Batrancea Ioan, Professor, Ph.D.
Babes-Bolyai University
Department of Finance, Faculty of Economics and Business Administration, Cluj-Napoca, Romania
E-mail: i_batrancea@yahoo.com

Moscviciov Andrei, Ph.D.
Babes-Bolyai University
Department of Business, Faculty of Business, Cluj-Napoca, Romania
E-mail: andreim@anvico.ro

Sabau Catalin, Ph.D. student
Babes-Bolyai University
Department of Finance, Faculty of Economics and Business Administration, Cluj-Napoca, Romania
E-mail: cata_sab@yahoo.com

Batrancea Larissa-Margareta, Lecturer Ph.D.
Babes-Bolyai University
Department of Business, Faculty of Business, Cluj-Napoca, Romania
E-mail: larissabatrancea1707@yahoo.com

BANKING CRISIS: CAUSES, CHARACTERISTICS AND SOLUTIONS

JEL classification: G01

Abstract

The banking crisis revealed severe shortcomings in the area of monetary policy, deregulation, financial innovation, and government policies. Given the negative impact it has had on the global economy, it requires an analysis of the factors that contributed to its onset, its particularities and the solutions implemented. The aim of the paper is to draw a clear picture of the phenomenon and to identify possible solutions. By analyzing the causes and evolution of the recent banking crisis, the authors suggest strategies aimed at avoiding similar future banking crises.

Keywords: moral hazard, deregulation, financial innovation

1. INTRODUCTION

Many analysts believe the financial crisis is a new phenomenon, unprecedented in the world economy. From the moment the real estate credit crunch has turned into a world financial crisis, central banks and governments of developed countries strived to release crediting in order to support the economy, which later gradually came into recession.

Doing a review on the world economy, we identified other crises unraveled in countries like Brazil or Mexico, but these particular crises were due to inappropriate government policies based on low taxation and a fixed exchange currency rate.

"Allah's punishment", "Pearl Harbor's economy", "the explosion of the financial bubble", "the new spill", "vortex" are some of the phrases used by specialists like Warren Buffett or Alan Greenspan to define the global financial crisis. This unprecedented event has left its mark on all countries worldwide. Given the fact that it had a negative impact, the situation requires an analysis of the factors which led to it. Therefore, the aim of the paper is to draw a clearer picture of the phenomenon and to identify possible solutions.

Since 2007, the artificial growth of the US real estate market has generated increasingly adverse consequences. This process was supported by the development of the subprime mortgage market and financial derivatives. Once collapsed, the subprime market has affected not only the banking system, but also the economy as a whole.

Irrational factors have fuelled the development of real estate sector, among which the most important were: low benchmark interest rate dating back to 2001; tax relief granted by the U.S. government to the banking system and the capital market regarding costs of mortgage deregulation; lack of correlation between wages and productivity; financial innovation and investors' greed.

The banking crisis is a subcategory of the financial crisis consisting in moments of panic, temporary confusion regarding incidents within the financial system. The crisis began in the U.S., but because of deregulation and financial liberalization, this phenomenon has spread to Europe and other continents, having a negative impact on the economy and forcing banks to deal with a difficult situation. After receiving bailouts from the government, some banks were nationalized, others were saved, but in many cases they went bankrupt.

After analyzing the causes and evolution of the recent banking crisis, the authors suggest some changes aimed at avoiding future similar banking crises. Thus, the array of recommendations contains, among others, the following: rethinking the remuneration system for employees within credit institutions; a proper surveillance of rating agencies, increased attention and adequate analyses when granting credits.

2. CAUSES OF THE BANKING CRISIS

US government policies were based on the premise that every American must own a property, but also on facilities offered by the IRS in that taxpayers could deduct the interest from their taxable income. This implied that all homeowners incurred a financial risk. The risk was shared by more than 22 million Americans, who in the period 2005-2007 bought new or old homes and lost a significant part of their initial investment, after “housing bubble” burst. Currently, analysts estimate that more than 10 million American families own homes with mortgages exceeding the homes market value.

Other causes of the current crisis could be identified in: the lack of regulations for the US banking system; Fed’s lowering the benchmark interest after September, 11, 2001 terrorist attack, in order to generate liquidity and protect numerous financial institutions against default.

Most financial professionals singled out the financial derivatives market as a major source of the problem. With its spectacular growth from 106,000 billion dollars in 2002 to over 531,000 billion dollars in 2008, this market did nothing but increase risks rather than limit them amid doubts about how companies would exploit them. Derivatives were created as a protection against investment losses. These contracts allowed financial service firms and companies with adequate liquidity to take more complex risks which normally would have been avoided. Alan Greenspan, who spoke several times against imposing restrictions on the financial derivatives market, argued in 2003 in front of the US Congress that “derivatives were and are an extraordinarily useful vehicle to transfer risk from those who shouldn’t be taking it to those who are willing and are capable of doing so”.

The collapse of the US real estate credit market caused massive losses to all investors who bought financial assets backed by mortgages. These losses have affected credit institutions amid their attempt of covering debts by increasing capital through selling shares, which stirred a negative reaction of the capital market, a sharp drop in the banking shares, and a sharp reduction in the equity of credit institutions. The crisis began only in the US as a subprime lending problem, but soon it has spread throughout the world.

The first signs announcing the deepening of the crisis have been drawn by the collapse of investment bank Bear Stearns in the spring of 2008. The bank was ultimately saved from bankruptcy by Fed’s intervention which backed the 30 billion purchase of investment bank JPMorgan. Then the nationalization of British bank Northern Rock and Fed’s intervention to save its two giants, Freddie Mac and Fannie Mae, followed.

Several papers elaborate on the recent banking crisis and especially its causes, putting under the spotlight the fact that the United States and other developed economies have experienced a continuous upward trend of real estate prices (Laeven & Valencia, 2010, p. 4). Chart 1 shows a comparison between the

evolution of the consumer prices index (CPI) in the housing sector and the evolution of the same index, but in other industries (food, goods, energy, and transportation). As reflected in the analyzed data, real estate prices have increased much more than prices in other industries. In 2002, for example, CPI exceeded by 30.6% the goods price index, by 4.10% the food price index, by 58.6% the energy price index and by 27.4% the transportation price index.

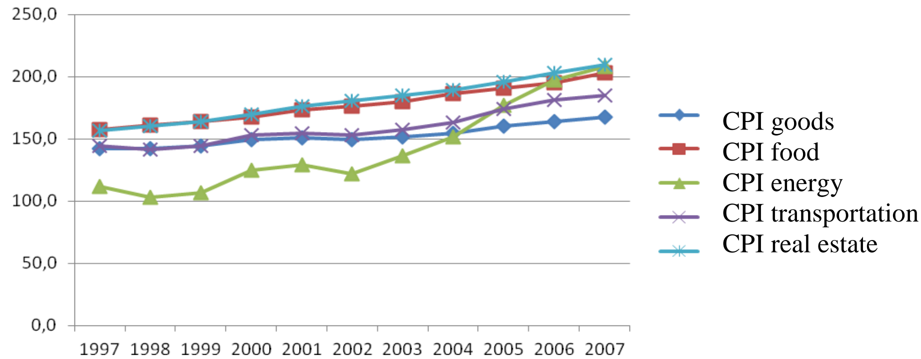

Figure 1: Evolution of the price indices for various industries
(value 100 corresponds to the period 1982-1984)
Source: CENSUS database

On one hand, the expansion of the real estate market was supported by financial innovation, which allowed the creation of complex derivative instruments through which banks exploited the regulation gaps. As shown in figure 2, the derivatives market value greatly increased after year 2000. Thus, from about 150 trillion dollars in 2000, it rose to 400 trillion dollars in 2006, summing up to a percentage increase of 167%.

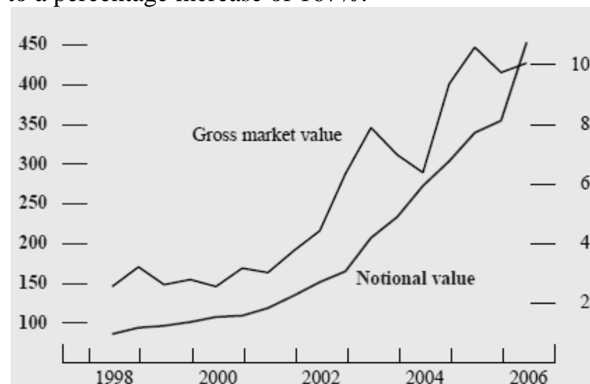

Figure 2. The market value and notional value of the global derivatives market
(trillions of US dollars)

Source: *US Cross-Border Derivatives Data: A User's Guide*, May 2007, p.1, available on www.federalreserve.com

Credit institutions have incurred high risks, capital adequacy avoiding operations by recording off-balance sheet instruments. This way, the off-balance sheet set of commitments increased and distorted the structure of the assets within the balance sheet. This process has been made possible by giving packaged banking mortgages to investment entities called special purpose vehicles (SPV). Hence, SPVs took over a series of activities with high risk and low liquidity (derivatives that had mortgages underlying assets) and placed them in the financial market. This technique of selling loans to investors has transformed the traditional role of financial intermediaries on the mortgage market (Keys, Mukherjee, Seru & Vig, 2010, p.308). Thus, in the years preceding the crisis, there was a rapid increase in financial derivative transactions and bank indebtedness degree.

Some market players which have negatively affected the banking system include US government-sponsored enterprises, Fannie Mae and Freddie Mac, whose role was to buy and securitize mortgages. Through this activity, they generated a systemic risk in the market, contributing to the deepening of the crisis (Acharya & Richardson, 2009, p.13). The main problem was the high percentage of mortgage backed securities (MBS) they had in their portfolios. Everyone was aware that the decline of these companies would have led to massive sales of securities, thus affecting the whole financial system.

Moreover, the sharp rise in house prices was due to the policies pursued by governments trying to stimulate the purchase of real estate. One of the measures implemented in the US was to allow taxpayers to deduct from their taxable income the interest on the mortgage and property taxes. As can be easily concluded, the government itself contributed indirectly to the crisis. Another element worth mentioning is the benevolent attitude of Alan Greenspan, then chairman of the Fed. He was among the specialists supporting the efficiency of substandard lending practices and refusing supervision.

Almost by night, mortgage became extremely affordable and accessible for the population, due to reduced requirements of banks, i.e. easing customer creditworthiness standards. In addition, the range of assets received as collateral significantly expanded. Thus, it led applicants to falsely report income, without any written confirmation of salary (Roubini & Mihm, 2010, p.119). The borrowers' situation described above was known under the acronym NINJA (no income, no jobs, no assets). The abovementioned measures have generated a significant increase in the number of mortgage indebtedness and default.

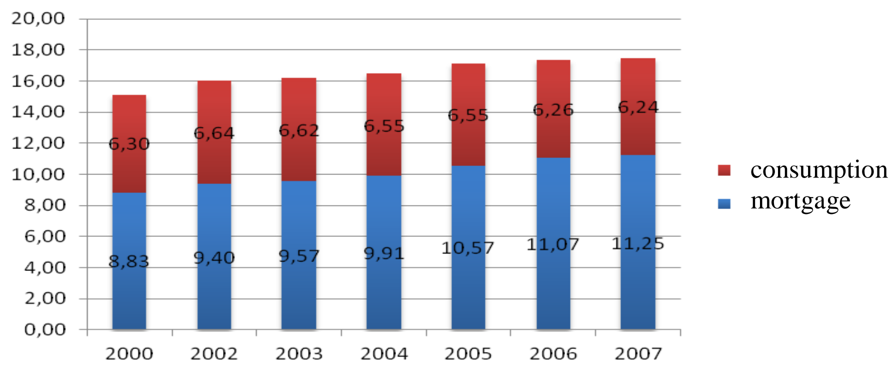

Figure 3. Share of liabilities related to mortgage and consumer loans in personal income

Source: CENSUS database

Figure 3 shows the evolution of public debt, consumer credit and mortgage loans. It can be seen that the share of payment obligations arising from mortgage loans (average 10%) is higher than that of consumer credit obligations (average 6.5%). In addition, by analyzing the time evolution of the related indebtedness, one can see that consumption followed a downward trend (from 6.3% in 2000 to 6.24% in 2007). Instead, the mortgage indebtedness increased from one year to another (from 8.83% in 2000 to 11.25% in 2007).

In the period 2002-2007, household debt grew much more than that of corporations. All these factors led to a financial excess, i.e. the sharp and rapid development of the financial market which reached a level that exceeded economic needs. On the credit market, public debt was on average 27% in 1998-2007, while corporate debt accounted for only 14-15%.

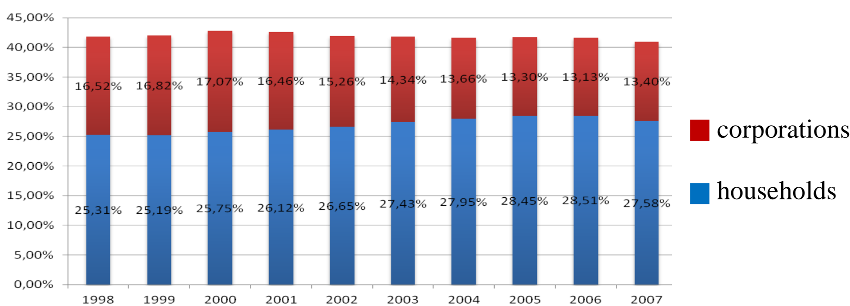

Figure 4: Share of total population and total corporate debt in the credit market

Source: CENSUS database

Institutional structure also encouraged the crisis. Due to the role of the central bank which was seen as the last resort lender, credit institutions had an

increased security that it would help them in the event of liquidity problems, i.e. the onset of a crisis. Financial institutions were not cautious enough to secure large volumes of liquid assets as buffer in case of massive withdrawals (Roubini & Mihm, 2010, p.129).

Furthermore, the low interest rate in the years preceding the crisis must also be mentioned. In the US, interest rate was significantly mitigated in the period 2001-2004. This has led investors to seek new investment tools. Thus, largely due to the increasing demand, the financial system has developed new structures and new tools that seemed to offer higher risk-return reports, but in fact were more risky than it seemed (IMF, 2009, p.2). Excess liquidity in the market prompted investors to turn to the financial market, namely for innovative financial instruments. Figure 5 renders the time evolution of the Fed benchmark rate. If in 2000 it scored 5.73%, in 2002 it fell up to 1.17%. As a result of the inflationary pressures, from 2003 the rate grew constantly, reaching 6.41% in 2007. Mortgage rate was also on a similar trend. From 7.52% in 2000, it fell to 5.77% in 2004, followed by an upward trend, reaching 6.41% in 2007.

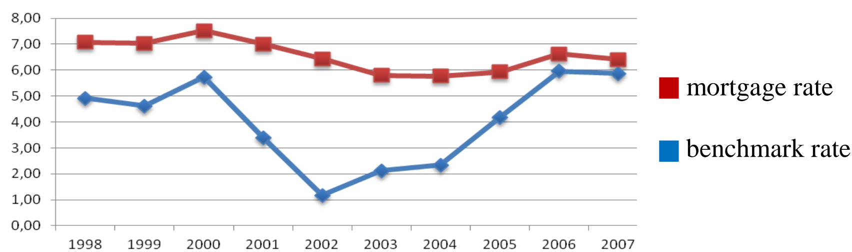

Figure 5. Evolution of the Fed benchmark rate and the mortgage rate for new homes in the US

Source: CENSUS database

The main consequence of the actions taken by the central bank translated into an increase in inflationary pressures. Hence, in the period 2005-2006, the interest rate for borrowers increased with disastrous consequences. Higher interest rates led to serious difficulties in mortgages repayment.

Another shortcoming in the legislation was the method for determining the provision for loan losses. It was based on past information involving a tardy recognition of excessive risk. This way, unsound lending has been supported for a long period. The amount of provisions decreased especially in the period 2002-2006. Thus, from $51.5 billion in 2002 fell to $29.6 billion in 2006, with a drop of 42.55%, as can be seen in figure 6.

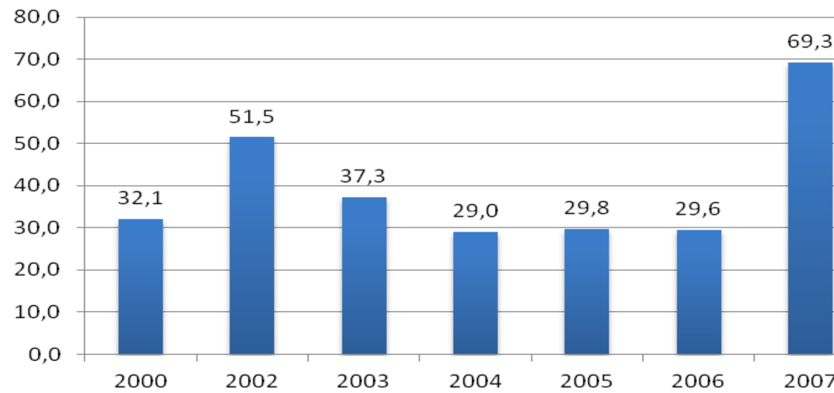

Figure 6. Provisions for losses on loans granted by financial institutions in the US (billion dollars)

Source: CENSUS database

Rating agencies had an important role in the development of the crisis, especially due to their link with banks and mortgage packages. The agencies were giving ratings that were inconsistent with the reality, reflecting too much optimism. Perhaps the most disturbing aspect of the losses from CDOs is that most financial assets, that have been blamed and sanctioned afterwards, initially received AAA ratings from one or more national credit rating agencies, which marked them mainly as a safe investment (Barnett-Hart, 2009, p.1).

Two reasons for this assessment distortion reside in the method of paying rating agencies and the complexity of financial instruments under assessment. Regarding remuneration, the agencies were paid by the entities under their evaluation, thus being motivated to issue positive scores in order to receive commissions. The conflict of interests was due to the double role held by rating agencies: evaluating banks and advisors regarding the structuring of products to maximize rating; receiving payment by those same clients. Regarding derivatives complexity, this was due to multiple securitizations of financial instruments. For example, through such techniques, the instrument called collateral debt obligation (CDO) was created. Some scholars have even argued that leaning on the rating agencies was like putting the fox to guard the chicken (Roubini & Mihm, 2010, p.120).

Labor productivity in relation to the earnings/wages has also eased the deepening of the crisis. Figure 7 shows the evolution of the three indicators relevant to the recent crisis. Unit labor costs are calculated as the ratio between the total labor costs and gross domestic product. The second indicator refers to the employee compensation divided by the number of employees, and the third

indicator is productivity. As one can observe, in most countries, the productivity growth rate was far outweighed by the labor cost, i.e., wages.

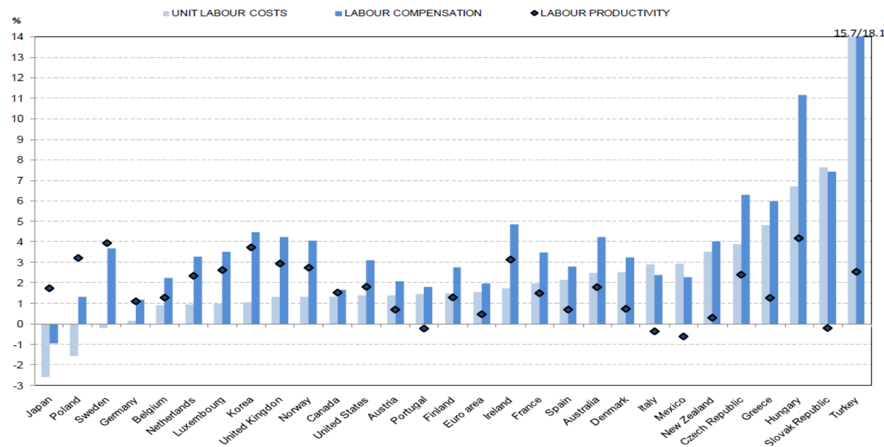

Figure 7. Evolution of labor costs, compensation for labor and labor productivity in various countries worldwide - Dynamic Indicators with a mobile basis, 2001-2006

Source: OECD Compendium of Productivity Indicators 2008, p. 58, available on www.oecd.org

Finally, the factor perceived as the basis of all developments mentioned was the excessive greed of those involved in banking processes. Their main objective was to maximize profit on a short term and with minimal effort, i.e. limiting capital invested. As mentioned by some authors, the situation was "staged" about greedy bankers who cashed in hundreds of millions, while taxpayers saved institutions from bankruptcy (Dowd, 2009, p.141).

3. CRISIS CHARACTERISTICS

The current financial crisis was caused by excessive risk taken by many companies in the financial sector. Much of this risk had led employees to artificially increase their own wealth and not focus on company objectives.

As it is stated, "the financial system is the heart of a modern market economy" (Kapoor, 2012, p.6). When the system functions properly, sufficient resources are ensured so as to achieve a maximization of productivity. When ambiguities occur, the entire economic system is affected.

Spain, Greece and Kazakhstan were on the edge of a systemic crisis, because they met only two of the six criteria of policy intervention. The recent crisis began in the US and Britain in 2007, spreading rapidly to other countries in 2008. In all those cases, banking systems have shown some signs of difficulty, followed by government interventions (i.e., bailouts) from the first year of the crisis. The systemic crisis emerged in 2009 in Denmark, Germany, Greece, Ireland, Mongolia, Ukraine, then followed Kazakhstan in 2010 and Nigeria and Spain in 2011.

Table 1

Countries in crisis and those who were almost on the edge of systemic risk

Country	Start of crisis	Date when systemic	Extensive liquidity support	Significant guarantees on liabilities	Significant restructuring costs	Significant asset purchases	Significant nationalizations
				Systemic Cases			
Austria	2008	2008	✓	✓	✓		✓
Belgium	2008	2008	✓	✓	✓		✓
Denmark	2008	2009	✓	✓			✓
Germany	2008	2009	✓	✓			✓
Greece	2008	2009	✓	✓	✓		
Iceland	2008	2008	✓	✓	✓		✓
Ireland	2008	2009	✓	✓	✓	✓	✓
Kazakhstan	2008	2010	✓		✓		✓
Latvia	2008	2008	✓	✓			✓
Luxembourg	2008	2008	✓	✓	✓		✓
Mongolia	2008	2009	✓	✓	✓		✓
Netherlands	2008	2008	✓	✓	✓		✓
Nigeria	2009	2011	✓	✓	✓	✓	✓
Spain	2008	2011	✓	✓	✓		
Ukraine	2008	2009	✓		✓		✓
United Kingdom	2007	2008	✓	✓	✓	✓	✓
United States	2007	2008	✓	✓	✓	✓	✓
France	2008		✓	✓			
Hungary	2008		✓	✓			
Italy	2008		✓	✓			
Portugal	2008		✓	✓			
Russia	2008		✓	✓			
Slovenia	2008		✓	✓			
Sweden	2008		✓	✓			
Switzerland	2008		✓			✓	

Source: Laeven & Valencia, 2012, p.6

Theoretically speaking, the recent evolution of the economic and financial situation in the US contradicts the Keynesian theory: fiscal and monetary stimuli resulted in a modest economic growth and a vehement rejection of economic policies by public opinion. With a budget deficit of 10% of GDP, the Obama administration has opted to maintain the exemptions previously adopted

by the Bush administration, adding another extra fee reduction on salaries of civil servants. The period 2000-2007 is characterized by a global low interest rate, resulting from the existence of a high level of liquidity in countries like China, who has foreign reserves and surpluses deposited in current accounts. Thus, in an artificial way, exchange rates were maintained at a low level and savings balance was positive. The post 2001 pressure made interest rates fell. That situation has contributed to an expansion of credit demand and rising of asset prices, which preceded the crisis, as happened in the US, where financial products with an increased risk and subprime loans were intensively promoted.

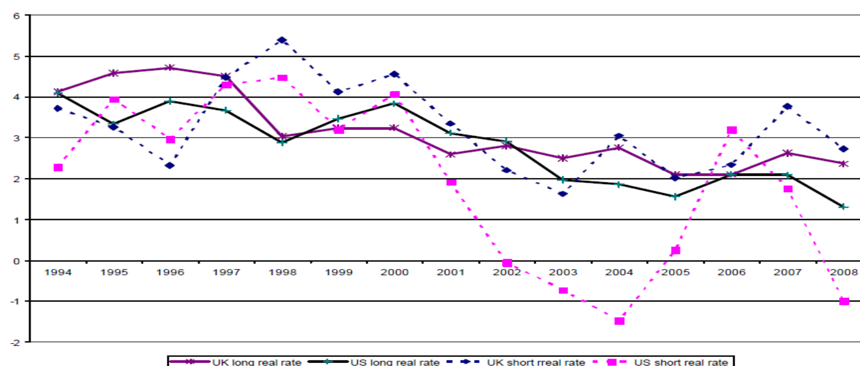

Figure 8. Real interest rates in the US (1994-2008)

Source: Berrell & Davis, 2008, p.3

In this time of recession the state intervened, trying to save many of the financial institutions damaged by the crisis. After helping JP Morgan Chase bank to acquire Bear Stearns, the US government bailed Fannie Mae and Freddie Mac. The fall of Lehman Brothers on the 15th of September 2008 represented the outburst of the crisis. Soon, AIG, a large insurance company was saved by the US Treasury. On the 19th of September 2008, the US Treasury made a temporary guarantee program consisting of $50 billion for the mutual funds on the market. On September, 26, FDIC closed its activities at Washington Mutual. On September, 29, 2008, the UK government nationalized Bradford and Bingley, institutions which handled mortgages. On, September, 30, 2008, Fortis received support from the Government of Belgium, Netherlands and Luxembourg. On October, 5, German government extended guarantees for the Hypo Real Estate bank.

Kapoor (2012) singles out greedy bankers and regulators involved as the masterminds of the crisis. The “credit boom” and lending policies have generated a progressive deterioration of the credit market between 2001 and 2007. The liquidity crisis has exploded on the interbank market in August 2007.

The problems arising from the Lehman Brothers case and other US banks were closely related to the subprime crisis and the liquidity crisis. Two lessons must be learned from the Lehman Brothers case: 1) the chaotic development of the financial economy has to be stopped; 2) even the most solid entities have a finite activity.

By granting bailouts to credit institutions, the US Treasury became a shareholder in Citigroup, Wells Fargo, JPMorgan Chase, Bank of America/ Merril Lynch and several others. The measure adopted by the US Treasury of purchasing mortgage-backed securities issued by Freddie Mac and Fannie Mae in September 2008, aimed at defusing the crisis, were not able to eliminate all of the "symptoms".

In the same period, the giant AIG sought and received a loan from the Fed of $85 billion. Currently, AIG faces another round of liquidity problems, thus having to request a new Fed emergency aid of $90 billion.

Fed, European Central Bank and Bank of England announced a dramatic relax of the lending terms for their main contractors, namely a majority of commercial banks and investment banks. These institutions will be able to guarantee loans for a wide variety of financial assets, loans or debts arising from speculative investments.

Last but not least, recent banking events in Cyprus represent another effect of the global crisis which also affected the Euro Zone.

4. PROPOSED SOLUTIONS

Concerning the factors which triggered the crisis and its evolution, in the following we recommend some solutions which, if applied, might avoid the repetition of such phenomenon.

A first aspect that comes into our attention is the policy regarding the compensation of employees. If their salary package reflects the positive economic results of the company, remuneration policy should also take into account the company economic losses. Therefore, in our view, remuneration should be redesigned in order to take into account the results of the entity, either positive or negative. By this, companies would raise awareness among employees, they would consider not only short-term profits, but also the risks associated to the financial operations. In addition, another element worth taking into account is an assessment of employees based on their work productivity. Thus, financial compensation would be made based on performance from several years, and the positive results obtained in one year would be correlated with negative results in another year. Consequently, by assessing the average performance, companies would provide employees with a fairer remuneration.

Some specialists (Roubini & Mihm, 2010) even suggest that the remuneration received by employees of financial institutions should reside in shares within the company. In their view, companies should impose a timeframe in which employees would have to keep the shares (i.e., they would not be able to sell shares for a decade or until retirement). This way, employees should be more interested in the evolution of the company and the impact of its operations (performed by them) on financial results.

Another element which needs to be modified is the remuneration system of rating agencies. The conflict of interests in which the rating agencies were involved contributed to the deepening of the current crisis: they were both consultants and assessors for the banks, so they got to evaluate their own proposals. Moreover, the higher the rating, the higher the fees paid by the banks to these agencies. The main problem was that credit institutions could choose which rating agency to evaluate them. As companies were interested in receiving a higher rating, this was the main criterion in choosing a rating agency. In turn, agencies were interested in granting good ratings in order to receive commission from their clients.

In our view, a rotating method for assessing institutions could be established, so that each evaluation can be conducted by another agency. A second option would be that all agencies should assess all credit entities and the third proposal would involve creating a global rating agency, like an international public institution. These institutions would operate on funds collected from the entities that would be evaluated according to social, economic and financial criteria. By using this method, neutrality and objectivity in the assessments would increase. A fourth option would be to prohibit rating agencies to give consultancy services to assessed entities, thus eliminating any possible conflict of interests.

Roubini & Mihm (2010) also proposed that the US Security and Exchange Commission (SEC) should reduce entry barriers and increase competition on the market.

Other authors have proposed a shift from the institutional perspective. To solve the poor discipline of large banks, it is recommended to mitigate their size, in order to get back to the status “small enough to fall” (Mehran, Morrison & Shapiro, 2011, p.22).

In our opinion, when referring to the EU, there should be binding rules to ease cooperation between member states, measures which have to be clear and transparent. On the long run, a single supranational authority such as the US Federal Deposit Insurance Corporation (FDIC) could be established. To our knowledge, there are some legislative proposals to create an EU network of national deposit guarantees and to have the opportunity of borrowing from other member states. The project is quite ambitious, reflecting the cross-border nature of member state banks. Another proposal would be to create a single set of rules by which to manage a crisis, solve and avoid banking insolvency.

5. CONCLUSIONS

The banking crisis unraveled due to several financial, economic and psychological factors. Even if the US was the epicenter of the crisis, its effects have spread rapidly throughout the world by contagion. Moreover, the conditions that led to the crisis have been identified in other countries.

Among the most notable causes of the crisis were: the downward trend of the benchmark interest rate; government support for the development of the US housing market; financial innovation, which allowed credit institutions to incur significant risk; unsupervised activity of credit institutions, due to legislative gaps; the conflict of interest in which rating agencies were involved, allowing them to overestimate the efficiency of derivatives and grant credit institutions unreal scores.

The current crisis led to a significant decrease in the confidence level of consumers, investors and businessmen, which in turn affected stability and economic strength. This created a vicious circle of economic growth based on excessive consumption sustained by debts. Deregulation and financial liberalization did not generate an efficient allocation of resources.

Recent measures taken by governments numbered assets acquisition, banks recapitalization, injecting liquidity into the banking system. In spite of these measures, many banks have not escaped the subprime lending problem. At least in Europe, counterbalancing the effects of the financial crisis appears to be an extremely difficult mission. France, for example, created a sovereign fund to assist strategic companies.

The constant deepening of the financial crisis has imposed consensus and (game) coordination among governments and supervisory authorities, in order to finally reach the following objectives: 1) more explicit guarantees to maintain liquidity in the banking system; 2) supporting the increase of banks capitalization (namely, direct participation of the state, with the possibility that, in some cases, the state become main shareholder); 3) alternative solutions for eliminating non-performing assets from banks balance sheets; 4) decreasing the benchmark interest rate; 5) more pragmatic operational regulations and supervision of the banking system.

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