

Subprime Mortgage Crisis: Causes and Consequences*

Introduction

Many economists indicate that the subprime crisis started with the deterioration of the U.S. real estate market in 2007 and suggest different important factors as originators of this crisis. Kashyap, Rajan, and Stein (2008) analyze many factors that influenced current crisis but they put lack of capital regulation as the biggest contributor. Benmelech and Dlugosz (2008), Keys, Mukherjee, Seru, and Vig (2008) and Mian and Sufi (2008) point at problems in securitization process and improper risk transfer from loan originators to investors. Diamond and Rajan (2008) argue that the central banks' monetary policies, especially poor liquidity management could be a possible problem. While we basically agree with the authors, our paper analyzes importance and dependencies between the causes of the crisis and is similar in nature to Acharya and Richardson (2009) or Brunnermeier (2009)¹. We argue that current crises started much earlier than 2007 and was an effect of the interacting factors, such as cheap sources of funding, growing appetite for risk, moral hazard, conflict of interests between rating agencies and originators of mortgage loans and emergence of new sophisticated instruments that shifted default risk out from lenders' balanced sheets to off shore SPV/SIV (Special Purpose/Investment Vehicle) or to other institutions (Hedge Funds or Pension Funds).

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Corresponding author Mariusz Staniszewski (mstanisz@chicagogsb.edu).

¹ Similar to the authors we do not offer any mathematical model because we think it is probably impossible to invent a model incorporating all the interacting factors that caused the subprime crisis and that we describe in our paper.

There is no precise definition of what the subprime crisis means, nor is there one and visible distinction between a prime and subprime client or loan. Starting from the second, subprime client is a borrower who is rated below a conventional credit rating (specified by a standard credit scoring such as FICO² credit score below 620, softer requirements regarding documentation, and lower debt-to-income ratio, above mortgage value limits eligible to be purchased by government sponsored enterprises GSE such as Freddie Mac or Fannie Mae³). As a result, a subprime loan is characterized by higher up-front costs, like application fees, appraisal fees, other fees associated with originating mortgage, higher continuing cost, such as mortgage insurance payments, interest and principal payment and late fees for delinquent payments. The subprime crisis refers to a sharp rise in home foreclosures which started in the United States in late 2006 and evolved to a global liquidity and financial crisis during 2007 and 2008. As a consequence of liquidity problems all over the world, the subprime crisis developed to regular recession, in our view one of the most severe and deepest recessions since Second World War.

1. Causes: cheap source of funding and loose monetary policy

We think that the major reason for current problems is rooted in monetary policy practiced by the Federal Reserve (FED) over 2000-2006. According to Alan Greenspan, FED cannot recognize or prevent booms in asset prices therefore, it has to act quickly to mitigate possible problems easing monetary policy and thus ease the transition to the next expansion (Greenspan, 2002). There has been a substantial recent debate, whether such FED monetary policy provided incentives to banks to take on more illiquid projects and thus makes booms and busts more severe (Diamond and Rajan, 2008).

² FICO was developed by Fair Isaac Corporation, which was started by two engineers Bill Fair and Earl Isaac in 1956. FICO is used by most credit agencies in the United States.

³ So far the purchase limits for GSE remain unchanged in comparison to 2007 (where: AK – Alaska, HI – Hawaii, GU – Guami, VI – Virgin Islands).

Property Type	2008	2008
	Maximum original loan amount (except for AK, HI, GU & VI)	Maximum original loan amount for properties in AK, HI, GU & VI
1-unit	\$417,000	\$625,500
2-unit	\$533,850	\$800,775
3-unit	\$645,300	\$967,950
4-unit	\$801,950	\$1,202,925

Source: Freddie Mac data.

Our observations reveal that the erosion of financial stability was, to some extent caused by a loose FED policy that started as early as 2000. At that point, FED's actions were targeting IT bubble recession and more precisely were supposed to secure U.S. economy from a prolonged stagnation and deflation. The adaptive monetary policy led to a sharp decline of FED funds rate to levels not seen before. FED funds rate decreased from 6,5% in 2000 to 1% in 2003 and was maintained at this level for twelve months (Figure 1.) We consider this monetary policy to be very risky as it spurred risky behavior on the side of banks and consumers. On this point we basically agree with Stiglitz (2007), and Diamond and Rajan (2009) and argue that that effects of FED actions were accelerated because of growing trade imbalance in developed economies (especially in the U.S.) that were financed by trade surpluses in developing economies⁴.

Figure 1

FED Funds Rate, CPI and Government Generic Debt 10 yrs (1989–2009)



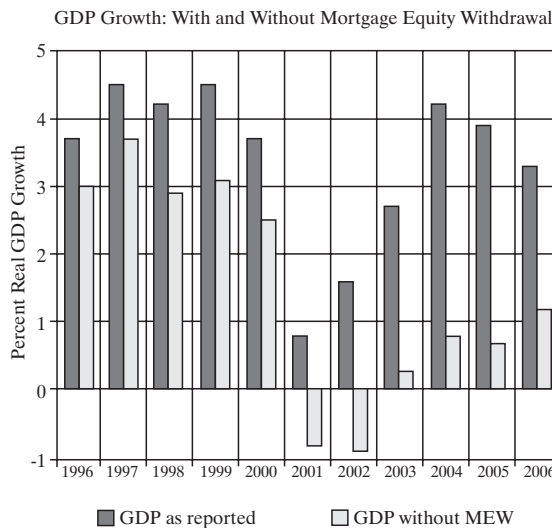
Source: Bloomberg.

⁴ The period of low interest rates in the U.S. was accompanied with large capital inflows from abroad, especially from Asian countries. Asian countries bought U.S. securities both to peg the exchange rate at an export friendly level and to hedge against depreciation of their currencies against the dollar. More on this in Brunnermeier (2009) and World Economic Outlook (WHO), *Crisis and Recovery*, April 2009, IMF publication.

To clarify the magnitude of the FED's actions we can stress that such a low level of FED funds rates was not seen for the last 50 years and that average level for the last 20 years (1988-2008) was around 5%⁵.

Obviously, the "cheap money" provided by the central bank worked very well as it spurred consumption and afterwards investments. The U.S. economy, which relies in 70% on consumer spending started developing in the right direction very quickly, starting from 2002. The strange thing in the U.S. GDP growth, is the role of real estate market (Figure 2).

Figure 2
U.S. real GDP percentage change (1996–2006)



Source: www.calculatedrisk.com

While the monetary policy was effective and in fact revived the U.S. economy, it also pushed an American consumer into problems (Stiglitz, 2007). If we look closer at the households' budgets we can clearly diagnose that the GDP growth was accompanied by an extensive rise of debt-to-income ratio (Figure 3.).

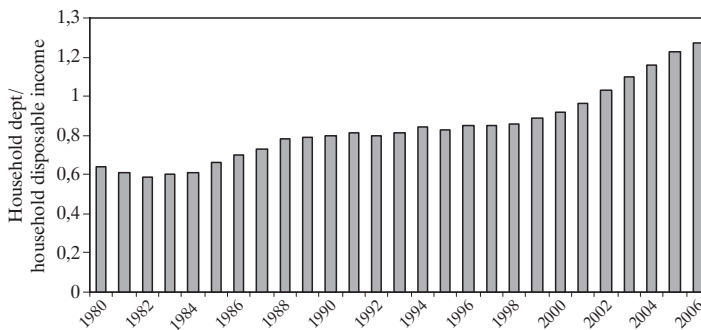
We do not criticize the Federal Reserve's actions as they are very accommodating, but we see abnormal risk in the fact that the growth has been built on credit, which has to be paid back⁶. At this point, two questions arise: Why did people start buying real estate and even more important, why did banks finance this boom, knowing that people credit quality was

⁵ Data from Bloomberg Financial Service.

⁶ U.S. widened trade deficit was financed by other countries, mainly Asian emerging market countries, that have growing trade surpluses and kept their currency reserves in U.S. dollar.

worsening? Our answer to the first question is very straightforward. After the IT bubble, people lost almost 50% in the stock market (S&P 500 lost 49,15% between 24.03.2000 and 10.09.2002, peak and low of the IT bubble recession) thus their risk aversion increased dramatically, especially in sectors where investment was more apparent than real. At the peak of the risk aversion, FED frightened by deflationary risks started to lower interests rates and provided cheap funding to banks that were willing to sell this liquidity via loans. Both households and banks treated real estate as a perfect investment because it was a real asset. The answer to the second question is a little more complex because banks knew about the lower quality of their mortgage clientele (see Demyanyk and Van Hemert, 2008). In our opinion, three factors are responsible for the excessive mortgage financing. First, the perception of a lower risk of debt that is collateralized with mortgage. As the housing market thrived, people who were working in the banking industry did not expect, even more, they could not imagine, that their collateral would diminish. Everyone (investors and the banking industry) was accustomed to the real estate inflation and the historical records of defaults did not factor in the probability of a significant drop in real estate prices on a national level since U.S. did not experience any since the Great Depression (see Zingales, 2008 or Brunnermeier, 2009). Second, securitization created an extraordinary situation in which originators of mortgage loans sold the risk via CDO (Collateralized Debt Obligations); as a consequence, their balance sheets were perceived less risky and they could finance more mortgages. Third, moral hazard of financial institutions pushed them to take extreme risks to become more profitable. In their behavior, they assumed that FED would create “safety net” if something bad happened, because they were too big to fail⁷.

Figure 3
Debt-to-Income Ratio: United States (1980–2006)



Source: Own presentation based on data from FED.

⁷ Securitization and moral hazard are analyzed more in detail in the third part.

At this point, we conclude that the Federal Reserve's monetary policy created an environment that encouraged households to take on more debt but also encouraged financial sector to finance it. As a consequence not only debt-to-income was growing (Figure 3.) but also debt-to-assets was reaching level not seen before (Figure 4.)

Figure 4
Debt-to-Assets: United States (1950–2007)

Outstanding Household Debt/Total Household Assets (percent)	
Q2 2007: 18.5	compared to
	Previous quarter (Q1 2007)
	18.6
	Year-ago (Q2 2006)
	18.5
	2000-2006 annual average
	17.2
	1990-1999 annual average
	14.5
	1980-1989 annual average
	13.5
	1970-1979 annual average
	12.5
	1960-1969 annual average
	11.4
	1950-1959 annual average
	8.4
	Peak (Q1 2007)
	18.6

Source: Federal Reserve System, 2007.

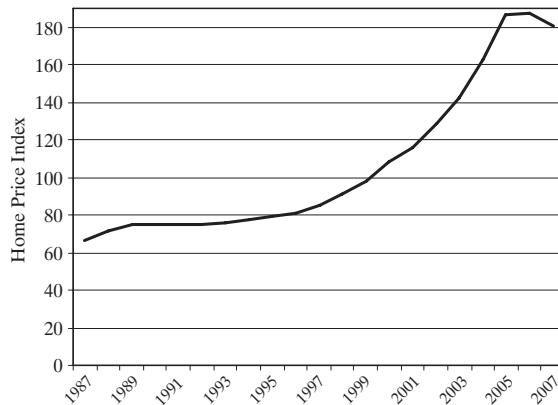
If one considered only the data from Figure 3. in separation, one could assume that rising household debt-to-income although risky is possible as long as household assets are growing (collateral). When the borrower has any problem with repayment of the loan, financing institution can take over the collateral. Unfortunately it was not the case in the U.S. even though the values of debt and assets were increasing, the rise in debt was much stronger which resulted in rising of debt-to-assets ratio (Figure 4.).

Putting together the data from Figure 3. and 4. we can easily conclude that cheap funding boosts consumption but creates ideal circumstances for price bubbles. Extremely low FED rates made an average US citizen wealthier in the way that she could consume more of everything. As a consequence of the growing consumption, GDP came back on the growth path basically from the end of 2002. Two most important assets, real estate and equity market thrived. Equity market thrived because of at least two reasons: First, companies showed good results, second, more and more people wanted to multiply their assets via stock exchange and followed momentum (that was in our opinion the reason why over time people had to accept higher P/E ratios). Low FED funds rates meant also cheaper, more available mortgage, that led to a permanent house prices inflation. The home price index increased by almost 90% from 2001 to 2006 (Figure 5.).

Market participants, both borrowers and lenders thought that this situation would last forever, at least as long as debt-to-assets ratios were acceptable to banks. Banks knew that the risk was rising but in pursuit for profit they did not want stop it. We would say that the risk was per-

ceived not real and in fact was underestimated. In our view, the risk depicted by debt-to-assets ratio even if accepted at levels 17-18 (Figure 4.) did not reveal quality and nature of numerator (debt) and denominator (assets). First, debt (numerator) had at the time lower quality, as banks sold more mortgages to subprime clients⁸. Second, assets (denominator) like financial assets and real estate investments were inflated and were vulnerable to market corrections. Summarizing debt-to-assets ratio, we conclude that over time debt was riskier but fixed and assets were riskier and volatile. In that situation, risk from both sources did not cancel, it added up increasing the overall risk.

Figure 5
Home Price Index: United States (1987-2007)



Source: S&P/Case-Schiller U.S. Home Price Index.

2. Causes: growing appetite for risk, securitization and moral hazard

In the first set of causes we concentrated on the FED's role in the crisis, and its consequences, especially for consumer behavior (borrower). In this part we primarily focus on the institutions (lenders). If we admit that the loose monetary policy of FED was critical for growing debt of consumers, we must admit that FED was not the only one that misbehaved in the situation. Borrowers would not have been able to take on so much debt, especially subprime debt, if institutions (lenders) did not accepted that. The share of subprime borrowers grew from 8% in 2001 to 20% in 2006

⁸ The share of subprime borrowers grew from 8% in 2001 to 20% in 2006. Demyanyk and Van Hemert (2008).

and the share of securitized subprime loans rose from 50% in 2001 to 75% in 2006 (see Demyanyk and Van Hemert, 2008). Why did this happen? As usual, there are several reasons, in our opinion equally important. The first reason was low expectations of inflation. Inflation and its expectations were low, partly because of monetary policy of world's central banks and partly because of disinflation imported from China (China in analytical reports was cited as a "weapon of mass disinflation"⁹). As a consequence of a low inflation the risk premium that banks required was low. Under such circumstances banks in pursuit to increase their profitability accepted more risky investments.

The second reason was securitization process. The process itself is positive for both lenders and borrowers, as long as it is not misused. In the situation of the growing risk appetite and pursuit for new sources of revenue, financial institutions came to a risky idea of structuring their securitized instruments (Mortgage Backed Securities or MBS) into very sophisticated derivative instruments, called CDOs (Collateralized Debt Obligations) or CMOs (Collateralized Mortgage Obligations)¹⁰. CDOs/CMOs were very difficult to price, therefore valuation worked well as long as mortgage market grew and borrowers serviced their mortgages. If some CDOs were too risky, new "invention" emerged, so called off-shore SIV (Special Investment Vehicles) that cleared banks' balance sheets from risky securities and left room to originate new loans. The same banks additionally made money on the structuring process, therefore they were even more interested in preserving such situation. As prime borrowers were not abundant, the share of subprime borrower grew from quarter to quarter. That was also not so much problematic, as banks developed (in their SIV) a procedure of bundling CDO in other pools and then curving tranches of the bundled CDO in differential categories of risk. At this point, we want to stress that this kind of securitization revealed major problems, because it was increasing risk of the system via conversion of illiquid loans into liquid securities. There is plenty of research that points at dark sides of tranching MBS. In Benmelech and Dlugosz (2006) authors point out that 85% of all issued CDOs were rated AAA although the collateral did not match the quality. Stiglitz (2007) criticizes the changing nature of securitization from "originating and holding" to "originating and selling", Keys, Mukherjee, Seru and Vig, (2008) go deeper in this criticism and find the link between the FICO score and lower willingness of banks to adequately assess borrowers' creditworthiness when securitization is in play¹¹. One could ask a question: who rational was willing to take part in this

⁹ The Economist, *Weapon of mass disinflation*, 14th September 2006.

¹⁰ For types and differences of CDO see Fabozzi, Goodman and Douglas (2006) or Benmelech and Dlugosz (2008).

¹¹ FICO scores provide a raking of potential borrowers by the probability of having some negative credit event in the next two years. For more information see www.myfico.com.

risky game? As we know, many investors, with U.S. insurance companies, commercial banks, and hedge funds as the most exposed to subprime market (for more detailed breakdown of exposed institutions see Rajan, 2008b). This was possible because the years between 2003 and 2007 were characterized by low interest rates, low inflation, huge liquidity and new emerging hedge funds, highly leveraged and seeking high yield investments. The second question arises then, why did banks go deeper and deeper into such procedures, knowing the risks and probable outcomes? In our opinion, the logical answer is moral hazard, and this is the third reason.

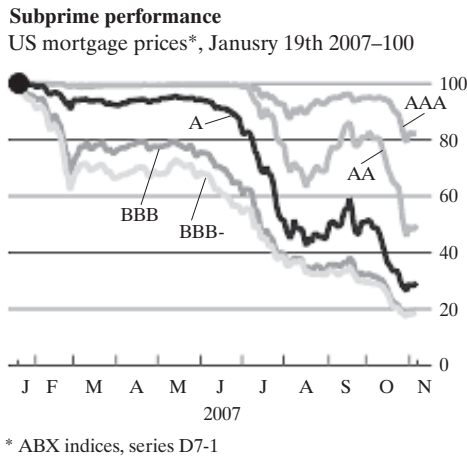
Moral hazard was visible on many levels. First of all, securitization and structured derivative products like CDOs facilitated banks to clear their balance sheets and shift the risk from the originator of the loan to the buyer of the investment instrument. As a consequence, banking scoring procedures were loose and the approval rates for loans increased dramatically (Keys, Mukherejee, Seru, Vig, 2008, or Demyanyk and Van Hemert, 2008). Consequently, banks approved less credible clients, even competed for the clients, thus increasing the subprime part of their loan portfolio (see Dell’Ariccia, Igan and Laeven, 2008). Second, moral hazard was also connected with bank believing, that if something bad happened FED would give a relief, and would deliver so called safety net. As a consequence, the management of many financial institutions behaved optimally only for them but suboptimal for the system. In general, the performance of CEOs is evaluated based on the earnings they generate relative to the peers. If some banks took on more risk and generated higher returns, this put pressure on the management of other banks to keep up. In our opinion, such a behavior with existence of new sophisticated instruments makes it hard to say whether the current excessive returns are adjusted for risk, or whether the returns are simply a compensation for risk that has not yet shown itself and will eventually materialize. The risk was mounting as the banks in pursuit to enhance their ability to provide credit to difficult borrowers had to borrow short term. Diamond and Rajan (2000) and Abreu and Brunnermeier (2003) describe how short term borrowing makes the system susceptible to crisis. The privately-optimal and system-suboptimal behavior of banks is best summarized with words of Citigroup Chairman Chuck Prince describing in July 2007 why banks continued financing despite mounting risk:

“When the music stops, in terms of liquidity, things will be complicated. But as long as music is playing, you have got to get up and dance. We’re still dancing”¹².

The fourth factor supporting subprime mess was an existing conflict of interests in position of rating agencies. On the one hand, the agencies were supposed to be guardians of safety, quality, and neutral assessment

12 Cited in Kashyap, Rajan, Stein, 2008 from “Financial Times”, July 9, 2007.

Figure 6
Value of subprime loans in 2007



Source: The Economist, “CDOh no!”, 8 November 2007, available online on: http://www.economist.com/finance/displaystory.cfm?story_id=10113339&CFID=3251978&CFTOKEN=ed7695a32a6236e5-1442B051-B27C-BB00-012985EE3191127D as at 20 February 2008.

of collateral, which was the base for MBS issuance. On the other hand, they were paid by originators or issuers who wanted to clear their balance sheets from the risk. Moody’s revenue from structured finance ratings increased eight folds over time period 1998-2006, representing more than 80% of its total rating revenues in 2006 (see Zingales, 2008). For us it is a clear example for altering balance of power between credit rating agencies and their customers. Additionally, rating agencies made big mistake distributing their CDO evaluator to the issuers of the securities (see Benmelech and Dlugosz, 2008). Knowing the model that is used by rating agencies, issuers could extract highest possible ratings from their collaterals. As issuers used rating agencies models, it was also easy for rating agency to rate the tranches, they had an easy job as documentation was in the form they required. In our opinion, rating agencies curbed the problem, misled investors (who believed in rating while buying risk free AAA security), and clearly supported interest of the issuer (who paid for assets valuation and rating). A cyclical drop in real estate prices, a rising number of foreclosures and further pressure on house prices resulted in a discovery that ratings were made too optimistic. Subordinated tranches stopped producing cash flows and even senior tranches became problematic. In fact, investors overpaid for securities not as safe as their ratings indicated. The role of rating agencies and their questionable rating procedure was amplified in so called safe tranches that were bought not by players looking for risky, high yield securities but by institutions seeking

risk-free investments such as pension funds, money market funds or insurance companies. These companies relied solely on rating agencies as sophisticated financial structuring, multilevel process of bundling, repetitive re-issue of CDOs, unclear collateral indication led to a situation where the only thing investors could assess was rating of security.

Credit rating agencies owned up to the risk underestimation by the end of 2007 and reduced ratings of at least 250 securities rated as AAA with value of USD 250 Billion (in this pool \$ 5 Billion AAA tranches went bankrupt). We think it proves out at their fault but they do not see any sense of guilt. In consequence investors including banks, funds, and insurers started informing about write-downs in their profit and loss statements.

3. Consequences

The subprime crisis unintentionally developed very quickly and caused severe damage to the global economy. In the local perception, restricted to the U.S., the crisis spread from problems on the real estate market to a classic credit crunch or liquidity crisis and then to regular recession on a national basis. In the global sense, the crisis spread out from America to the whole world. The transmission channel was locally and globally the same, liquidity crisis or credit crunch.

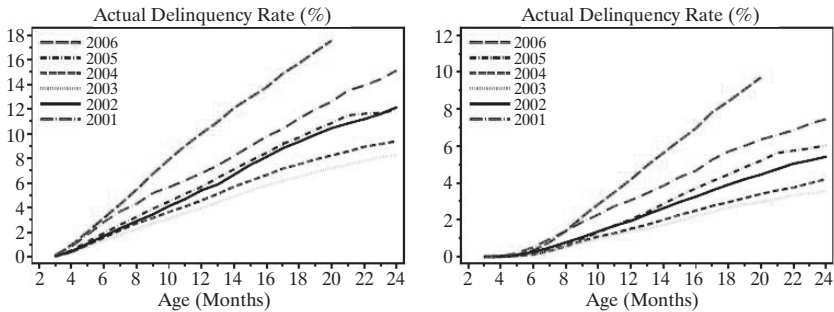
It is interesting to show some consequences of the transmission of the crisis. The easy money supported by the FED worked well but only until inflation was kept under control. As an American consumer started building inflation pressure in 2004 and China, the former “weapon of mass disinflation”, started emerging not only as a producer but also as a consumer, inflation became a risk and FED restricted its monetary policy, reaching 5,25% FED funds rate in 2005. Banks and financial institutions started feeling the problem in 2006 when many people could not repay their mortgages. As a result, delinquencies and foreclosure rates increased dramatically (Figure 7.), causing houses prices to fall.

According to the S&P/Case-Shiller housing price index, average U.S. house prices had fallen approximately 27% from their 2006-peak to December 2008. The deterioration of house prices led to a vicious circle. As many institutions lost huge sums of money, externalities of the falling house prices started showing up (mainly fire sale externality, credit crunch externality, and recapitalization)¹³. Up to this point, the crisis was mainly a U.S. problem. High leverage all over the world and international character of the biggest banks made other countries vulnerable to the liquidity cri-

¹³ For more in detail on externalities of the crisis see Keys, Mukherjee, Seru, Vig (2008).

sis¹⁴. Hedge funds, large investor on the subprime market leveraged their highly risky subprime investments, giving profitable investments as collateral, especially “deep in the money” equity investments in the emerging markets. As the collateral was leveraged, after first delinquencies they had to sell their investments in equities, causing massive global sell-off that started in February and August 2007 and continued in 2008. Banking sector, which globally accounted for 35% subprime exposure wrote down huge sums of money too. As of February 19, 2008, financial institutions recognized subprime related losses or write-downs exceeding \$150 Billion¹⁵.

Figure 7
Home Price Index: United States (1987-2007)



Source: Demyanyk, Yuliya and Van Hemert, Otto, (2008), Understanding the Subprime Mortgage Crisis, working paper.

Due to the soaring loan defaults and provisions for loan losses only in the first quarter of 2007 profits of 8,533 U.S. banks declined from \$35.2 Billion to \$5.8 Billion (83.5 percent). It was the worst bank performance since the fourth quarter of 1991. For all of 2007, these banks earned \$105.5 Billion, down 27.4 percent from a record profit of \$145.2 Billion in 2006, and what was important their reputation was in danger. It was only a prelude to an even deeper mess caused by market externalities. Fire sale externality occurred in late 2007 when crisis made it hard and almost impossible to finance some assets on a short-term basis. The risk-weighted capital requirement rose (according to Basel II) and banks were forced to sell the problematic assets. As banks used mark-to-market procedure to value these assets, when one bank adjusted by liquidating its

¹⁴ At this point we have to underscore, that the crises unfolded differently in emerging market economies. In some emerging economies the transmission was via risk aversion (Poland, Hungary, Czech Republic) and in Asian emerging market trade was as the most important transmission channel.

¹⁵ Lane P, *Only Human. The Special report on central banks and the world economy*, “The Economist”, 20 October 2007.

mortgage-backed securities it adversely impacted other banks that held the same asset (more on this Allen and Douglas, 2005 or Allen and Carletti, 2008). The credit crunch externality caused downward spiral as banks that lost money needed fresh capital. Risk aversion that rises over the period when banks lose money makes investors skeptical to adding new equity. What else can banks do to adjust to a capital shortage? They can sell liquid assets that do not require much capital and thus limit the expansion of these assets that have more capital requirement, like cutting back new lending. In the strict sense the credit crunch externality curtails lending as it happens in the U.S. in 2008 and 2009 and thus pushes the economy into recession. The effects of bank loses, fire sale externalities and credit crunch externalities were even more visible in 2008 and deepened in 2009. The IMF estimations point at \$1,4 trillion financial sector write-downs on U.S. assets in 2008 and expect them to rise to \$2,2 trillion in 2009. As a consequence, the broader measure of economic activity, world GDP, is expected to shrink from 3,2% growth in 2008 to a negative 1% in 2009, whereas the most impacted are developed economies (US – 3,5%, Euro area – 3,2%, Japan – 5,8%)¹⁶.

The subprime crisis with its severe consequences reaching so far banking failures and recession in major economies is definitely not over yet but can be already cited as the biggest economic slowdown since Great Depression. Turbulences on the subprime market revealed many structural problems of developed economies with the U.S. on the top. In our opinion, the major problem was loose monetary policy, excessive debt overhang, lacking risk monitoring standards in financial sector and improper capital requirements for investment banks. There is an extensive academic debate about possible solutions¹⁷, but we doubt in any of them as long as they do not address debt overhang restructuring and appropriate capital regulations in financial sector. Current proposals (Paulson or Geithner plan) can be described as plans that enable the economy to escape from an even deeper crisis or restore normality in financial sector rather than give an answer to a real problem. They offer different valuation procedures of troubled assets (that are distant from their market value) or propose loose monetary policy on a scale not seen before. While we completely agree with the core of current plan that government actions shall ensure the stability of significant parts of the financial system, we think the second set of actions shall target deleveraging procedures. As debt overhang in the U.S. grows, the American authorities have to implement actions decreasing the debt. Otherwise, current solutions will have short-

¹⁶ More information about consequences of subprime crisis for financial sector and world economy Strauss-Kahn (2009).

¹⁷ The University of Chicago Booth School of Business and University of New York Stern School of Business created even special forum for academics that propose solutions to the crisis (for more in detail see web page of these universities).

term positive results and long-term will create even more severe consequences: They will shift the problem for next assets' bubble. The third step, that shall be put into practice directly after the financial system starts working is changing capital regulations. The subprime crisis depicted that some assets changed quality as market changed, even more, they were almost impossible to value when liquidity was scarce thus made big problems to many banks and in extreme cases led to insolvency; therefore, stronger capital requirements is one of the proposals that would solve the problem. Otherwise, at some point in the future the market will end up with a popular statement about financial sector, that it privatizes gains and nationalizes losses.

Summary

The subprime crisis provided a lesson for central banks, market regulators, financial institutions and consumers. In our opinion, central banks, which are statutory independent unfortunately have to cooperate with regulators, so that moral hazard of financial institutions is restricted and monetary policy is effective. Financial institutions will have to implement new controlling procedures, use more common sense, and understand that nothing last forever (even house prices can fall). We do not see securitization to be much of a problem, if used properly, it is good for economy. We also do not see a problem in creativity of financial institutions, as creativity spurs innovation. However, we think that regulators should restrict risky transactions and set fair rules for creativity without fraud and moral hazard. The lesson for a consumer is probably the hardest, because the consumer will pay the final bill for the misbehaviour of central banks, financial regulators and private banks in form of rising unemployment, decrease of personal assets (like equity and home), higher taxes and as a consequence lower purchasing power and lower standard of living.

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Abstract

From the second half of 2007, almost everyone in the world has been looking with breath taking attention at the U.S. market. The biggest economy in the world¹⁸ showed its first signs of weakness in 2007 when housing market started to erode. The falling real estate prices created liquidity problems that were first visible in financial sector (e.g., Bear Sterns, Lehman Brothers and many others) but were very quickly transmitted to real economy. An international nature of many financial institutions in conjunction with trade dependencies among biggest economies made the crisis international. The financial sector is using the phrase "subprime crisis", "credit crunch", or "housing bubble" to explain almost everything negative that happens in the world economy. As a consequence of these liquidity problems banking sector was frozen, capital markets collapsed and global economy started to shrink. Since the crisis started we can observe an ongoing discussion among economists about causes and solutions to this turmoil. In this paper, we look into causes of problems in the U.S., whether they are fundamental or transitory and their implications for other parts of the world.

¹⁸ The U.S. economy accounts for 25,4% of the World's GDP. The World Development Indicators database, World Bank, revised 10 September 2008.