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THE SPECULATION BUBBLE ON THE REAL ESTATE MARKET IN THE USA IN VIEW OF SELECTED OVERINVESTMENT THEORIES

Paweł Bochenek[1]

Abstract

This paper offers a specific analysis of speculation bubbles in the economic history of the world, and then tries to identify the causes and effects of the speculation bubble on the real estate market in the USA, which was the main cause of the subprime crisis. The first part of the paper aims at defining the phenomenon of economic fluctuations and speculation bubble and presenting the most popular theories of overinvestment, which emphasize the importance of speculation phenomenon. The next part of the article describes direct causes of subprime crisis. Special attention has been paid to the processes taking place on the real estate market in the USA in the past fifteen years. The final section of the paper is a synthesis of theorems by the economists of Austrian School and Hyman Minsky, and then confronting them with real processes in the US economy in recent years.

JEL classification: E32, G01, B53
Key words: subprime, crisis, overinvestment theories

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Introduction

Perturbations in financial markets, taking place in 2007, created a field for public discussion on the inadequacies and lack of stability of the global economic system. Analyzing all publications concerning this issue we may have an impression that specialists have not yet worked out a consensus on the causes of subprime crisis, also known as the global financial crisis.

Specialist literature offers two basic approaches to this problem. Representatives of the first approach see the main cause of turbulences on financial markets in too advanced liberalization of financial markets and incomplete legal framework.

The second approach refers directly to the theories connected with economic cycles. We should remember, however, that also in this approach there are numerous interpretations of the cyclicality of economic processes. We would like to draw your attention to two overinvestment theories which in a simple and clear way explain the causes of financial crises. These are Hyman Minsky's theory of financial instability and Austrian business cycle theory.

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Both approaches should be taken into account also due to economic turbulences which happened in our history. Both Misky's concept and the Austrians' theses may help us analyze the causes and consequences of such events as "The Great Depression" in 1929 or "Internet bubble" in 2001.

Because of various controversies and contradictory opinions, the financial crisis of 2008 is worth analyzing bearing in mind both these theories.

Economic fluctuations and crisis

According to Frederick S. Mishkin (1995) financial crisis is a situation in which there are serious distortions in the financial market. They reveal a significant decline in asset prices and the bankruptcy of many financial institutions and non-financial. There is also other definition presented by the International Monetary Fund (IMF, 1998). In this case, the financial crisis is a situation in which a significant part of financial institutions have a market value of assets less than liabilities. This situation leads to a rune banking collapse of some institutions and causes government intervention. Certainly, the common similarities of both definitions are distortions in the financial markets, and falling of certain institutions. Małgorzata Iwanicz-Drozdowska (2005) stresses that the inherent feature of all the crises occurring in the scale of the economy is government intervention. The author also adds, that financial crises are often equated with the banking crisis. The financial crisis should be interpreted more broadly than the banking crisis because it affects not just banks but also other financial institutions.

There are also same difficulties with presenting examples of financial crises, that have occurred worldwide over the past few years. According to statistics compiled by the International Monetary Fund (1998) for the period 1975-1997 the world struggled with the 54 crisis. However, it is almost impossible to see exactly what are the common factors of those crises. Iwanicz-Drozdowska tried to analyze 22 of these 54 cases. The author divided crises into 3 groups:

1) overheated economic crises of the industrialized countries,
2) crises of the transformation,
3) crises of internal and external imbalances, and loss of investor confidence in emerging markets affecting.

In the context of examining the causes of the subprime crisis, particular attention should be paid to the group I and III.

Overheated economic crises plagued most highly developed countries. The crises, internal and external imbalances, and loss of investor confidence took place in developing countries. Both of these types of breakdowns are a common feature in all countries-an economic downturn was preceded by high economic growth, strong price increases in property markets and securities. Also relevant is the fact that the crises in the first group mainly concerned on the banking sectors, while the third group concerned on the crisis of the wider financial industry.

Another important issue to be addressed in any analysis of the causes and course of the financial and banking crises is their relationship with the state of prosperity. A very interesting study in this field presents V. Sundarajan and T.J.T. Balino (1991). The authors found that banking and financial crises are preceded by an economic growth. During crisis, there is a decline in economic

growth or even a decline in production. According to presented studies, crises are caused by economic fluctuations, but there are also other approaches presented in the literature. P. Samuelson (Barczyk, 2006) presented an inversed relation of cause and effect. According to him, recession is causes by speculation bubble. Mentioned study is another evidence for the close connection of the crisis and economic fluctuations. The economic history of the world shows that the crisis rarely occurred in the early phase of recovery. Finally, the most important connection of the concept of the financial crisis are business cycle theories.

The rest of the paper presents a general review of the business cycle theory. The most popular classification based on taxonomy exogenity and endogenity.

Exogenous theories finds the mechanism of the cycle, outside the economic system (Marczak and Piech, 2007) (Landreth and Colander, 2001). The most important of them include:

1) St. Jevons theory,
2) Schumpeter's Theory of Innovation,
3) the theory of political business cycle.

Slightly different perspective show endogenous theories. According to this approach, the perturbations in the economy are caused by the factors placed inside the economic system. Among the endogenous theories, the greatest attention should be paid to:

1) R. Hawtrey's monetary and credit theory,
2) A. Hobson's theory,
3) Samuelson-Hicks's cycle,
4) the theory of the real business cycle,
5) H. Minsky 's theory of financial instability,
6) Austrian business cycle theory.

In the literature, the last two theories are called "theories of overinvestment". The rest of the article presents the causes of the subprime crisis in the United States in the light of these theories. This choice is justified by a very interesting approach to the problem of financial speculation presented in the two overinvestment theories.

Austrian Theory of Business Cycle

The foundations of this theory were created by L. von Mises, and then it was developed by M.N. Rothband and F.A. von Hayek, Nobel prize winner in 1974 (Callahan, 2004). One of the most important concept of the Austrian school of economics is time preference of the population. J. Huerta de Soto (2006) defines it as the situation when "the person will meet their needs and achieve goals as quickly as possible." In other words-man want to have goods sooner than later.

Another important element of the theory developed by Austrian economists, is the concept of capital goods and consumer goods. Mises supporters define capital goods as intermediate goods, which production will eventually lead to production of consumption goods. The amount of capital goods depends directly on the price of capital (interest rate).

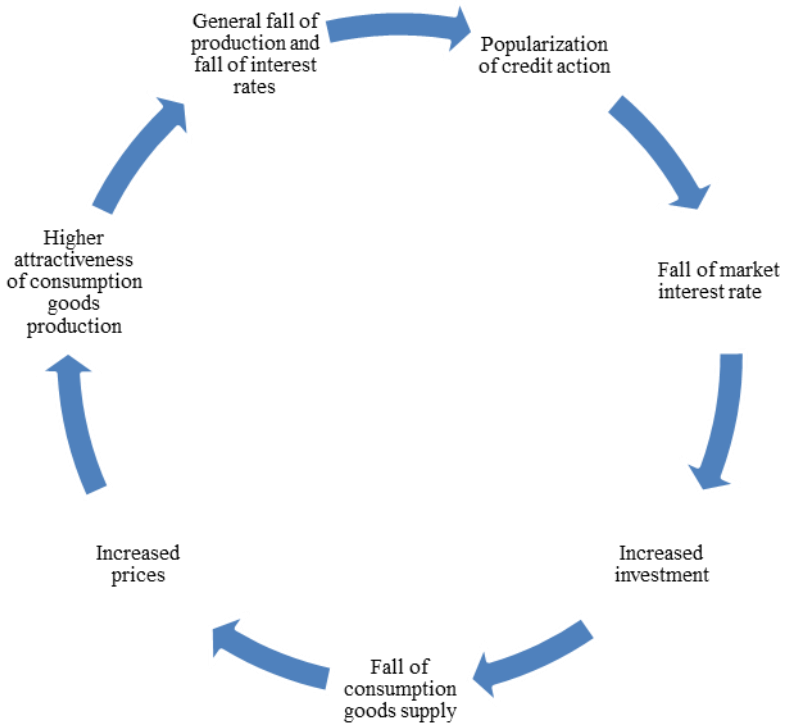
The price of the capital in the economy (interest rate) depends largely on the willingness of citizens to save (time preference). When the aggregate time preference in society is high, people

are not inclined to save. This situation increases the price of capital. On the other hand, when the time preference in the economy is weakening, "natural" interest rate also decreases.

Currently, the main objection to the Austrian school of economists is the activity of the central bank in a market economy (Rothbard, 2006). The central banks cutting interest rates in a statutory cause. It changes the natural time preference of the population. Such actions can lead to an increase in money supply and encourage entrepreneurs to invest money in capital goods production.

The implication of such action is increased production of capital goods at the expense of lower production of consumption goods. This is due to lower interest rate in economy and increased profitability of many investment projects. In a further stage of the whole cycle producers begin to feel shortage of production means. This leads to a competition for some resources among producers. Finally it results in increased prices of production means and recession in economy (Bochenek, 2010). Figure 1 presents the scheme of origins and development of economic boom and recession according to Austrian economists.

Figure 1: Business cycle according to Austrian economists



Source: on the basis of Marczak K., Piech K. Cykle koniunkturalne: ujęcie historyczne I przegląd głównych teorii (Opracowanie, Uniwersytet Warszawski, SGH w Warszawie). Obtained from http:www.ue.katowice.pl

The Austrian theory of business cycle the speculation phenomenon appears in the boom period in some sectors of economy. It is connected with growing princes of both capital and consumption goods. In time the price increases in these sectors may transform into speculation bubbles whose size depends on the inflow of money created in the banking system (http://mfiles.pl/pl/index.php/Austriacka_teoria_cyklu_koniunkturalnego).

H. Minsky's theory of financial instability

Due to its position outside the main stream of economics, the Austrian theory is quite rarely presented in specialist literature. The theory created by Hyman Minsky is much more popular.

Minsky is an American economist of Keynesian tradition. His popularity may be proved by the fact that his theory combining fragility of financial markets and business cycle has been constantly quoted by the greatest finance specialists for several decades.

Minsky's model explains the causes of financial crises. This theory especially emphasizes the significance of credit supply in processes connected with cyclical turbulences in economy. It is also a theory which explains the paradoxical relation between economic stability and financial system instability. According to this economist, the economic turbulences originate as a kind of external 'shock'. Historically, the following events could be treated as such turbulences:

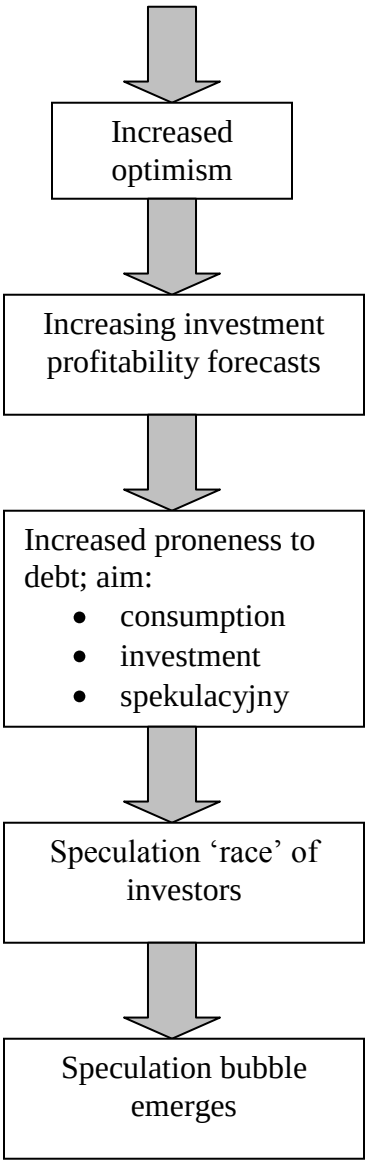
1) dynamic development of car industry in the USA in the 1920s.
2) financial liberalization in Japan in the 1980s.
3) information technology revolution in the USA in the 1990s.

The effect of the 'shock' is increased effective demand for goods and services in a narrow group of sectors. Increased demand leads to quick and considerable price growth, which brings above-average profits for the enterprises operating in the sectors related to the 'shock' mechanism. As a result, the number of companies interested in investment in developing branches is increasing. According to Minsky, on this stage we may witness "euphoria" (the euphoric economy), which consists in buying out the assets of the developing branch (Minsky, 1982). The final consequence of this is lower liquidity of companies and greater indebtedness of banks which makes them susceptible to 'external' events (Marczak, Piech, 2007). Euphoria also characterizes the phenomenon called 'overtrading'. This phenomenon has three basic components. Firstly, the follow-the-leader phenomenon becomes popular. It consists in development of whole groups of market participants who invest only for speculative purposes. Their typical feature is involvement in investment process in capital market only due to high return rates they achieved earlier than other participants. Secondly, there is excessive optimism concerning the possibilities of economic growth. Thirdly, banks show great willingness to lend money, excessively increasing debt. It should be underlined that the whole process presented here encourages banks to increase their credit action. In practice this can be reflected in creating new financial products and lowering credit standards.

Wioletta Nawrot points out that at this stage of the model, speculation fever is generated, differing significantly from normal, rational investment behaviors. This leads to 'mania' which may also be called 'bubble'. The term 'bubble' is supposed to take into account the possibility of its later explosion. Charles Kindleberger (1995) emphasizes that in economic jargon speculation bubble is a deviation from fundamental values (for example prices). According to Kindleberger the end of the boom and the explosion of the bubble takes place at the moment when investors

star to cash in their profits. More and more investors start to sell out their assets which leads to certain turbulences on the financial markets and liquidity problems. Such situation translates into negative mood on the stock exchange and worse macro-economic situation.

Figure 2: Particular elements of Minsky's theory



Source: Nawrot, W. (2009). Globalny kryzys finansowy XXI wieku. Przyczyny, przebieg, skutki, prognozy. Warszawa: Cedewu

At the present era of globalization, Minsky's model is becoming especially important as the negative phenomena in financial markets may through transmission mechanisms pose a threat to the whole world economy.

The 'speculation bubble' term is accurately summed up by Konrad Żelazowski (2007), who claims that the essence of price bubble lies in making transactions with overvalued assets, knowing that their value differs considerably from current prices. In consequence, certain market impulses may lead to the breakdown in speculation demand and rapid price correction (bubble explosion).

US property market bubble and subprime crisis

Among the biggest speculation bubbles in the world history, we would like to draw your attention to the bubble grown by the property market in the USA, which finally led to the financial crisis in 2007, also known as the subprime crisis. According to estimates presented by The Economist report (2005), speculation bubble on the property market was bigger than the stock exchange bubble of late 1990s and stocks speculation before the Great Recession in 1920s. In this way The Economist claims that recently the world faced the biggest speculation bubble in its history.

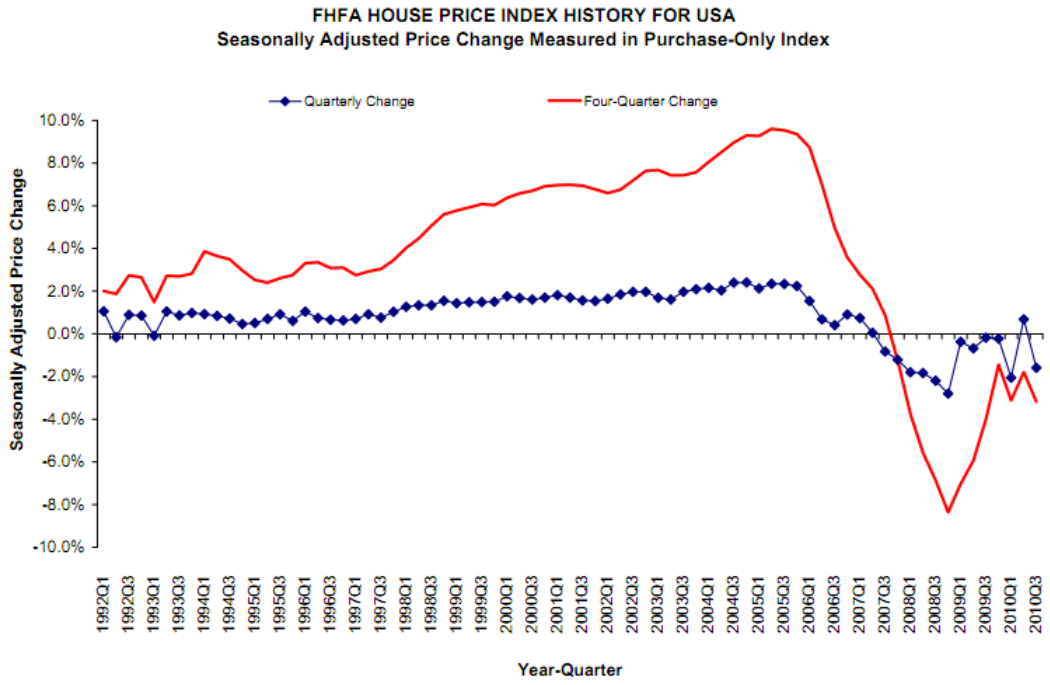
Wioletta Nawrot (2009) calls this crisis "the global crisis of the 21st century", and also regards it as one bringing the most serious consequences since the Great Depression.

Dean Barker (2008) stresses the fact that the American property market bubble started growing as early as in mid-1990s. Barker also separates two concepts: speculation bubble and price bubble. In this context he underlines that the price bubble on the property market was the result of the speculation bubble in the mid-1990s.

Very interesting information concerning house prices was presented by Robert Schiller (2005). The data presented by him shows that from 1895 to 1995 the actuarial prices of houses remained unchanged. This should be contrasted, however, with the statistics showing that the prices of houses between 1995 and 2002 in the USA grew by 30%.

More detailed analysis of these facts may be presented on the basis of data published by Federal Housing Finance Agency.

Graph 1: House Price Index (HPI) in the USA in 1992-2010



Source: FHFA. (2010). House Price Index Report. Obtained from http://www.fhfa.gov

The analysis of how the price bubble on the American property market was created should begin with differentiating two characteristic periods of time. In the first one (1993-1997) the quarterly price growth on the real estate market was stable, ranging from 0.46% to 1.04%. However, since 1998 the trend has gradually become more dynamic. Each quarter the prices increases were larger. In the first quarter of 1998 the quarterly growth was 1.26%. The biggest growth was witnessed in the fourth quarter of 2004. The quarterly price growth amounted then to 2.41%. Compared to the same quarter of the previous year, prices grew by 9.30%. Since that moment property prices in the USA still grew, but their dynamics was smaller. In the third quarter of 2007 there was the first fall in prices, amounting to 0.85% quarterly. This moment may be considered the beginning of the price bubble bursting. In the fourth quarter the price fall was 8.36 compared to the fourth quarter of the previous year. Data from the third quarter of 2010 show the fall of 1.59% quarterly and 3.18% compared to the third quarter of 2009. The second quarter of 2010 was exceptional, because prices grew minimally (FHFA, 2010).

The growth and bursting of the bubble – causes and effects

A significant role in the process of speculation bubble growth on the property market was played by the policy of low interest rates held by the former FED head Alan Greenspan. The first important decisions were made in this area in 2001 after the speculation bubble burst in the so-called 'new economy' stocks. This meant the beginning of recession in the USA. On 3rd January the American central bank authorities made a decision to lower interest rates from 6.5% to 6%. The processes taking place in the economy led to further interventions of FED. At the end of 2001 the federal fund rate was 1.75%. The next decline of rates took place in 2002 and the following year saw the interest rates at the lowest level in 50 years time (1%) (Pszczółka).

The activities of the American central bank translated into increased proneness to risk in both households and banks. This resulted in increased supply of credit. Finally the growing inflation pressure made the interest rates in 2004-2006 grow to over 5% (Nawrot, 2009).

The economic stability period in the first years of the 21st century caused increased demand for external credit financing. Companies showed the need for investment loans, while households became more interested in mortgage and consumption loans. This translated into competition between the banks who wanted to attract as many customers as possible. These processes led to a very quick growth of the loan-takers segment called subprime mortgages. To explain this phenomenon we must analyze the housing loans market in the USA. The classical division of this market is as follows:

1) prime – standard loans,
2) subprime – loans with lower standards,
3) manufactured-home lenders – institutions specializing in financing houses made of semi finished products.

It should be noticed here that the subprime market was intended for the loan takers who were not affluent and whose incomes were low. In most cases, these people could not meet the loan requirements for the prime group. Moreover, it is essential to know that in the period 2002-2005 the subprime market was blooming. In 2002 it constituted only 9% of all mortgage loans in the USA. Three years later it was as much as 25% (Baker, 2008). Together with the growing popularity of the subprime market, some intermediary forms of mortgage loans, called Alt-A mortgages, appeared. Their main weakness, lowering their quality, was lack of loan-takers' documentation. That is why they were called 'liar loans'.

Dean Baker (2008) states that at the height of speculation bubble, subprime and Alt-A loans accounted for around 40% of all mortgage loans.

It should be noted that mortgage loans and growing popularity of their variations had a tremendous impact on the process of creating a speculation bubble on real estate market. This was, however, only one element in the process of liberalizing banking activity. The analysis of the causes of speculation bubble must also include high-risk financial innovations, especially two types of transactions: securitization and collateralization.

Ireneusz Pszczółka defines securitization as the main channel through which credit crisis spread across almost the whole world.

The concept of securitization is defined by Agata Gemzik-Salwach. She states that securitization is a form of financing based on assets, similar to leasing and factoring. It is the opposite of refinancing based on liabilities (own and borrowed capital) (Gemzik-Salwach, 2009). To be precise, securitization consists in isolating from the bank's balance sheet certain receivables based on mortgage loans and then reselling these receivables to SPV (special purpose vehicle) companies. The next step in the process was the issue of securities by these companies, which were secured by mortgage loans. The aim was to transfer the risk connected with awarding mortgage loans from banks to other economic entities. Maciej Krzak (2009) also emphasizes the fact that securitization was applied not only to mortgage loans but also to students' loans and car loans.

A direct effect of securitization processes was the creation of very risky and complicated structure of financial instruments. Financial institutions, taking into account the ever-growing property prices and generally favorable macro-economic situation, did not appreciate the risk involved in dealing with these securities. An additional problem was created by rating agencies which gave them very high notes, which led to increasing turnover of such risky instruments.

The basic instruments created due to securitization techniques were MBS (mortgage-backed security), secured mainly with payments from mortgage loans. The sales of these securities allowed to obtain additional capital and to transfer part of the credit risk to the purchaser. MBS were quite popular with investors, as they enabled both long-term and speculative investment.

Apart from MBS instruments, an important implication resulting from securitization processes was the origin of collateralized debt obligations (CDO). These obligations were a product of an incredibly complicated process. Simplifying, we can say that they were based on packages of other obligations, which were secured with payments from credit cards and payment of mortgage loan interests.

Describing the causes of subprime crisis we should also mention the growth of the derivatives market, which happened in the past ten years. The most popular instruments on this market were credit default swaps (CDS). Their essential feature was the possibility of 'transferring' credit risk between capital market institutions (risk sharing) (Pszczółka, 2009).

M. Jurek and P. Marszałek (2009), concluding on the causes of the financial crisis of 2007, emphasize the imprudent actions of financial institutions, manifested in the following areas:

1) striving at optimal use of beneficial macro-economic situation through expanding credit action, without preserving appropriate standards of credit risk control,
2) too much trust in collaterals, whose value was variable and depended on property prices and other financial instruments,
3) mass use of securitization in order to attract capital,
4) ignoring the risk connected with investment in securities secured with loans.

This type of activities were encouraged by legal framework created by the US government. We should mention here especially Home Mortgage Disclosure Act of 1975, and Community Reinvestment Act of 1977. They aimed at increasing the availability of loans to poor people. The adoption of these acts is considered to be the beginning of the subprime market.

Another legal act which contributed to the growth of speculation bubble on the US property market was the Gramm-Leach-Bliley Act, which enabled combining the deposit and credit activity with investment activity. Its consequence was he exposure of customers to wrong investment decisions of their banks.

The processes described above did not bring about negative consequences in times of optimism and prosperity. It was only the breakdown of the property market at the turn of 2007 that exposed the negative aspects of credit procedures, especially on the subprime market.

The consequence of the speculation bubble burst was the increase of loan liabilities which explains why many debtors stopped paying off their liabilities. This, in turn, led to decreases in the value of financial institutions portfolios, which initiated procedures of taking over mortgages and reselling them on the secondary market. We should also add here the reductions in credit action and increasing share of bad loans, which brought huge losses to financial institutions.

Huge losses were also generated by CDOs, which in time of falling property prices and outstanding subprime loans, became almost un-backed securities.

Among the institutions which suffered the biggest losses due to property market collapse, we should mention the banks: Bear Stearns (taken over by JP Morgan Chase) and Freddie Mac and Fannie Mae (nationalized on 7th September 2008).

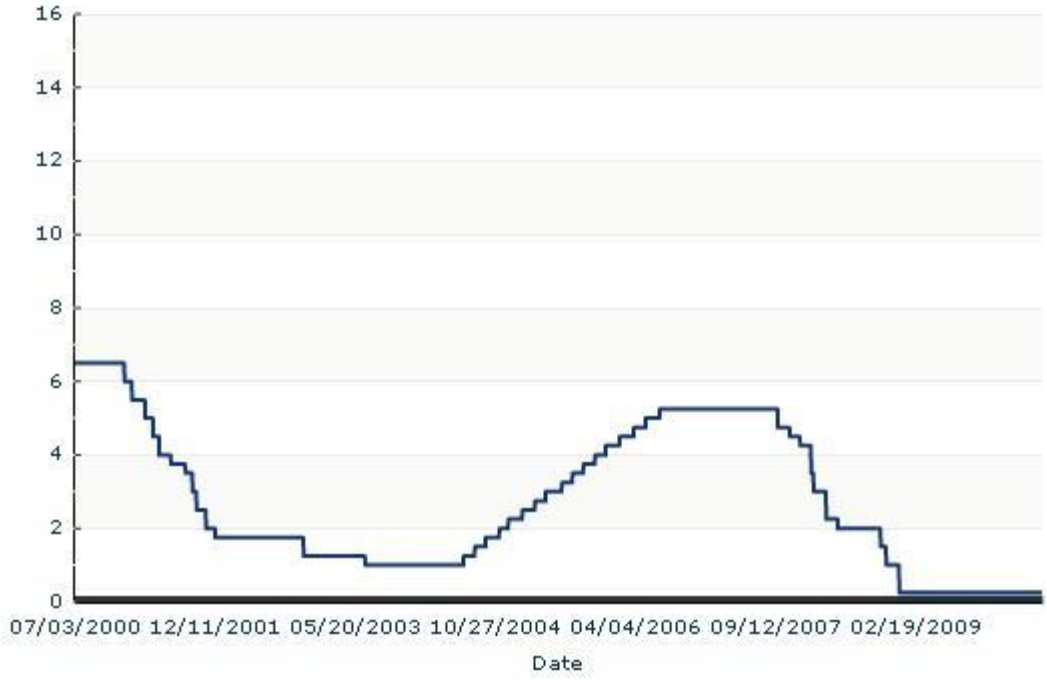
Undoubtedly, 15th September 2008 was a special day in the economic history of the world, as a renowned investment bank Lehman Brothers declared its bankruptcy. This day is commonly accepted as the beginning of the global financial crisis.

Conclusions

In the analysis of the causes of subprime crisis in view of ATCK, special role is played by the already mentioned time preference of the population. At present Austrian economists claim in their works that time preference of population (interest rate) is not determined by free play of demand and supply but due to the decisions made by monetary authorities in particular countries. We can conclude then that the ‘manipulation’ of interest rates, used by central banks, leads to the situation in which entrepreneurs make a faulty assessment of investment projects, which in consequence disturbs the existing production structure.

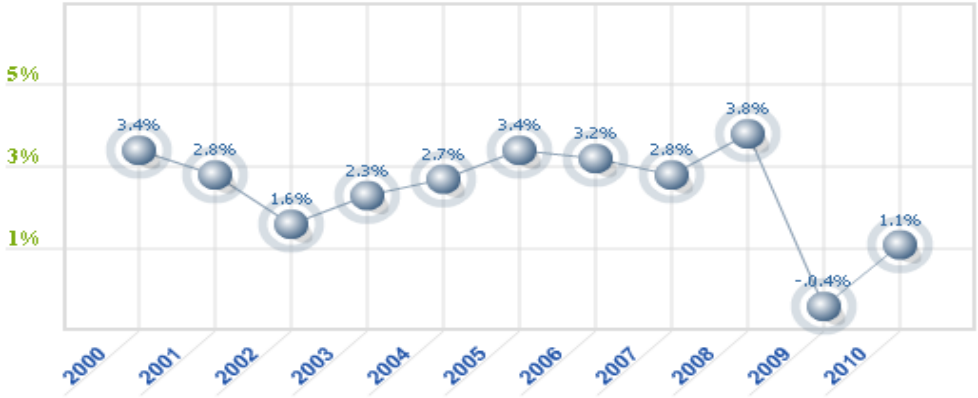
In the context of the causes of subprime crisis special attention therefore should be paid to the monetary policy realized by the Federal Reserve Bank. In this area it is essential to analyze the federal funds rate in 200-2009 and inflation rate measured with the CPI index.

Graph 2: Federal fund rates in the USA in 2000-2009



Source: Federal Bank of New York. Federal Funds data.

Graph 3: Inflation rate in the USA in 2000-2010 (CPI)



Source: http://www.usinflationcalculator.com/inflation/current-inflation-rates/

The above graphs of federal funds interest rates and inflation rates are a kind of contrast medium showing the problems in the area of money supply, which became visible at the beginning of the past decade. In 2000 the interest rate in the USA was 6.5% while the inflation was around 3.4%. The 2001 terrorist attack and the explosion of the so-called 'Internet bubble' forced FED to lower interest rates. By the end of 2001 federal funds rate was lowered to the level of 1.75. June 2003 was quite characteristic here, as the interest rate was reduced to 1%. It was the lowest level for 50 years. In practice it meant that for bankers the cost of money was extremely low.

In the Austrian theory of business cycle appearance of low interest rates leads to economic boom and increased consumption. The theses made by the Austrians seem to be proved by what happened in the US economy in 2001-2004. In this context, the property market bubble seems to be only one of many consequences of expansive monetary policy run by FED. What accompanied it was increased dynamism of GDP growth in the US economy. M. Jurek and P. Marszałek (2009) describe this situation in the following way:

In the USA the economy was in the quick growth and credit boom stage. This is confirmed by the rapid pace of real GDP growth, increased credit share for non-banking sector in GDP, positive and high speed of money supply and increasing inflation rate. (p.199)

It is clearly visible then, that low interest rates in the USA brought both positive and negative consequences. An unquestionably positive aspect is high speed of economic growth. Unfortunately, an additional effect was also a great boom on the property market, leading to the creation of speculation bubble.

When analyzing the causes of subprime crisis, taking into account the theories by H. Minsky, we should pay special attention to the model 'shock', which was very dynamic growth of property prices, lasting since mid-1990s.

Another important element of Minsky's theory which could be classified as a cause of subprime crisis was increased optimism of both households and enterprises. In the USA this growth of optimism can be clearly seen in GDP index. Since 1990s the GDP dynamics was at the 2-3% level. The effect of economic stability of almost 20 years was increased demand for external debt financing. As we already mentioned it, Minsky defines such a situation as euphoria. Wioletta Nawrot (2009) analyzes this problem in more detail. She claims that the mortgage debts of households was in 2008 almost 100% of GDP. This was also the peak of the upward trend originated in the 1970s when it amounted to 5% of GDP. In the 1980s it was around 10%, while at the end of 1990s – 40%. It is worth adding that the above analysis did not take into account the Americans' debts in form of consumption loans. Moreover, data from 2005 (peak of speculation bubble) show that only in one year an average price of a house in the USA increased by 16%. What is more, according to data of American Association of Real Estate Intermediaries, in 2000-2004, the growth of property prices in the USA exceeded the growth of Americans' incomes by 50% (Łaganowski, 2005).

The above facts confirm the appearance of the so-called "follow the leader" effect on the American real estate market, known from Minsky's theories. This effect was also responsible for ever-growing prices of properties and led to the final explosion of the speculation bubble on the property market and subprime crisis.

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