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THE SPREAD OF THE CAPITAL MARKETS'S GLOBAL CRISIS: DOES THE COUNTRIES' INDUSTRIAL PROFILE MATTER?

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Abstract:

The causes of 2007's financial perturbations and mainly of the subprime crisis are well known at the beginning of 2008. Nevertheless, the specialists pay little attention to capital markets global crisis and to its consequences. In this study, we demonstrate using Infinancials data, that we are experiencing a global capital markets crisis, where the European financial markets are the most affected. The impact of the crisis upon the 45 analysed countries differs depending on their industrial structure. Among the other factors which led to a different impact of the global crisis we can range the capital markets development and the correction of the assets prices boom. The effects of this crisis on the real economy are less obvious at the beginning of 2008, especially at European level, but the economic growth forecasts became pessimistic. The credit activity is negatively influenced and the foreign exchange market crosses over a turbulent period. The financial crisis consequences in respect of the real economy will depend on the recovery capacity of the United States economy.

Key words: capital markets contagion, global financial crisis, subprime crisis, stock prices, industrial profile

JEL Classification: E3, G1

1. Introduction

The United States subprime crisis was largely analysed in the economic literature, but little attention is paid to the financial markets global crisis. We are crossing a period with severe financial turbulences around the world. At the beginning of 2008 almost all the countries were severely touched by the crisis, but the effect of the shock upon the stock prices differed between capital markets.

In a recent study [Albulescu, (2008)], we have tried to identify the factors which contributed to a different impact upon the 45 analysed countries. Analysing the evolution of the European capital markets stock prices we discovered that there is no relation between the recent financial results of the companies and the drop of the stock prices. In addition, the importance of the degradation of macroeconomic fundamentals is not obviously related to the crisis effect. That is why we have concluded that the different impact was rather correlated with the stock price correction, but those results were not satisfactory.

In this study we test the correlation between the industrial profile of the countries and the impact of the global crisis. The analysed companies were grouped in 18th industrial sectors in order to identify which sectors are more exposed. This method allowed us to demonstrate the correlation between the countries' industrial profile and the crisis' impact upon the capital markets.

The structure of the article is the following: the first part presents the subprime crisis and its repercussions and the second part presents the results related to the industrial profile of the analysed countries. Finally, we point out the conclusions.

2. The subprime crisis and the turbulences on the international capital markets

In the capitalist financial systems, especially in the market–based ones, there is a continuous process of capital accumulation. If this process stops, the entire financial and economic system enters into collapse. This was also the case of the 2007 subprime crisis.

A financial crisis can be defined in several ways and can take different forms (banking crisis, foreign exchange crisis, debt crisis, etc.). A financial crisis can also be defined as a crisis which affects the stock exchange markets and the credit markets in a country or in a group of countries. If the financial crisis will continue, it can emerge and affect the real economy, leading even to a recession.

In respect of asset prices, real growth and public debt, Reinhart and Rogoff (2008) affirmed that there is a strong resemblance between 2007 subprime crisis and the other financial crisis. We consider that there are also some particular aspects which characterize the actual crisis, like the increased role of financial innovations (the securitisation and credit derivatives) and a very important contagion phenomenon which began within the American economy and spread over the global financial markets, deteriorating the investors' confidence.

The shock on the American real estate market has been a starting point for the financial turbulences at international scale. At the end of 2006, an important number of clues have already announced the international financial markets crisis: depreciation of dollar denominated assets, degradation of banks financial indicators, reserves reduction and mortgage credit problems. Between 1997 and 2006, the houses prices increased with about 124% in the United States [The Economist, (2007)].

The financial turbulences have begun before the subprime crisis. A first contagion phenomenon related to stock prices drop was signalled in emerging markets in May 2006 [Mauro, and Yafeh, (2007)]. A second event of financial turbulences was represented by the Chinese capital market disorder in February 2007. The credit mortgage crisis in the United Stated followed.

In the United States, during the '90, many mortgage loans were granted to debtors with a doubtful repayment history. Thereby, in 2006 these subprime loans represented 600 billion dollars, reaching about 20% of the total mortgage loans. The default rate increased to 42% in 2006 as compared with 2005 [Lasserre, (2007)]. In 2007, the volume of subprime loans represented 13% of total loans amount (about 1300 billion dollars) and the delinquency rate increased to 15% in 2007 as compared with 10% in 2005 [Banque de France, (2007)].

These doubtful loans were known as "2/28" and "3/27" and the most part of these loans were *adjustable rate mortgages loans* (ARM), granted without assessing the repayment capacity of their beneficiaries [Schumer, and Maloney, (2007)]. For example, a hybrid ARM "2/28" is characterized by a fix interest rate, adjusted every six months, depending on a reference rate. In 2007, the adjustment of the ARM caused a 30% increase of the payments amount, and an important part of the borrowers were no longer able to pay.

This situation was well known a few years ago, but a considerable number of specialists argued that the exponential increase of real estate prices is justified by the financial innovation and the Asiatic capital flow towards the United States. The US wealth contraction in 2007, the credit spread growth and the malfunctioning of credit market contradicted their theory.

Equally, the international macroeconomic climate deteriorates. The previous period was called by the specialists – "*The Great Moderation*". This period is characterised by a low inflation and an ongoing increase of the real GDP[1]. However, in the last years, several events occurred and contributed to the economic climate deterioration. The surplus of savings in countries like China and the interest of the petroleum exporting countries to limit the appreciation of their currencies toward the American dollar contributed to the economic deterioration of the US The

[1] Some authors considered that this period was favourable to risk construction [Buiter, (2007)].

financial inflation was also considerable before the start of the crisis and the FED and ECB contributed to its amplification, by maintaining a liquidity excess in the market.

But the most important factors which contributed to the crisis appearance were the financial innovations (represented by the securitization activity and the credit derivatives), combined with the imperfections of the regulatory and surveillance activities.

The securitization process is described by Durand (2007). The banks set up the so called "package" of mortgage loans (repackaging process), with different risk profiles (the subprime loans are the most likely to make default), and declined the property of this loans to investors which assumed the risk (especially to the hedge funds). The risk transfer is possible under the form of securities which can be negotiated on the market (asset–backed securities – ABS). If the loans are mortgage loans, we speak about "mortgage backed securities".

The credit derivatives also give to banks the possibility to take an important part of their credit portfolio off from the balance sheet. Several reasons are in favour of this option. The first one is represented by a better financial situation of the balance sheet which increases the investors' confidence in the bank. Another reason is the interest rate arbitrage which gives to the banks the possibility to take profit on the difference between the interest obtained by the intermediary entities who invested in the outstanding debt of the bank (the Special Purpose Vehicle – SPV) and the interest which must be paid to investors, indirectly, by means of the same SPV [Léonard, (2008)].

The regulation process deficiencies also represent an important factor of the recent crisis. The Basel I implementation pushed the financial firms to avoid the capital constraints and to sell a part of the granted loans. The new Agreement – Basel II – is less rigid, but it still does not use the loss distribution. The stress–test methodology takes indeed into account the extreme loss distribution, but it was not often used in practice.

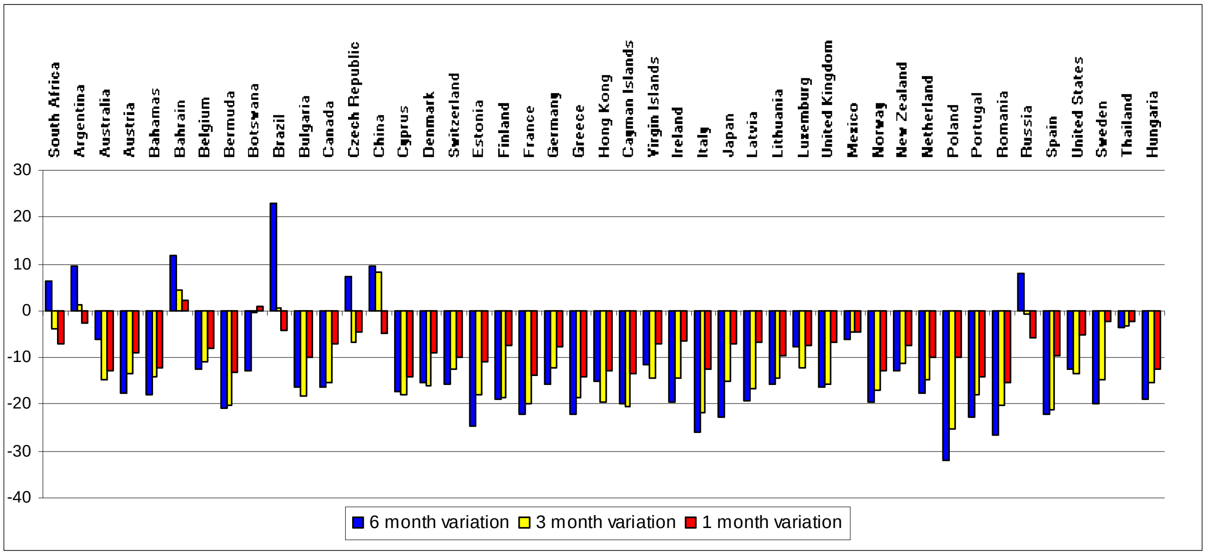
The subprime crisis extended at international level, following two main directions: the credit crunch and the capital markets turmoil. In our study we analyse the contagion phenomenon on the stock markets, trying to find out the reason for which the stock markets were differently affected around the world. Our analysis is similar to the Balit Moussalli's (2007) who studied the different impact of the Asian crisis.

Up to now, the impact of the crisis on the real economy is not so evident. That is why the specialists speak about a paradox of the actual crisis [Riskbank, (2007); Landau, (2007); Noyer, (2007)]. Any employed indicator (spread or volatility) shows that the shock on the credit markets and on the stock exchange is important and the losses are considerable. However, these spectacularly losses incurred by some companies, do not appear like a major threat to financial stability.

The international financial crisis was amplified by the loss of investors' confidence and by the speculation process. We consider that the financial system learned to respond to the financial turbulences and the effects of the crisis are delayed. The losses incurred will have an important impact upon the real economy, but it is difficult to forecast when the end of the crisis occurs.

Before we proceed to the analysis of the factors which contribute to a different propagation of the crisis in the stock markets, we will show that we are crossing a global financial crisis. The analysis is made in February 2008, six month after the start of the subprime crisis. For demonstrating that the stock market crisis has an international extension, we have used *Infinancials* data for 45 countries (more than 20.000 listed companies, grouped in 18 industrial sectors). The stock price at 6 months drops for the large majority of the countries, except for several emerging economies. However, at the beginning of 2008, only the stock market in Bahrain knew a slight increase. In all the other markets, the stock prices decreased. In order to obtain a robust analysis, we have worked with the average stock prices variation, for all the companies listed, but also for the 10 largest companies. We also performed the analysis for the stock market representative index. The results of the two last analyses are similar to the first one.

That is why we present in the following graph the stock prices evolution for all the listed companies (Figure 1).

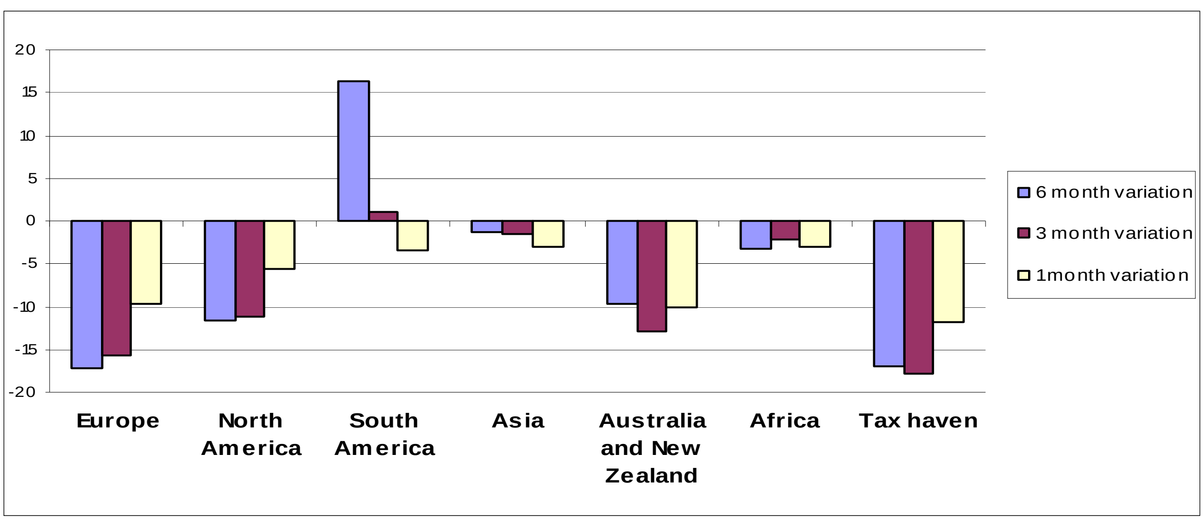


Source: INFINANCIALS database

Figure 1: Average stock prices evolution for all the listed companies

Figure 1 shows that only five emerging countries (Brazil, Argentine, China, Russia and South Africa) recorded a positive evolution of the stock prices at six months. Czech Republic joins this group, being the single European country which was not severely affected by the contagion phenomenon (the investors' anticipations had an important role in this case). However, in 2008 all this countries were touched by the crisis.

Analysing Figure 1 we can see that the impact of the crisis in not similar among the countries taken into account. In order to identify the geographic zones which were more affected, we grouped the countries by continent (the tax heaven formed a distinctive group).



Source: INFINANCIALS database

Figure 2: Average stock prices evolution by continent

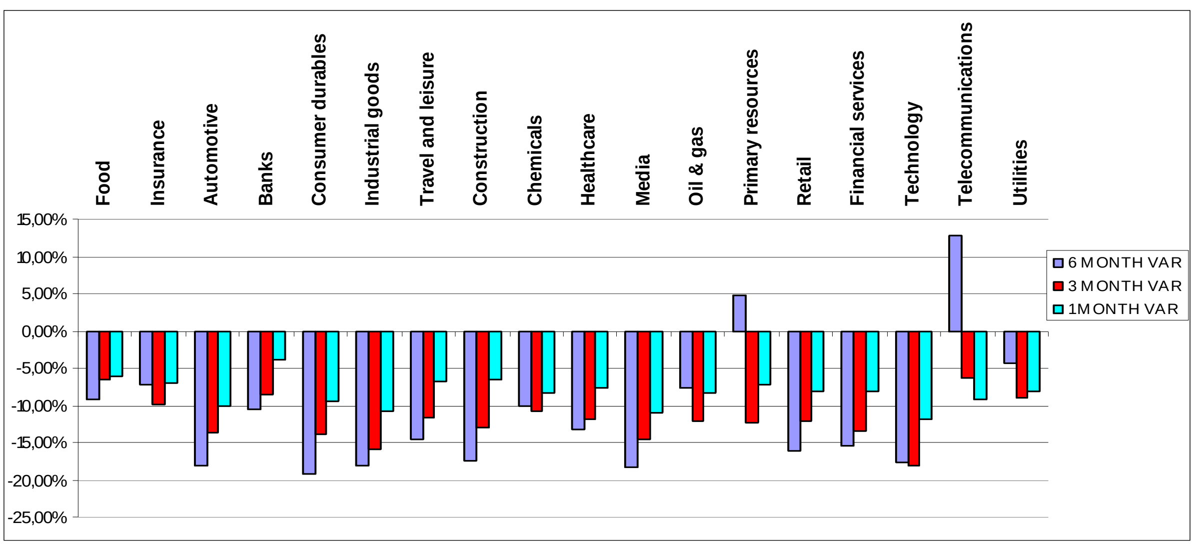
Up to now, we showed that the international capital markets experience a severe crisis. In the rest of the paper we try to identify the factors which led to a different propagation of the crisis, taking into account the countries' industrial profile.

3. The industrial profile and the crisis impact

In our previous paper [Albulescu, (2008)], we focused on the relation between the evolution of the companies' financial situation and the evolution of the stock prices, in the context of the capital markets global crisis. We found out that there is no relation between these two variables. Apparently, it seems that the evolution of the macroeconomic context of the countries does not represent either a viable response (i.e. Poland and Romania were strongly affected by the capital market crisis but their economic situation improved during the last years). It appears that a strong price correction took place on the stock exchange which recorded a price increased above the average.

These explanations are not completely satisfactory; that is why we proceed to a supplementary analysis – we investigate the stock price evolution by industrial sector in order to make a comparison with the industrial profile of the analysed countries[2]. The 18 industrial sectors are: food, insurances, automotive, banks, consumer durables goods, industrial goods, travel & leisure, construction, chemicals, healthcare, media, oil & gas, primary resources, retail, financial services, technology, telecommunications, utilities.

If we inspect the stock price evolution by sectors (Figure 3), we can observe that for all the sectors the average stock prices recorded negative evolutions at 3 months, respectively at 1 month (corresponding to 2008). The actual level of the stock prices, as compared with the prices level from 6 months ago, shows that the trend was favourable only for two sectors (primary resources and telecommunications). The industries of automobiles, consumer durables and industrial goods, media and technology, were the most affected. Taking into consideration the fact that the crisis initially emerged in the financial sectors (banks, financial services and insurances), we expected that these industries will be the most touched by the stock market crisis.

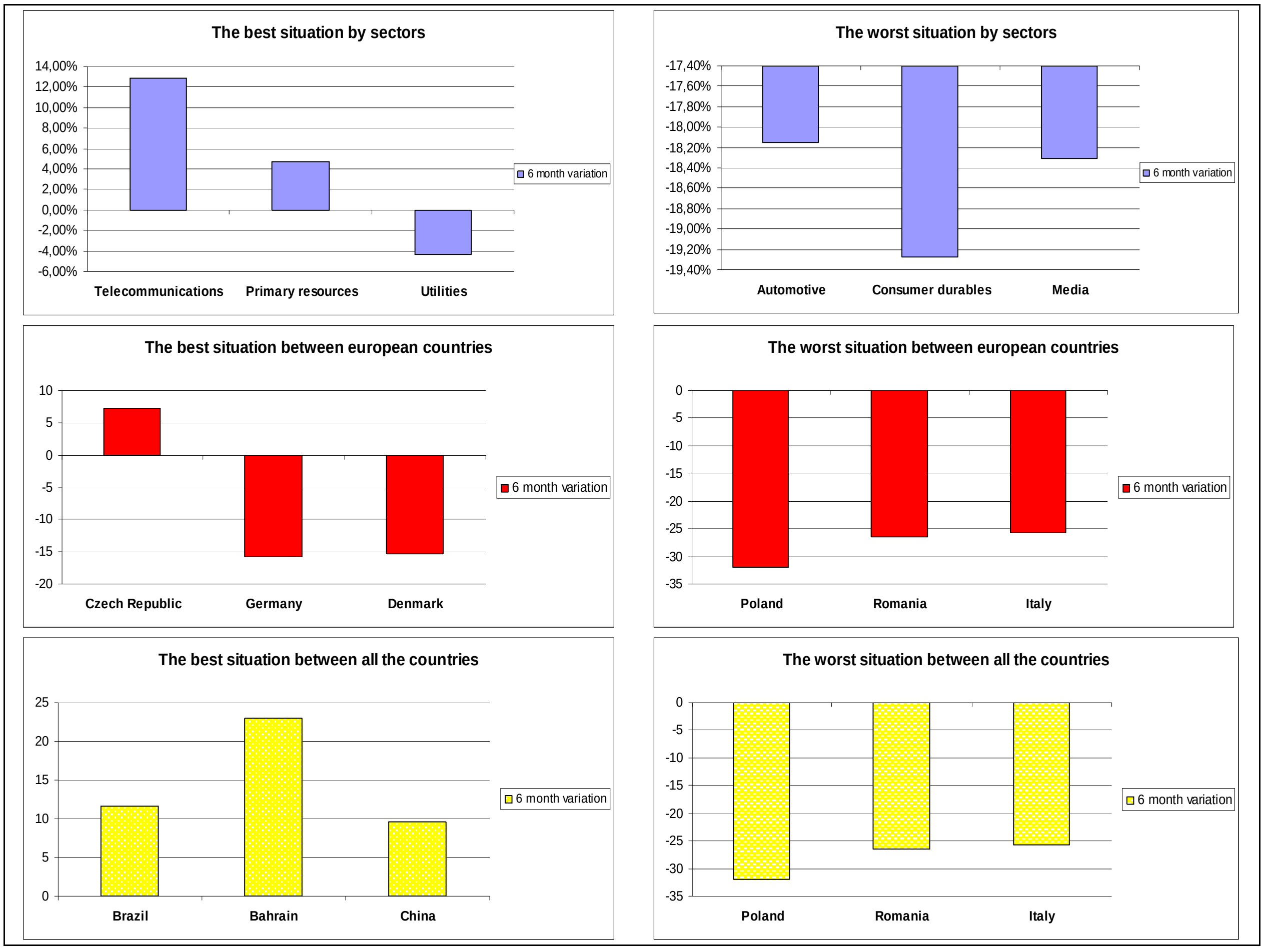


Source: INFINANCIALS database

[2] In *Global Europe Anticipation Bulletin* [GEAB, (2006)], the specialists estimated the sectors which will be the most affected by the crisis: international trade, exchange market, financial sector and energetic sector.

Figure 3: Average stock prices evolution by industrial sectors

We proceed now to a comparison between the countries and the sectors that were the most affected, and those that were less influenced by the crisis. In order to do that, we have built Figure 4.



Source: INFINANCIALS database

Figure 4: Comparison between the impact of the crisis at country level and at sectoral level

Because the 6 month variation is the most representative to monitor the stock price dynamics, we present only these data. Several findings can be highlighted after analysing Figure 4. Firstly, the financial sectors are not the most exposed to the stock market crisis. The most affected industrial sectors are the consumer durable goods, automotive sector and media. On the contrary, the less affected sectors are the telecommunications and the primary resources. Secondly, if we look now to the countries that were the most affected by the crisis, these are the three European countries: Poland, Romania and Italy. The less affected between all the analysed countries is Bahrain (a tax heaven country[3]), Brazil and China (two emerging countries). In Europe, Denmark and Germany stock exchanges suffered the smallest losses, which were,

[3] Figure 2 shows that the tax heaven countries were severely affected by the stock prices crisis. Bahrain represents an exception.

however, significant (–15% of the market capitalisation at 6 months). The Czech Republic is the single European country which was not touched by the crisis at the beginning of 2008.

Analysing the industrial profile of these countries, we reach two conclusions. The primary resources sector is important in the emerging countries, and the telecommunication industry develops quickly. Taking into consideration the fact that these two sectors were less affected by the crisis, we may find an explanation related to its impact. But if we look only to the European countries, the reasoning fails. The automotive sectors and media (the most affected by the stock market crisis) are well developed in the European industrialised countries like Germany and Denmark. The automobile industry is well developed in Czech Republic also. If we look at Romania and Poland we see that the primary resources sector has a significant presence in these countries. Moreover, the durable goods sector is also strong because the transition imposed a "catching–up" process related to life quality in these countries.

These findings show that there is a connection between the industrial profile and the crisis impact on the capital market, but this relation does not apply for the European countries. It is difficult to defend the idea that the industrial profile of the country is responsible for the different impact of the global capital market crisis in all the countries. The development of the capital markets and the previous sharp increase of the stock prices seem the most plausible elements to explain the different impact of the crisis.

4. Conclusion

The first financial crisis of the 21st century is characterized by esoteric instruments, unaware regulators and skittish investors [Reinhart, and Rogoff, (2008)]. The authorities accepted the severity of the crisis too late and their intervention was hesitant. The recent turmoil highlighted the phenomena of spillover between countries and financial markets [de Rato, (2007)].

The subprime crisis represented the starting point for the global credit crisis and international capital market crisis. In this study we have analysed the stock market crisis and the factors which contributed to a different impact of the crisis upon the stock exchange markets all over the world. In a recent study we have showed that there is no relation between the financial situation of listed companies and the evolution of the stock prices. In this paper we investigate the relation between the countries' industrial profile and the stock prices drop.

The first conclusion is that all the countries and all the sectors were affected by the international capital market crisis. Another conclusion is that the European countries recorded important falls of the stock prices. A third conclusion is related to the most and to the less affected sectors: the consumer durable goods, the automotive sector and media experienced a severe correction of the stock prices, whereas the telecommunications and the primary resources sectors were less affected (see Figure 4 which presents the stock price variation at 6 months). The most important conclusion is that the industrial profile of the countries led to a different impact of the crisis, but this assertion is not valid for the European countries as an individual group. The correction of the sharp increase of the stock prices explains better the crisis different effects.

The economic consequences of the crisis are not well known at present. The first estimation related to the subprime crisis was optimistic: "*The fundamentals remain robust, the profits of the companies, banks, and financial institutions are high and the economic growth prospect is good*" [Banque de France, (2007)]. Likewise, Buiter (2007) observes a sign of economic stabilization towards the second half of 2008. These signs are represented by the action of major banks related to the inclusion of the off balance sheet elements into their balance sheet. Besides, the liquidities of high savings countries like the countries of the Gulf Region, China and Russia were oriented towards the financial markets severely affected by the crisis. Many American banks were rescued by the sovereign funds from the emerging markets. This situation also leads to a change in the diplomatic and political relationship at international level.

But, at the end of 2007, the financial indicators deteriorated and the investor's confidence consequently declined. The specialists of Riksbank (2007) consider that the main threat to the economic development is represented by the real estate situation in the United States. GEAB (2008) foresaw that the American economy will enter into recession.

We consider that the international financial crisis will continue. The financial market crisis has already been followed by important frictions on the foreign exchange market. The real estate market is also fragile in many countries. If the United States economy enters into recession, the impact of the crisis amplifies at global level. Taking into account the fact that the main central banks proceeded to a monetary tightening, the probability of a global recession is considerably high.

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