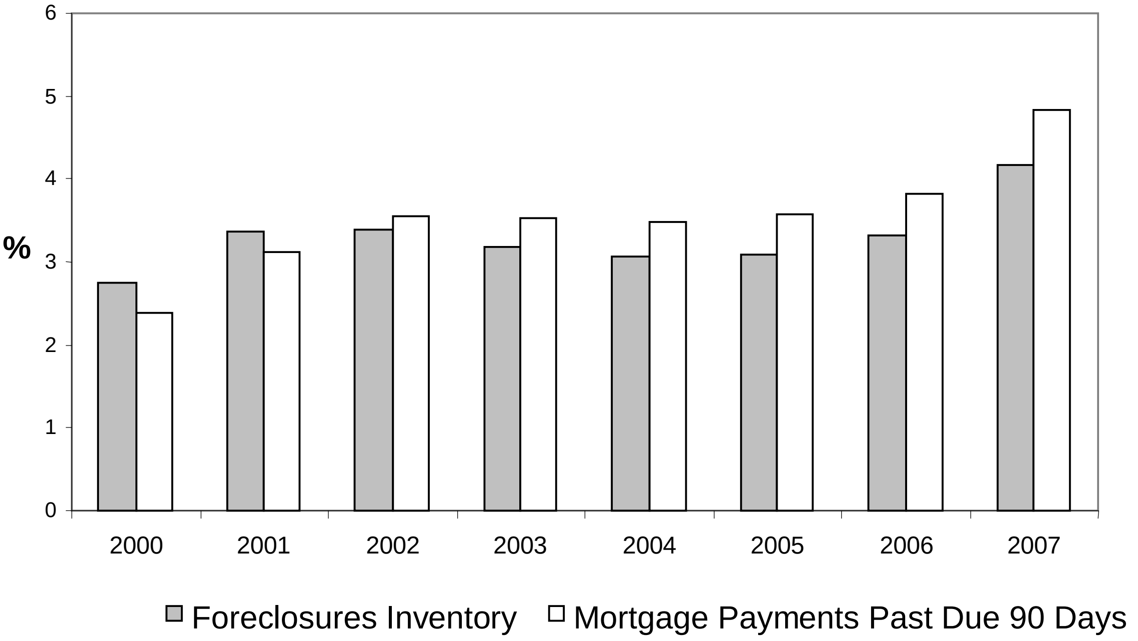
2004, many of the payments set at that time were time bombs, which would increase after the two- to three-year time delay.[39] Taking into account zero down payment policy and no documented income it sounds insane how during the securitization process these loans have been sold with the AAA rating.

The main problem appeared when the late payments have started arriving, which officially is named as delinquencies. This "teaser" period for the loans offered in 2002-2004 expired in 2005-2006 and instantly after interest rate reset to the market value many households started delaying their payments, not capable to handle the new financial burden. At the same time, another crucial collapse happened on the market: the real estate prices began to sink. For this reason, the houses could no longer be sold in order to cover the loan. The interest rates were that high that refinancing was not an option. The defaults started to increase. To put it short, while the home ownership rate and the number of mortgages issued were growing, the fall of housing prices, the end of introductory period automatically led to the delayed payments and future defaults. The raise of foreclosures, which is a process where, after a buyer was not able to cope with the payments the property is sold at auction, has been the nightmare for American Dream.[40]

[39] Maya Roney, "Subprime Time Bomb", *The BusinessWeek*, Feb 9, 2007, http://www.businessweek.com/bwdaily/dnflash/content/feb2007/db20070206_488329.htm?campaign_id=msnbc_mortgage (accessed May 11, 2008).

[40] Peter Koenig, "How sub-prime foreclosed an American dream", Telegraph, Nov 25, 2007, http://www.telegraph.co.uk/money/main.jhtml?xml=/money/2007/11/25/ccrock125.xml (accessed Mar 16, 2008).

Graph 3. Delinquency and Foreclosures Rates



Source: Inside Mortgage Finance

The graph 3 is actively used when the goal of the paper is to present the optimistic vision of the current turmoil. However, while looking at data which discloses the loans with payment shocks for the subprime sector only, the picture becomes almost critical – in December 2007 almost 40% of the subprime borrowers had problems doing their monthly payment. Basically, it means that in case the trend would continue, every single month couple hundred thousand houses would be available for sale which would lead to the excessive supply of the real estate property and would be an obstacle for prices to grow. That’s the reason why the current crisis is usually called as subprime – because both the lenders and the borrowers of this category were the initiators of the meltdown.[41]

[41] Tim Dunne, “Economic Trends: Subprime Statistics”, *Federal Reserve Bank of Cleveland,* Mar 4, 2007, http://www.clevelandfed.org/research/trends/2007/0407/07ecoact_040307.cfm (accessed Mar 27, 2008).

Chapter III. From Subprime Meltdown to Credit Crunch

3.1. Securitization phenomenon

Generally, the crisis could be divided into two phases. The first one took place in the U.S. when the first failures of financial institutions with large outstanding subprime loan portfolios occurred. During this period the consequences were mostly limited to the certain industries of the U.S. market and expectations mostly were optimistic. The second phase which started in July 2007 included the spread the crisis overseas to European and Asian markets. While this chapter would be mostly devoted to the first phase, the next one would emphasize on the crisis spread around the globe.[42]

The crucial part of the topic is connected with the financial sphere and therefore some terminology should be presented. The current collapse would not have happened until recent changes in the financial structure of the U.S. banking system. Until 1977 the securitization, a service which generated more then 7 billion in revenue in 2006 has not been introduced.[43] The first mortgage securitization was issued in 1977 by the Bank of America.[44] Before that time the word "securitization" has not even been used, its father Lewis S. Ranieri has first referred to in 1977 as a way to convert home mortgage into bond which can be sold to the external investors.[45]

Before the securitization has been introduced lenders generally knew their borrowers, because they lived and worked in the same communities, and banks were confident about

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[42] Koyo Ozeki, "U.S. Subprime Loan Turmoil and Japanese Credit Markets", Oct 1, 2007, http://www.pimco.com/LeftNav/Global+Markets/Japan+Credit+Perspectives/2007/JCP+10+2007.htm (accessed Mar 1, 2008).

[43] Cameron Cowan, "Hearing on Protecting Homeowners: Preventing Abusive Lending While Preserving Access to Credit", http://financialservices.house.gov/media/pdf/110503cc.pdf (accessed Mar 12, 2008).

[44] Richard Gorvett, "Insurance Securitization: the Development of a New Asset Class", http://www.casact.org/pubs/dpp/dpp99/99dpp133.pdf (accessed Mar 17, 2008).

[45] Lewis S. Ranieri, "Your Mortgage Was His Bond", Nov 29, 2004, http://www.businessweek.com/magazine/content/04_48/b391 0023_mz072.htm (accessed Apr 17, 2008).

creditworthiness of borrowers. The main idea of securitization as the new financial invention is the separation of the borrower and lender. The loan originator collects the loans into the pool and sells it to the investor by using mortgage backed securities (MBS) and collateralized debt obligations (CDO). MBS is issued by the banks who are lending the funds and, in the context of this paper, securization is referred as the process of selling this type of securities. The general advantage why the securitization produced such a boom on a credit market is the fact that previously the mortgages were illiquid by its nature and could not be tradable. After the securitization has been invented it became possible to convert loans into tradable assets. While originally the only type of asset-backed securities was mortgage, today the selection became wider: it also includes auto loans and credit cards.

Additional information should be provided about the collateralized debt obligations, which is an asset backed security meaning that its collateral is bonds or loans. The first debt obligations of this kind have been issued in 1987 by Drexel Burnham Lambert.[46] This type of investment vehicles was initially marketed to investors throughout the world as fixed income opportunity which was relatively safe by its nature. Investors welcomed them because they offered regular and consistent distributions of income considering the fact that they were collateralized by mortgages paid on a monthly basis. Many of the investors believed that the mortgages were made on properties that were constantly rising in value, so not only did they receive a regular dividend, but their investment holdings were rising in value as well. Collateralized debt obligation became widely spread in 1980s, then its use slowed down by the Savings and Loan Crisis, but was built again over the 1990's as investment banks developed ways to evaluate and package the mortgages into understandable assets which could be judged by agencies resulting in attachment of an investment grade. The rating

[46] School of Economic and Finance, University of Hong-Kong, Subprime Mortgage Crisis, http://www.econ.hku.hk/~yjtang/fina2802/SubprimeCrisisOverview.PPT (accessed Apr 17, 2008).

agencies, primarily Fitch, S&P and Moody's, evaluated the quality of these mortgages and issued an opinion to the investors which assured them of the likelihood of repayment.

The basic scheme of how collateralized debt obligations operate could be presented in the following example, which can depict the way the bank decrease the risk of his investments. The loan originator decides to sell the mortgage-backed securities to certain financial institution which in its turn repacks and issues notes of several types with different yield and risk of default, ranging from AAA being the highest down to BB, with the risk and return being negatively correlated.[47] These types of notes are called tranches – the portion of structural financial obligation with certain common risk. The risk is sliced to different classes and the rights and priorities are then distributed according with the tranche seniority.[48] This pattern could be presented in the following way: 0%-4% - Equity, 4%-5% - BB, 5%-6%-BBB-, 6%-7%- BBB, 7%-9% - BBB+, 9%-15% - A, 15%-20% - AA, 20%-100% - AAA. That means that in case of the crisis the investor holding the AAA rated note would suffer losses only in case the total capital structure of the pool would loose more than 20%. The following example allows estimation of the level of investors' optimism in mortgage-backed securities before 2007. The credit rating of Russia in 2007, country having large budget proficit, increasing gold reserves and relatively stable growing economy boosted by the high oil and gas prices is only BBB+, while the subprime loans never offered before at this volumes are generally offered at AA or AAA levels, which is the same as U.S. Treasury Bonds.[49]

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[47] Rancıs A. Longstaff, Arvınd Rajan, "An Empirical Analysis Of The Pricing Of Collateralized Debt Obligations", *The Journal Of Finance*, vol. 63, 2008 (2): 529–563.

[48] Matthew Attwood, "Creating CDO tranches," *Credit Magazine*, Aug 2004, http://www.creditmag.com/public/showPage.html?page=168502 (accessed Apr 17, 2008).

[49] Kathleen Howey, "Credit Ratings Fueled Subprime Boom," http://seattlepi.nwsource.com/business/344991_subprime27.html (accessed Apr 21, 2008).

The top hedge funds as the one owned by Bear Stearns were mostly investing in the safest type of notes which had the highest rankings as AA or AAA. [50] However, the problem appeared from the fact that the hedge funds were investing with the high leverage allowing the managers to use external funding which meant that even in case of small depreciation of notes the lender of these funds would insist on selling the note.

The crucial problem about the tranches is the complexity of their pricing. While the bonds or options are widely traded on the market the valuation of notes is based on the complex econometric models. Another issue concerns the division of the lender and borrower with several intermediate units as investment banks. The final investor's decision about the purchase is mostly based on the scores of the rating agencies which are supposed to be precise in calculating the possible risks.

3.2. Pattern of collapse

The crisis spread to the whole financial sector could be presented in the following way. In this section certain ideas would be repeated, however, it would allow revealing the major players of the scheme and therefore makes it easier to estimate the initiators of the credit crunch. The borrower applies for the loan with the mortgage broker and in the ages of rocketing housing prices gets approval despite poor credit history. The mortgage broker requests financing from the bank and does not care about the risks as he receives commission from the bank. The bank finances the mortgage and also does not care about the risks as it sells the mortgage-backed securities to the investment bank. The investment bank again does not hold the risk as well, it creates a collateralized debt obligation. This obligation is made of the number of loans and as it was generally considered that it can not default at once, the risk

[50] The Economist, "Still vulnerable: It Look too Early to be Buying Financial Stocks", Apr 17, 2008, http://www.economist.com/finance/displaystory.cfm?story_id=11064934 (accessed Apr 15, 2008).

of holding an individual loan is reduced. Collateralized debt obligation pool is split on equity and several types of the notes of different kind of risk as mentioned above. The investment bank first is obliged to pay the investor who purchased the safest tranches, then to those who bought a riskier one. However, the decreased risk automatically leads to lower interest rate for those safer investments. The investment bank also requests rating agencies to evaluate the tranches giving the scores from AAA to BB. The main idea which should be underlined is that anyway all the pool is created of the same poor quality risky subprime loans. On output it is presented as the safe investment, AAA rated which can be sold to insurance companies, pension funds and other banks. While the majority was interested in collateralized debt obligations as a safe investment in general 80% of the whole pool is the AAA rated tranche.[51] As long as BB does not attract many investors the investment bank that created this collateralized debt obligations can leave it for itself and generate the highest possible profit. And at the same time even the investment bank in fact does not hold the BB tranche on its balance sheet, it is transferred to a new created company called special investment vehicle (SIV), located somewhere in the offshore zone. This can be called as specific feature of today's financial system as it makes the banks became less aware of the deposit to loan ratio. Particularly, it is already the alarming fact that the bank generally estimates its ability to issue new loans based on the ability to distribute them in the form of securitization, rather on the deposit to loan ratio. So far, there would be no worries accepting sarcastic "if all went well".[52]

And here the crisis hits. The payments become delayed. The final investors contact the investment bank, which in fact can only admit that the number of borrowers not able to make monthly payments is that high, that even the AAA rated tranche buyers are unable to receive their funds. Housing prices stop increasing, borrowers loose the chance of refinancing and all

[51] Kathleen Howey, "Credit Ratings Fueled Subprime Boom," http://seattlepi.nwsource.com/business/344991_subprime27.html (accessed Apr 21, 2008).
[52] Tim Congdon, "Financial Innovation Destroys and Creates - But Mostly Creates", Economic Affairs, vol. 27 (4): 81–81.

the investment bank can do is admit to the final investors that the expectations were too optimistic. Still, the final investor did not accept the investment bank's evaluation; it was independent rating agency that set the risk profile of the tranche as AAA. However, they also were too optimistic. Even in case the tranche was secured with so many borrowers not being able to pay the monthly payments there is no possibility the insurance companies would be able to bare this burden. And here the meltdown starts.

The current subprime crisis is often referred to as the liquidity crisis or credit crunch, the situation when it "becomes difficult and expensive to borrow money": everyone needs liquidity and therefore the supply of funds on the market is limited.[53] Some background information should be given to understand its nature. As long as every bank in the U.S. has to hold certain amount of funds in the reserves sometimes the banks have to borrow them from another depository institution at the rate close to Federal Funds target rate. Still, the market for this type of loans is relatively low and could not cover the increased need of the liquidity in case of emergency. Another option to meet the required amount of the reserves is borrowing funds from the Fed directly at the Discount rate which from 2002 was 1% higher than the federal funds rate. After the defaults began to rise the financial actors all became in need of additional funds as playing with the high leverage made even small fluctuations on the market disastrous. As a result, the Fed in order to stabilize the credit markets in the august of 2007 has decreased the margin between the federal funds and discount rate to 0.5% and, in addition, allowed debt obligations as collateral in getting loans at discount rate.[54] However, the prime banks did not want to use the possibility to attract funds for the rate higher than the Federal Funds rate and more risky players such as hedge funds were not allowed to. Moreover, those banks that were ready to accept the higher Discount rate were aware of doing

[53] Oxford University Press, "Credit Crunch", http://www.oup.com/elt/catalogue/teachersites/oald7/wotm/wotm_archive/credit_crunch?cc=global (accessed Mar 21, 2008).

[54] Federal Reserve Discount Window, "Discount and PSR Collateral Margins Table", http://www.frbdiscountwindow.org/discountmargins.pdf (accessed Mar 21, 2008).

that, as it automatically would signal the market about the hidden financial hardships inside the company. Consequently, the banks began minimizing borrowing, which decreased the turnover and dried the available volumes of liquidity.

3.3. Core players of the securitization scheme

From the previous paragraph it may seem that it is possible to name the real guilty actors who can be blamed. Unfortunately, all of them acted maximizing their interest and therefore rational.[55] Each of the players had its own motives to act in the way he did and therefore finding the guilty one is impossible. Still, certain behavior patters could be revealed about the main categories of actors.

- *Mortgage brokers* – they are claimed because of approving customers lacking creditworthiness. Nevertheless, Harry Dinham, president of the National Association of Mortgage Brokers, notes that "the role of the consumer is to acquire the financial acumen necessary and take advantage of the competitive marketplace, shop compare, ask questions and expect answers."[56] Finally, they are just the sales people, it is their goal to maximize the number of deals in order to make profit. Moreover, the lenders were pushing brokers to present the higher interest rate by offering Yield Spread Premium, a bonus offered to the broker in case he is able to make the customer accept the interest rate higher than offered by the lender. The main reason to pledge them guilty is the fact that certain brokers were hiding future fees from the borrowers making the final price of the loan unpredictable. However, at the same time in general the brokers were aimed at

[55] Les Christie, "Subprime blame game", http://money.cnn.com/galleries/2007/real_estate/0704/gallery.paly_the_subprime_blame_game/2.html (accessed Mar 29, 2008).

[56] Alistair Barr ,"Subprime Crisis Shines Light on Mortgage Brokers", *MarketWatch*, Apr 10, 2007, http://www.marketwatch.com/news/story/subprime-crisis-shines-spotlight-mortgage (accessed Mar 29, 2008).

providing the best deal for the borrower by evaluating his possibilities and presenting the suited payment plan.

- *Loan originators* – while blaming the brokers for pushing the customers towards the loan one should not forget that the lenders were well aware about the credit status of the borrowers and still were accepting it. However, they are market players and in order to maintain its competitiveness they had to offer and promote subprime lending.
- *Rating agencies* – their previous "godlike status" has been substituted with "feeling of betrayal".[57] The three major ratings agencies, Fitch, Moody's and S&P, were competing for a share of the credit rating business. These firms had chiefly made their money in the past by rating municipal bonds. While this was a lucrative business, it could not boast high-margin. Each of the credit rating agencies saw mortgages - particularly subprime mortgage aggregates - as a way to earn increased margins in a growing industry. These institutions generate revenue by the number of ratings they issue. Their bills are paid as a part of the issuance of the collateralized mortgage securities meaning that the more securities they rate, the more money they make. Since the investment bankers (who had an incentive to increase their number of transactions) rewarded the ratings agency contracts, they would not go to a ratings agency that gave relatively few "investment grade" ratings to their securities. If any of the three were to suddenly grow more conservative, that ratings group would quickly lose market share and revenues.[58] After the crisis hit the agencies put themselves into the safe position claiming that they did not push either towards buying or selling, but only expressed their opinion. Mostly the ratings were based on the econometric models which evaluated the risk using the historic instances. MBS

[57] Kathleen Howley, "Rating Subprime Investment Grade Made `Joke' of Credit Experts", Dec 20, 2007, http://www.bloomberg.com/apps/news?pid=20601170&refer=home&sid=ajdL7eUHeUro (accessed Mar 29, 2008).
[58] USA Today, "Credit Rating Agencies Defend Track Record", Nov 2007, http://www.usatoday.com/money/industries/banking/2007-09-26-congress-credit_N.htm (accessed Mar 12, 2008).

were rated by S&P for more than 30 years and never before the housing prices decreased leading to low statistical probability of this occurrence in the future. However, it turned out that the past is not "the perfect guide for future performance".[59] The fact that they were over optimistic about the housing markets makes them responsible as in the rapidly changing environment agencies were not supposed to be the member of the press, but rather the participants of the transactions.[60]

- *Regulators* – loose monetary policies were caused by long period of low interest rates set as the reaction for dot-com bubble. During this period of 2002-2004 the low rates made the mortgages accessible to the wider range of the households.[61] Moreover, the liberal approach allowed writing loans fully off from the balance sheets and leading to transferring of the risk from the loan originator to the investor. In addition the Fed has been promoting adjustable rate mortages. After the dom-com burst the market needed the low interest rates to make the loans available, however the rates could be increased in a more aggressive way which would hinder the raise of the asset bubble.[62] And finally, the next question comes into force – should the current crisis be suppressed by another portion of the cheap money? Another reason the officials were powerless to control the meltdown is the sudden character of the new bubble which confused the officials who were calming themselves down with relative high, especially while comparing to Europe, country's growth rate. [63] This argument sounds questionable as considering the dot-com burst, the bubble created just seven years ago sharing many features of the current crisis,

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[59] Edward I. Altman, "Global Debt Markets in 2007: New Paradigm or the Great Credit Bubble?", *Journal of Applied Corporate Finance*, vol. 19 (3): 17–31.
[60] David Grais, "Not "The World's Shortest Editorial": Why the First Amendment Does Not Shield the Rating Agencies From Liability for Over-Rating CDOs", Nov 2007, http://www.graisellsworth.com/Rating_Agencies.pdf (accessed Mar 19, 2008).
[61] Mark Gongloff, "Fed raises again", *CNN Money*, Aug 10, 2004, http://money.cnn.com/2004/08/10/news/economy/fed_decision/index.htm (accessed Apr 5, 2008).
[62] Noah Rosenblatt, "Subprime: Who's Fault Was It?" , Sep 6, 2007, http://www.urbandigs.com/2007/09/subprime_whos_fault_was_it.html (accessed Mar 7, 2008).
[63] James Hagerty,"At a Mortgage Lender, Rapid Rise, Faster", *Wall Street Journal*, Mar 12, 2007, http://online.wsj.com/article/SB117366027973133733.html?mod=home_whats_news_us (accessed Apr 14, 2008).

the Fed again showed its incompetence in determining the critical events occurring in the financial system of the country. Additional attention should be paid to Alan Greenspan. Former chairman of the Fed continues to insist that the meltdown was natural and the US economy would "never be able to anticipate all discontinuities in financial markets". However, critical review of the Greenspan opinion allows such scholars as Grauwe consider that the ex-chairman is hiding its back from the responsibility of making the financial crisis possible.[64] Moreover, one more recent fact puts Greenspan in a unfavorable light. Officially, in the beginning of 2008 Greenspan become an advisor of Paulson and Co, the hedge fund which made the most money in 2007 by betting against the real estate index. [65] Rather than claiming the inability to anticipate the shocks another reason can justify Fed's faults. As Volcker claims, controlling the expansion of the financial crisis today, when the world is ruled by the informational technologies and the data spreads immediately there is no possibility for "bureaucratic world of regulation and supervising to keep pace".[66]

- *Wall Street* - investors bought securitized loans with no regard for whether they met underwriting standards. Still, it would be a mistake to consider that top hedge funds were investing in the over-risky ventures. There were convinced by the rating agencies and infected by the over-optimism. And still, they could not resist "The profitable alchemy of turning the dross of sub-prime credits into Triple A securities".[67]
- *Borrowers* – while noting that the share of subprime borrowers was relatively low the fact that they were backed by a portfolio of other derivatives made them so significant in the

[64] Alan Greenspan. "We will never have a perfect model of risk," http://blogs.ft.com/wolfforum/2008/03/we-will-never-have-a-perfect-model-of-risk (accessed Mar 9, 2008).
[65] Bloomberg. "John Paulson tops Alpha hedge fund pay list," http://www.telegraph.co.uk/money/main.jhtml?xml=/money/2008/04/16/bcnhedge116.xml (accessed Mar 5, 2008).
[66] Paul Volcker, "Rethinking the Bright New World of Global Finance", *International Finance,* vol. 11 (1):101–107.
[67] Ibid.

emerging of the turmoil. The crucial figure is that 80% of all the subprime loans were securitized.[68] Considering their behavior, borrowers could be blamed as finally they made the decision towards purchasing the property. They were supposed to make the research and get necessary data about the market situation and, moreover, clearly predict and evaluate their financial possibilities. Any emergency plan aimed at subsidizing the current subprime lenders automatically punishes those who diligently managed their investments. The idea of making prime taxpayers to subsidize the loans for "unemployed liars" would lead to the social tensions as the faults of irresponsible borrowers are applied to the prime sector. While noting that some brokers were using fraudulent practices, the borrowers were supposed to select the one which offered clear picture of the future expenses. The speculative character of the sphere with lots of marketing involved including catches, misleading advertisement and terminology unfamiliar to the lower end of society, where most of the subprime borrowers come from, made them accept the proposals from the brokers. Overall, the research notes that around 10 million people are involved in the foreclosure process. [69] Taking into account their social ties, this category presents a strong force on the upcoming elections and, therefore, candidate's position about the subprime borrowers can noticeably affect the final share in the voting.

- *Financial Innovation* – some call the true reasons of the crisis to be usage of collateralized debt obligations, securitization and the high overall leverage to which the investors have used to. The new players were allowed to get access to the credit funds and risk with minimum level of own deposit. To certain extent the Keynes ideas are also applicable: "the market can stay irrational longer than you can stay solvent".[70] From the other

[68] Vikas Bajaj, "As Defaults Rise, Washington Worries", *NY Times*, Oct 16, 2007 (accessed Mar 26, 2008).

[69] Peter Miller, "The Mortgage Mess: It's The Borrower's Fault" http://www.realtytrac.com/gateway_co.asp?accnt=64953&ItemID=3603 (accessed Mar 29, 2008).

[70] Sam Jones, "The Crisis Isn't With the Hedge Funds, But the Banks", *Financial Times*, Sep 5, 2007, http://ftalphaville.ft.com/blog/2007/09/05/7061/the-crisis-isnt-with-the-hedge-funds-but-the-banks/ (accessed Mar 22, 2008).

perspective, it is the irrationality which generates the money on the markets. In case the actors would have enough funds the margin call would not have happened and most likely the massive collapse of the hedge funds would also have been cancelled. However, the investors had to close even the relatively safe positions as they required liquidity to pay off for their own credit. Again, it would be a mistake to argue that such a financial technology as CDO should be abolished, the named innovation allowed financial markets to drive impressive profits; however the behavior in the field of risk estimation should be reconsidered.

After pointing out the major players of the crisis it is feasible to evaluate the degree of rationality.

- *Mortgage brokers* – their main goal is profit maximizing and their actions present the balance between sales boosting and offering best conditions for the customers. Their revenues have been dependent on the number of sales, and therefore aggressive customer attraction strategy can be named rational.
- *Loan originators* – their task was to survive in the competitive struggle and therefore they need to conquer the maximum possible market share. As long as prime customers market has been already established, acceptance of the less creditworthy customers was a rational step in the competitive environment.
- *Rating agencies* – admitting that their behavior was rational to smaller extent than the previous two groups, still, they were market players which in order to increase profits had to rate large number of securities preferably high in order to keep their customers.
- *Regulators* – at the days when everything went well the Fed has been adjusting its policy in the way to further boost economic growth. At those conditions this strategy was stable and rational.

- *Wall Street* – by investing in the AAA level securities these agents did not intend to produce any harm. While their aim was to guarantee the stable growth, the decision to invest in the less risky portfolio is also rational.
- *Borrowers* – as long as we admit that the subprime category is the population with the lowest income it is reasonable to conclude that their knowledge of the financial sector is rather weak. By transferring all the market research to mortgage brokers these people's aim was to realize the American Dream and own their own house. After they realized that it became possible to get the mortgage, they did not try hard to understand all the consequences of the deal and usually even did not expect the "teaser" period to expire. While the external factors were pushing them towards accepting the loan, we can not conclude that their action was fully irrational.

Despite some actions being less rational, it can be concluded that everyone acted "as if" rational profit maximizes. It may become incomprehensible why in case of actor's rationality market hand did not bring the optimal outcome. However, it did. Back in the days this type of crisis would just decrease the gap between the nominal and real value of property. So far, it can be presumed that the crisis was caused by the information asymmetry attached to the complicated financial innovations. This idea would further explored in the following chapter.

While the blame could not be put on the single actor the surprising fact as that many firms refused to see the risks involved in an ever expanding subprime market in advance, especially since many of these same firms had been through the Savings and Loan crisis nearly two decades before. Overall, as Kane notes it is auditors, employees, executives and all kind of agencies "all responsible for figuring out what went wrong and why".[71] Basically, that was a chain: "one domino toppling the next; it has been a convenient metaphor for how

[71] Mary Kane, "Crash, burn, & learn: as lenders and borrowers pick up the pieces from the U.S. mortgage crisis, internal auditors say heeding the warning signs may deter companies from future high-risk ventures", http://findarticles.com/p/articles/mi_m4153/is_1_65/ai_n24269420 (accessed Apr 14, 2008).

troubles in the American subprime mortgage market have cascaded into a global financial mess"[72] Considering the spread of the crisis and the history of the mortgage originators, the 2008 and 2009 would still bring lots of mortgage defaults. As of today the companies admit that the hangover period runs longer that expected. While Citibank and Merrill Lynch were naming the last quarter of 2008 to be the hardest time to survive their forecasts did not approve. The situation is still worsening and there is a risk that second and third quarters of 2008 would still be critical for the industry.[73] While some analysts continue arguing that the financial institutions underestimate the losses, another way of looking at the issue is noting that companies are aware that true figures presented at once would ruin their market capitalization. Finally, market can not be efficient at every point of the economic cycle and that is the reason why the officials should intervene.

3.4. Call for regulation

According to Krugman regarding regulation, the Fed and current U.S. administration should intervene in times of economy uncertainty in order to facilitate a smooth economy. Undoubtedly, the political administration was supposed to present the rescue paradigm. The Bush administration and the Fed had to stress both on the large social group which risks losing their houses and the market recession as well. For the first part, the politicians have introduced Paulson plan which allows the borrowers meeting certain criteria to restructure their loan and freeze interest rate for five years. Others would be given the possibility to obtain the manageable loan or borrow from Federal Housing Administration.[74] Still, the

[72] Luke Mullins, "The Housing Nightmare Hits Main Street",*US News*, Feb 28, 2008, http://www.usnews.com/articles/business/real-estate/2008/02/28/the-housing-nightmare-hits-main-street.html (accessed Mar 3, 2008).

[73] Walden Siew, "Banks Finding It Tough to Shake Off Subprime Hangover", *International Herald Tribune*, May 18, 2008, http://www.iht.com/articles/2008/05/18/business/rtrinvest19.php (accessed May 20, 2008).

[74] Economist Intelligence Unit, "Meddling in the markets", *The Economist*, Dec 7, 2007,

amount of borrowers which are able to qualify under the named requirements accounts for only 5-6%. All the rest are supposed to allocate the manageable repayment solution by themselves which most likely would not happen. This plan is vital from the social perspective as it allows the market to calm down and save large number of families from leaving their houses. In addition, by proposing to "forgive some people" plan mostly eliminate the internal pressure from the public and is more aimed at the political issues taking into account the forthcoming elections rather then healing of the stagnating financial system. Moreover, the plan brings support to the housing market, as the freeze would partially decrease the number of houses going on sale which means the real estate prices would also be stabilized.

The second part of the program was aimed at the financial sector to struggle with the liquidity shortage. One drastic move taken by the Fed was to lower its Federal Funds target rate by 0.75 percent and then to continue to lower them throughout the ensuing months. Altogether, from September of 2007 there were seven consecutive cuts which ended up at today's 2% level. The current low value it considered to be "enough to combat economic weakness".[75] Another move by the Fed was to inject short-term liquidity into the market that banks use to lend to one another. The Fed's action did help to bring down short-term interest rates, still the main goal is to encourage banks lend more actively.

3.5. Prospects of the U.S. crisis in terms of upcoming administration

It is unlikely, that the current government would be able to change situation severely as the Presidential elections become number one concern and the new ruling team would require certain time to implement its own vision of the rescue plan. The Presidential elections of 2008

http://www.economist.com/agenda/displaystory.cfm?story_id=10273477 (accessed Mar 12, 2008).

[75] Neil Irwin, "Fed Appears Unlikely to Keep Cutting Rates", *Washington Post,* May 22, 2008, http://www.washingtonpost.com/wp-dyn/content/article/2008/05/21/AR2008052101020.html (accessed May 24, 2008).

could present a strong change to the economic policy and, therefore, the positions of the candidate towards the credit crunch need to be discussed. As long as there is still probability that Hilary Clinton would become a single candidate from the Democratic Party her point of view about the credit crunch would also be mentioned.

While John McCain is generally against the government's intervention he notes that in the current situation the authorities should make some steps. Unfortunately, the republican candidate is not aware of the current crisis in his speeches. He mentioned the cut of the interest rate and the need to support Paulson plan, generally agreeing with the policy of George W. Bush, however there is a vision that dealing with the meltdown is not candidate's biggest concern.[76] While the candidate's main supporters are generally coming from the middle class being able to meet the requirements for the prime mortgage rate they oppose the decision to reinvest tax money in order to pay for others faults.

Democratic candidates have stronger incentives in brining the change. Barack Obama uses the meltdown as a weapon to criticize Republican Party and strenuously blames the current government. Impartially noting that Paulson plan offers a relief only for a small percentage of the subprime borrowers Obama has introduced a bill in Senate which the aimed at prosecuting of the mortgage brokers and introducing consulting service for the borrowers to help them realize where they are able to cope with the interest rates offered. [77] Obama's goal is to transfer the burden from the shoulders of the borrowers to the "irresponsible lenders".[78] Fighting for the President chair this argument can be considerably strong. While overall, there is no public data available of the share of the Afro-American population from all the subprime

[76] Marc Santora, "McCain Sees a Need for Mortgage Aid", *NY Times*, Dec 19, 2007, http://www.nytimes.com/2007/12/19/us/politics/19campaign.html?_r=1&oref=slogin (accessed Mar 17, 2008).

[77] Barack Obama, "Fine unscrupulous mortgage lenders", http://www.barackobama.com/2007/08/29/fine_unscrupulous_mortgage_len.php, Aug 29, 2007 (accessed Mar 29, 2008).

[78] Minnesota Public Radio, "Select A Candidate: Candidate positions for President", http://minnesota.publicradio.org/projects/ongoing/select_a_candidate/positions.php?race_id=13 (accessed Apr 12, 2008).

borrowers the report by Consumers Union discusses the minorities of the subprime borrowers in Texas and comes to conclusion that race of the borrowers is strongly correlated with the division between prime and subprime customers, and Afro-Americans present the highest share of the subprime borrowers.[79] Therefore, Obama working for its electorate is automatically supposed to shift the extensive financial pressure from the borrowers.

Hilary Clinton has program similar to Obama's and is aimed at making the mortgage market more transparent and helping those suffered from foreclosures. However, the plan is less radical, as Hilary as is also hunting for the middle class votes. Month after Obama, Hilary has also introduced a bill in Senate called "American Home Ownership Protection Act" regulating the mortgage brokers.[80] The blame from her point should be addressed to subprime mortgage lenders rather than borrowers.

Today, while the U.S. is approaching the Presidential elections the administration's focus has been shifted from the economic problems down to the political arena. Undoubtedly, in case Democratic Party would come to power the additional budget expenses are inevitable to guarantee house saving for subprime borrowers. The whole transformation of economy towards the democratic pattern would require additional time and financial resources, most likely withdrawn from current military campaign. Gladly, the democratic candidates also admit the lack of clear vision about the financial instruments, and therefore there is prerequisite that current information asymmetry would be lowered.

[79] Consumers Union Southwest Regional Office, "Minority Subprime Borrowers", Oct 2002, http://www.consumersunion.org/finance/minority-rpt1002.htm (accessed Mar 17, 2008).

[80] Minnesota Public Radio, "Select A Candidate: Candidate positions for President", http://minnesota.publicradio.org/projects/ongoing/select_a_candidate/positions.php?race_id=13 (accessed Mar 29, 2008).

Chapter IV Globalization as Accelerator of Crisis Spillover

4.1. Europe immunity to the U.S. shocks

The U.S. Fed did not consider the crisis would be able to hit the economy in the severe way. Even in March 2007 Bernanke argued that "we believe the effect of the troubles in the subprime sector on the broader housing market will likely be limited, and we do not expect significant spillovers from the subprime market to the rest of the economy or to the financial system." [81] However, he was wrong. Moreover, credit crunch have been able to hit not only the American financial structure, but also produce a spillover towards foreign markets. The crucial reason of the crisis spread is the fact that not only the U.S. financial players have been purchasing MBS. The deregulated international financial markets allowed spread of the risk through out the network of major banks. The first hit of the European banking system happened in August 2007, when stock values began depreciating around the world. OECD report mentions that one-third of collateralized debt obligations have been purchased by foreign companies which accounted for $138 billion USD. [82] The uncertainty about the real value of the houses immediately has been spread to the uncertainty about this type of securities. As Kershaw concludes "in the current financial world, with the free transfer of information, you can't have one part of the world blowing up and not have that affect other regions.", however the shocking speed of the spillover could not been anticipated. [83] Mostly this phenomenon could be described by the fact that during the 20th century the U.S. has dominated in the financial system of the international business world. In contrast, at the beginning of the new millennium the European states start claiming that this period is over

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[81] Gerhard Illing, "Liquidity Crisis. What went wrong? Where should we go?", Sep 21, 2007, http://www.en.sfm.vwl.uni-muenchen.de/liquidity_crisis/artikel/liquidity_crisis.pdf (accessed Mar 11, 2008).

[82] Alistair Barr, "How America's Risky Subprime Mortgages Fouled the World's Markets", http://www.marketwatch.com/news/story/toxic-export-how-us-subprime, *MarketWatch*, Nov 15, 2007, (accessed Mar 14, 2008).

[83] Ibid.

and the consequences of the credit crunch are not present in the EU. The governor of the Bank of France Noyer argued in January 2008 that no "strong shocks" are expected.[84] While admitting the dependency of the European business cycles on the events which occurred in the US during the 20th century, he claims that today the EU is “immune from a weakening U.S. economy”. [85]

Theoretically, the crisis could spread overseas in the number of ways. As long the U.S. residents lost their confidence in rising prices of the real estate they started reconsidering their spending patterns and lean towards saving. As long the U.S. consumer spending account for almost 20% of the world GDP its decrease would ultimately affect the international financial structure. For the companies exporting to the U.S. decrease in consumer spending together with low USD rate can also be critical.[86]

After lack liquidity became an issue the credits became more expensive to all the range of customers including corporate solutions. For the countries extensively involved in the international investment processes taking loans on the money markets from borrowers all over the globe became regular practice. The liquidity shortage made the money more expensive to all sorts of borrowers. Even corporations with high credit ratings experience difficulties in taking loans at the higher rates. However, lending practices significantly differ through the globe and therefore the impact from the U.S. subprime mess would also vary.

[84] Matthew Saltmarsh, “French Regulator Sees 'Partial Decoupling' of US and EU Economies”, *International Herald Tribune*, Jan 18, 2008, http://www.iht.com/articles/2008/01/18/business/noyer.php (accessed Mar 29, 2008).

[85] İbid.

[86] Alliance Trust, “US Sub-Prime – How it affects UK households”, http://www.alliancetrust.co.uk/pdfs/research_centre/us_subprime.pdf (accessed Mar 29, 2008).

4.2. Case study of the United Kingdom and Russia

In order to observe the geographical spillover of the liquidity crisis into the external economies and distinguish the traits which impede or speed up the spread two countries with different economic models are considered. The UK would be observed as the country most vulnerable to the U.S. meltdown as the economic model and therefore the cycles are interconnected. Russia is a selected as the emerging country, regional leader with large growing economy.

The UK due to the fact of London's attachment to the "creative finance" has been one of the most exposed states to the liquidity shortage.[87] The events occurred remind the pattern similar to the U.S. one: the housing prices have been boosting from 2001 to 2007 even faster than in the U.S., however they start falling this year.[88] The prices were rocketing due to the geographical position of the island, low rates of new real estate construction and increasing wave of the immigration.[89] The country has also been involved in the operations with MBS which reached almost 250 billion in 2007.[90] In addition, such peculiarities as loosening standards and boost of subprime lending also have been present. Subprime sector of the UK has been the subject of stronger regulation compared to the U.S. and that was supposed to secure the market from risks. Still, despite regulative actions of Financial Services Authority the lending was becoming alarmingly reckless. The country does not have a true distinction between the prime and subprime borrower. Instead there are so called self-certified loans meaning that they do not require proof of current income. While in the U.S. the subprime mortgages were mostly offered not by top-notch players as New Century Financial

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[87] Nick Goodway, "World subprime losses 'to quadruple", Jan 24, 2008, http://www.thisismoney.co.uk/investing-and-markets/article.html?in_article_id=429684&in_page_id=3 (accessed Mar 25, 2008).

[88] 999Today,"UK House Prices Fall Year-On-Year", http://www.999today.com/propertyandrealestate/news/story/40941.html (accessed Mar 18, 2008).

[89] "Where is the risk in global financial markets?", *Economic Outlook*, vol. 31, 2007 (3): 27–36.

[90] Jacques Sapır, "Russia and the World Financial Crisis: Impact, Opportunities and Risks.", Feb 14. 2008, http://www.iris-france.org/docs/pdf/forum/2008_02_14_russia.pdf (accessed Apr 29, 2008).

Corporation in the UK even the largest banks have been offering the "near-prime" level mortgages, with the Northern Rock leading in this sector.[91]

After the decade of successful expansion from the building society down to country's fifth-biggest mortgage provider Northern Rock became an infamous example of the financial collapse. Generally, the reason for that was similar to the one U.S. banks encountered – reliance on the securitization process as the way to attract new funding. Another reason which worsened the situation is the fact that the mortgages were mot matched by the deposits.[92] The institution was hit on August 9, when it was not able to allocate required funding from the international markets. As long as the accessibility of the funding hampered the bank assets became illiquid.[93] In several days it became clear that the player would not survive without emergency financial aid.

Bank of England (BoE) acted similar to the Fed by injecting additional funds into the market, however, it was too late. In order to save Northern Rock the BoE had to become the "lender of the last resort" providing direct emergency funding. The episode with Northern Rock strongly affected the public perception of the crisis due to the fact that in case of bankruptcy customers would loose their deposits. At that point the crucial event could happen – the crisis spillover to the political level. The phenomenon of herd mentality instantly spread all over the branches forcing customers to withdraw 3.5 billions pounds in just three days.[94] Willing to close the account was rational, like the steps of the major actors discussed in the previous chapter: while Northern Rock's customers could clearly observe others initiating massive withdrawals they realized that the amount of liquidity available to sinking bank is

[91] Fortis Investments, "Sub-prime mortgages", http://www.investments.fortis.com/Publications/Market_Communication/en/MarketComm_2007-04_en.pdf (accessed Mar 13, 2008).

[92] The Economist,"How a Financial Darling Fell From Grace, and Why Regulators Didn't Catch it", Oct 18, 2007, http://www.economist.com/displaystory.cfm?story_id=9988865 (accessed Mar 29, 2008).

[93] "How hard will the credit crunch hit the economy?", *Economic Outlook*, vol. 31, 2007 (4): 5–12.

[94] Alan G Hallsworth, Frank Skinner, "Visibly in trouble: Northern Rock, a Post-mortem on a Financial Crisis", *Area*, Vol. 40 No. 2, 2008:278–283.

limited and it would be distributed on “first come - first serve” basis. In addition hearing that “lender of the *last resort*” has offered “*emergency* funding” was already shocking for the conservative nation considering stability to be the bank first priority.[95] Bank of England, clearly foreseeing further consequences, was aimed at avoiding social tensions and preferred to acquire Northern Rock which was the first rescue in the country since 1973.[96] Still, massive loans did not reverse the trend – bank’s shares continued to sink, loosing 71% from the moment crisis hit. Northern Rock was not the only company which had to leave the mortgage market, HSBC had to close its subsidiary Decision One responsible for subprime lending. The fact that Bank of England decided to invest in the sinking bank could also be treated from the rational perspective with the add-on of some high-level marketing. Focusing the public attention on Northern Rock the emergency liquidity transfers to another banks suffering from the lack of liquidity could be settled. As long the customers of those players were not aware of the bankruptcy possibilities they did not put extra pressure which could resulted in even stronger need of available funds.

The financial hardships met first by Northern Rock and then by the other banks negatively affected the GDP value. Pound has depreciated not only to strong Euro but to USD as well, falling under 2 USD in exchange rate several times after the crisis. When looking at the Russian the trends were completely reverse.

Russia has recently became strong regional leader, which pattern of growth affects not only its satellite state but eastern EU countries as well. Therefore, in case the hit is painful the large part of Europe could expect sinking indices and slower economic growth. Luckily, so far the crisis seem to produce either no and slightly positive outcome to the economy.

[95] Ibid, p. 282.

[96] Alistair Barr, “How America's Risky Subprime Mortgages Fouled the World's Markets”, http://www.marketwatch.com/news/story/toxic-export-how-us-subprime, *MarketWatch,* Nov 15, 2007, (accessed Mar 29, 2008).

Theoretically, the country could be impacted by the crisis from two major directions: either from real estate sector or from the side of the financial markets with its shortage of liquidity. From the first side, the country has been able to avoid the severe consequences of the financial meltdown due to its own backwardness. The financial sector in Russia is conservative, trade of MBS have not been present. The law regulating the use of mortgage backed securities has been signed only in 2003, however banks were not in haste to trade them.[97] Gladly, when the market was almost prepared for MBS trade and subprime programs, the U.S. credit crunch brought the correction, rules of the game became strengthened and most likely the securitization would not be introduced in the U.S. pattern. Another reason of relatively mild outcomes is the difference of the borrower's mentality. Despite the marketing campaigns calling for credit applications, the nation is much more aware about the future income stability and generally is reluctant to accept the risk of investment in expensive mortgage programs.

From another side, financial innovations of the developed countries slowly penetrate into Russian banks practices. Relatively cheap massive external funding from the international money markets allowed cheaper loans to the private and business customers and, therefore, at the time when credit crunch hit the required funding could not be obtained. With all-time high gold reserves the Central bank of Russia has been able to provide additional funding which mostly made the shortages insignificant and painless. In addition, unlike in the Western Europe or the U.S. the Russian corporations mostly rely on enterprise profits or state subsidies as the source of investments rather than the banking system. These both sources are not dependent on the liquidity shortage which occurred in the international markets.

The credit crunch impacted Russian economy in a different way – it strengthened the ruble and increased the investment inflow. The U.S. companies had to sell their assets in order

[97] White and Case, "New Law on Mortgage-Backed Securities", http://www.whitecase.ru/articles/mb-securities.pdf (accessed Apr 15, 2008).

to receive liquidity, which automatically led to dollar devaluation. The portfolio managers around the globe after the collapse were seeking new opportunities and Russia can be an example of an emerging market with minor regulations. As Nash states "Russia has surprisingly became a bit of a safe haven".[98] The country's current growth and the prospects of its increase of up to 10% make the economy attractive for foreign direct investment. However, this hot-money would leave the country as soon another opportunity is found and therefore its speculative character could negatively influence current stable growth. The competitive position of Russian economy could be devastated in case ruble's exchange rate would become overrated. In this scenario profit expectations could become less optimistic and the risk of money withdrawal becomes realistic.

As already mentioned, the current global crisis has affected Russia and the U.K. in the opposite pattern. Ruble appreciation compared to pound sinking, FDI inflow increase against capital escaping the islands. The BoE has been silent for too long and its first step in order to heal the economy was similar to the one the Fed did. The "special liquidity scheme" allowed the banks to swap the currently illiquid assets to Treasury Bills.[99] The focus should also be aimed at housing price, in order to fix them two options are available – the correction should hit housing market which would reduce its price level or BoE interest rate should be lowered to make the mortgage payments acceptable. In the conditions when funds accessibility became limited, banks, not borrowers, became the market makers.

The reason the crisis hit the UK harder than the emerging state is the share of the financial services in the GDP, which is considerable comparing to the overall economy and, moreover, is dynamically increasing. In the UK the sector accounts for 8% of GDP with the growth rate of 10% which reminds the U.S. pattern and underlines that the further growth

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[98] Kabir Chibber, "Russia Provides A Haven From Subprime Crisis", *International Herald Tribune*, Sep 12, 2007, http://www.iht.com/articles/2007/09/11/news/bxruble.php (accessed Mar 21, 2008).

[99] The Economist,"Is the gloom beginning to lift?", May 1, 2008, http://www.economist.com/world/britain/displaystory.cfm?story_id=11293956 (accessed May 6, 2008).

would be impeded with abolishment of ABS and MBS trade.[100] Moreover, this part of GDP mostly settles in the City and Wall Street, allowing funds accumulation for relatively narrow group of bankers. Alternatively, Russia still has bank-centered relatively simple and outdated financial system where the GDP growth is not dominated by the capital and securities trade. This conservatism has significantly lowered the vulnerability of the system to the financial shocks and as mentioned before even become beneficial to emerging Russia. The prime benefit of the securitization known as risk minimization finally appeared to be favorable only to those who invented the process, being able to sell off risky investments as soon as the market sent the first signals. From that points it can be concluded that the usage of innovative but risky financial solutions such as collateralized debt obligations was the crucial accelerator of the crisis spread.

The final consequences of the U.S. meltdown are not visible as the world economy is still suffering from subprime customers. The main question after all the analysis is whether the world economy has already passed the critical times. From what can be concluded so far, despite the fact that number of delinquencies and forecloses would still increase, the central banks – the Fed, BoE and Central Bank of Russia have already used their regulatory powers, adjusting rates and brining promising hopes.

Finally, it can be concluded, that the world has been hit by another bubble, different by its origin however classical in its development. The lesson that financial innovation should be introduced and developed in balance with clear risk estimation and regulatory practices, was priced to the world economy as highest volume of losses ever since the Great Depression.

[100] "Where is the risk in global financial markets?", *Economic Outlook*, vol. 31, 2007 (3): 27–36.

Conclusion

The crisis which hit the world economy in the 2007 could be named as unexpected. It has started from too flexible lending practices, which resulted in accepting low credit scored applicants. While at the beginning of the growing phase of the business cycle this kind the crediting of was rather an exception, with the real estate prices continuing to grow the lending patterns became more and more reckless. Mainly the strictness of creditworthy check has been released due to belief of steadily increasing housing prices. Consequently, these prices have attracted profit euphoria to the industries connected with real estate business.

These industries included sales people. Marketing campaigns were aimed at selling the mortgages at the fastest pace possible. The “teaser”, the period when the borrower had to service only the interest rate payments, allowed advertisers to draw customer’s attention to the single unbelievable low figure of the monthly bill hiding all the shocking consequences in the catch. Lacking proper financial knowledge, subprime borrowers, were enriched by optimistic vision of the mortgage brokers ensuring that no matter what, the customer would be able to refinance his property as the housing prices were growing and there was no anticipation that the trend would hit its top and reverse.

However, it did. As could be seen from the data observed, once the “teaser” rate expired many low paid borrowers found out that the new monthly payments were higher than their current income. Unable to allocate necessary funds to cover for the bills, the borrowers have started to delay payments and rate of foreclosures has also increased. The market begun getting fueled by the new property and extended supply according to the basic economic rules led to the asset price decrease.

Still, many financial agents today could only dream about the described situation as the end of the story. Financial geniuses from Wall Street have proved their ability of converting the riskiest security in the safest one, and named it securitization. Today it may seem that the strategy of this process was to embarrass the investors. The subprime sector was really unique and substantially differed in terms of possible risks from auto loans or credit cards. To some extent the investment banks were aware of the possible losses, as even they preferred to keep the mortgage-backed securities in the newly created companies created somewhere in the offshore regulation zone rather on their own balance sheet.

The alarmingly risky loans were sold to the investment banks, which created the common pool of the subprime mortgage-backed securities and finally converted them into the top-notch securities boasting highest possible grades in terms of stability. As long as confidence in the subprime borrower with no stated income equaled to the one of U.S. Treasury Bonds, it became clearly visible that the bubble had to burst. As long as in this chain of repacking and handing over of the securities, the starting point, the borrower, was not able to repay his part the crisis hit all the links of this chain. Moreover, the turmoil was able to spread from the level of nominal values of decreased housing property to the liquidity shortage of the financial markets. As long the AAA rated securities has been sold all over the globe it is no surprise any international investor could experience losses.

By analyzing the behavioral financial decision-making patterns of such players as mortgage brokers, loans originators, rating agencies, Wall Street actors and the borrowers I conclude that during the times of boost the players' actions were aimed at maximization of the utility function and, therefore, they could not be blame in isolation. While the crisis reminds "domino effect" making the players dependent on each others behavior, I insist on the fact that the information asymmetry was the true reason why conversion of rational behavior to shocking outcomes became possible. The players could not clearly conceive the process of funds transformation from loan origination to collateralized debt obligations creation and therefore could not estimate the risk involved. They have maintained and jointly supported the belief that their actions are profitable and secure. By testing the first hypothesis I draw a conclusion that the majority of actors were acting in a rational way with minor fluctuations based on the amount of knowledge they possessed.

The observation of the way liquidity crisis has hit the international markets was based on case studying of the two examples: the UK and Russia. Both mentioned countries had the same alarming pattern of rocketing house prices; however, their involvement in the international capital trade has considerably varied. While the UK has been loosing the strong pound and its fifth largest bank went bankrupt, Russia was able to reinforce ruble and build the image of heaven for the hot money, which investors were able to withdraw from sinking collateralized debt obligations. From that point I conclude that the usage of innovative but risky financial solutions such as collateralized debt obligations was the crucial accelerator of the crisis spread. The only true way to avoid the crisis was to abolish usage of the financial innovation which is utopian especially for the U.S. or UK, however Russia's example underlines the effectiveness of this scenario.

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