The Financial System of the New EU Member States: Experiences and Current Challenges

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The current financial crisis has had a severe impact on the European financial systems, reinforcing the ongoing discussion about the scale, scope, performance, safety and soundness of the financial system and its institutions. In this context, the purpose of this research is to highlight, using an empirical approach and a quantitative analysis, the vulnerabilities accumulated by the financial systems from the new EU member states (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania) during the period before the current global economic crisis broke out and to emphasize the extremely serious consequences of the current crisis on their financial systems, the interaction between the financial sector and the real economy, the measures taken by the authorities in order to avoid the collapse of financial systems, as well as the new challenges aroused for the authorities in the current context. Finally, we argue then that building a safer financial system with better crisis management and a compelling solution for burden-sharing should be the current priority.

Keywords: financial system, banking sector, credit growth, capital market, new EU member states, financial crisis
Introduction

From the beginning of the 1990s, change in the European financial system was driven by the forces of deregulation, financial integration and financial innovation. The deregulation process has not only removed the geographical barriers but also has blurred the line that existed between the banking sector and the other financial sectors, especially as a result of the legislative changes that allowed the large scale adoption of the universal banking model. These changes affected not only the financial systems from the US or Western Europe but also the ones from the emerging markets of the new EU member states.

The financial integration process, either regional or global, allowed financial institutions to extend their businesses in new markets as entering barriers were removed and the legislative framework became more harmonised. The entering of foreign financial institutions on national financial systems, determined an increase of the completion level, as these new entrants benefited from superior know-how, better risks management models and optimal organizational schemes, which in term allowed a better allocation of financial resources.

Until the first part of 2007 the general consensus was that the high-performing financial systems, which benefited from excessive capital, presumably state-of-the-art risk management schemes and a market-based regulatory system, will be able to provide finance to investments at the same historically low interest rates which were previously achieved. However, since the beginning of the financial turmoil the global financial system has registered a series of consecutive set-backs, losing its fast growing pace, high profitability margins, its dynamic and especially its drive to innovation. Many financial institutions have suffered large loses as the events of the financial crisis unfolded, some of them going into bankruptcy while other applying large restructuration schemes and struggling to raise additional capital, either privately or through various governmental bailouts programs. These events have triggered vivid discussions in the academic world regarding the scale, scope, performance, governance, safety and soundness of the financial system and its institutions.
In this context, the purpose of this research is to highlight the vulnerabilities accumulated by the financial systems from 8 new EU member states (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania) during the period before the current global economic crisis broke out. These accumulated major imbalances, along with external factors, have led to extremely serious consequences for the economic and financial environment from those countries. Thus, our paper aims to underline the major importance for a sustainable functioning of the banking sector and capital market, as well as the emerging challenges for financial and monetary authorities, from national, European and international level.

To achieve this purpose, we consider a comparative analysis of the imbalances accumulated in the financial and banking systems from the analyzed countries. Thus, the first part of our research contains introduction remarks regarding the importance and relevance of the approached theme; the second part is dedicated to an extended literature review which summarizes the main researches undertaken so far on this subject, pointing out their conclusions and limits; the third part highlights the particularities regarding the development of the financial systems from the 8 new EU member states taken under study; part fourth contains an analysis regarding the dynamics of the banking lending activity from the analyzed countries and the implications of the current global crisis; while the fifth part emphasizes the impact of the current crisis on the capital markets from the analyzed countries, using an empirical approach and a quantitative analysis; part sixth provides an overview of the measures undertaken by the authorities from the states considered in order to sustain their banking and capital market sectors; while the final part provides the concluding remarks.

The methodological approach used in order to develop this paper starts with a literature review, which establishes the role and the place of this research. Thus, we have indentified the main studies from this field, the way that they are dealing with this matter, the methodology used and nevertheless the limits of their conclusions. The analysis undertaken in our research is based on the official statistics of the central banks from the analyzed states, official statistics of the Eurostat, IMF, World Bank, different reports, studies and researches. As a method of data analysis we have used systematization techniques and also a series of various indexes and
indicators. The usage of these methods has been materialized in a series of comparative tables and graphics showing the imbalances accumulated in the financial systems from the analyzed countries, the limited efficiency of the measures adopted by the authorities in order to correct them, as well as the implications of the current global crisis on the banking sector and the capital market from the countries included in our sample.

**Theoretical background and literature review**

The financial system, represented by the complex of financial markets, intermediaries and infrastructures through which firms, households and governments, on the one hand, acquire the resources necessary for their activity and, on the other hand, invest their savings [1], has a vital role for the real economy, ensuring the economic growth through its main functions, namely: the dissemination of information on potential investment opportunities and capital allocation; the enabling of trading; and the capacity to mobilize and pool savings and to ease the exchange of goods and services [2].

A series of theoretical and empirical studies have highlighted the strong correlation between the functioning of the financial system and the long-term economic growth ([3], [4], [5], [6], [7]). Thus, this studies emphasis that the healthy functioning of the financial system contributes to the economic growth by ensuring the financing of the best investment opportunities, promoting the accumulation of capital and improving risk sharing. The performances of a financial system are assessed in terms of two dimensions, its efficiency and stability, which directly influence the real economy performance (see figure 1).

In turn, the efficiency and the stability of the financial system are significantly influenced by financial integration and financial development. In this respect, financial integration leads to increased competition between financial intermediaries, creates economies of scale, increases the overall market’s liquidity and improves the scope for diversification and risk sharing [8].


Regarding the financial development, [1] considers that it refers to the process of financial innovation as well as institutional and organizational improvements in a financial system that reduce asymmetric information, increase the completeness of markets, add possibilities for agents to engage
in financial transactions through (explicit or implicit) contracts, reduce transaction costs and increase competition, and in order to measure the degree of domestic financial development, [9] constructed a composite normalized index, which includes three dimensions: the institutional dimension, size and access to finance and financial market performances.

In this context, taking into account the increasing degree of financial integration and the central role played by financial systems in modern economies, the insurance of the financial system stability becomes an issue of utmost importance, contributing significantly to achieving a stable and sustainable economic growth.

In general, most of the studies undertaken on the subject regarding the importance of ensuring the stability of the financial systems and the impact of the current financial crisis tend to be focused on the US or the European Union as a whole, and to a lesser extent take into consideration the particular case of the states from Central and Eastern Europe, an exception to this being for example the studies of [10] and [11]. In their research [10] are first assessing the strengths and vulnerabilities of the banking sectors from the CESEE states before the beginning of the financial crisis. Afterwards, the paper finds that, since the crisis has started to impact the CESEE, the developments in this region have been rather heterogeneous, the countries with the largest economic imbalances tending to be the most affected. In a different approach, [11] undertake a comparative analysis regarding the impact of the global financial crisis between CESEE states and the ones from Latin America underling that even if initially both regions were surprisingly resilient to the crisis, afterwards both were severally affected by the sharp retrenchment in capital inflows and the decline of the global demand. Therefore, taking into consideration the reduced number of studies regarding the effects of the global crisis on the CEE states, our research could represent another step towards the possibility of filling this gap, by focusing on the vulnerabilities and the challenges of the main components of their financial systems: the banking sector and the capital market.
Main features of the financial system from the analyzed countries

Most of the analyzed countries have registered, over the past two decades, significant transformations regarding their financial development. In this respect, an evidence of the progresses achieved so far is given by the indicators computed by the EBRD that evaluate the banking reform and interest rate liberalization as well as the securities markets and non-bank financial institutions reform, highlighting major progresses regarding the financial institutional reform (see table 1).

Notwithstanding, over the last years, it can be noted in the majority of the analyzed countries a stagnation of the reforms or a slower progress of them, pointed out by the values of the financial system reform indicators. Hence, for example, despite the problems faced by the financial systems of most studied countries, in 2010 EBRD indicators have not registered significant changes, with the exception of the particular situations from Hungary and Poland (see table 1). In the case of Hungary, the financial system reform indicator has recorded a downgrade as a result of the adoption by the Hungarian government of a “financial activities tax” on financial and banking activities. Comparatively, Poland received an upgrade in this indicator because of the successful introduction of a new bond trading platform, an innovation that is expected to stimulate the development of local capital markets [12].

A significant feature of the financial system from the studied countries is represented by the dominance of the banking sector, which can be evidenced by the share of bank assets in total financial institutions assets (see figure 2). In this context, it can be appreciated that the stability and efficiency of the banking sector is an essential precondition for the states’ sustainable economic development as well as for the insurance of a proper conduct of the nominal and real convergence process. In addition, a sound and competitive banking sector allows the efficient transmission of monetary policy impulses to the real economy and thereby contributes to achieving the fundamental objective of the central banks from the analyzed countries, namely to ensure and maintain price stability.
Table 1: The evaluation of the financial sector reform based on the EBRD* index in the case of the analyzed countries

<table>
<thead>
<tr>
<th>Banki</th>
<th>Securities markets and non-bank financial institutions reform indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reform indicator</td>
<td>indicator</td>
</tr>
<tr>
<td>Banking liberalisation</td>
<td></td>
</tr>
<tr>
<td>HU</td>
<td>LV</td>
</tr>
<tr>
<td>1990</td>
<td>1.0</td>
</tr>
<tr>
<td>1995</td>
<td>3.0</td>
</tr>
<tr>
<td>2000</td>
<td>2.6</td>
</tr>
<tr>
<td>2005</td>
<td>3.0</td>
</tr>
<tr>
<td>2006</td>
<td>3.0</td>
</tr>
<tr>
<td>2007</td>
<td>3.3</td>
</tr>
<tr>
<td>2008</td>
<td>3.3</td>
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<tr>
<td>2009</td>
<td>3.3</td>
</tr>
<tr>
<td>2010</td>
<td>3.3</td>
</tr>
<tr>
<td>Source: data centralized based on [12], [13] and [14]</td>
<td></td>
</tr>
</tbody>
</table>

* The values of the indicators are between 1 and 4+, where 1 means little progress in the reform of the financial system. For banking sector reform, 4+ represents full convergence of banking laws and regulations with BIS standards and a full set of competitive banking services. For securities markets and non-bank financial institutions, 4+ represents full convergence of securities laws and regulations with IOSCO (The International Organization of Securities Commissions) standards, and fully developed non-bank intermediation.
Regarding the banking sector of the analysed countries an important structural change that was registered in the analysed banking sectors is represented by the presence of a high number of foreign owned banks which have contributed to the enhancement of the financial integration process of these countries. The quick liberalisation of the internal market and the opening of the capital accounts have attracted important capital flows and a rapid growth of the foreign banks presence, which now have a dominant position on these national markets, especially in the case of Estonia, Lithuania, the Czech Republic, Romania and Bulgaria (see figure 3).

The presence of foreign banks has brought a series of advantages for the host countries, through the diversification of the product lines offered and the raise of their quality, the significant expansion of the lending process focused especially on the private sector of the host country, a better management of the banking risks, an efficiency enhancement of the banking activity and nevertheless the facilitation of the access of enterprises and individuals to external financing options. But, alongside these advantages,
the presence of foreign banks possess a significant risks for contagion, proven by the current international crisis. We consideration here the turbulences that arouse on the foreign developed bank markets and which were propagated also in the banking sectors of the analyzed countries.

**Figure 3: Market share of foreign owned banks (% of total assets)**

Another feature of the examined countries banking market is the concentration level measured by the share of total assets of the five largest credit institutions (see figure 4). In all countries surveyed with the exception of Poland, the first five credit institutions hold more than 50% of total banking assets. In Poland's case the degree of concentration is significantly lower which means a higher competition among banks, while a opposite situation is found in Estonia where, due to the much smaller size of the banking market, the degree of concentration is over 90%.
The structural changes which have been registered in the banking systems of the analyzed countries have determined a fast financial development of these states. Thus, if we take a look at the financial intermediation index, we can see a significant raise of this indicator in the analyzed countries in 2008 from 2005, despite the fact that these values are still below the EU-27 and the euro zone average (see figure 5). Such a development underlines the growth potential that these banking markets have. Taking into account the period prior to the financial crisis, between 2005 and 2008, we can see that the sharpest growth, with over 30%, of this index was obtained by Romania, Bulgaria, Hungary and Lithuania. Two digits growth rates have been registered also by Estonia and Latvia, while in the case of the Czech Republic and Poland the growth was more moderate, with a increase of 4.08%, respectively 8.37%. In 2009 the increase of the banks actives in GDP can be attributed to the strong contraction of the GDP as a result of the economic recession that characterized most of the analyzed countries.

**Source:** [15]

**Figure 4:** Competition measures by share of total assets of the five largest credit institutions
The second important component of the financial systems of the analyzed countries is represented by the capital market. Despite having a secondary role in the financing of the economy, the capital markets of the analyzed countries have gone through a sustained development in the period before the unfolding of the financial and economic crisis.

Their development has been triggered by the transition process from a centralized to a market economy and especially as a result of the privatization process which has been taking place since 1990, being sustained afterwards by the European integration process which imposed the stabilization of the macroeconomic environment and the openness of these countries to foreign investors. As we can see from figure 6 the capitalization ratio of the listed companies in GDP was on an upward trend in all the analyzed countries before the financial crisis and registered a backlash as the financial and economic crisis unfolded.

Source: Own simulation based on the data provided by [15]

Figure 5: Evolution of the financial intermediation between 2005 and 2009
In regard to the number of domestic listed companies (see figure 7), most of the analyzed countries have below one hundred listed companies except for Bulgaria and Poland. In the case of the Baltic States, Hungary and the Czech Republic, the low number of listed companies can be attributed to the relative small size of the countries, while in the case of Romania this fact is more related with the relative low development of the economy and the low number of listed state owned companies.

If we link the data from figure 6 and figure 7 it becomes also evident that Poland has the most advanced capital market from all the analyzed countries, as it has the most number of listed companies with the highest capitalization. In the case of Bulgaria, despite of a large number of listed companies, their capitalization is very low. On the contrary, in the case of the Czech Republic the small numbers of listed companies tend to be very well capitalized.

Probably the most important indicator of the capital markets efficiency is represented by the ratio of total trades in GDP (see figure 8). Despite the financial and economic crisis, Poland, Hungary and the Czech Republic all have relatively high liquid stock markets.
By comparison, the Baltic States have rather a low liquidity on their stock markets, this being partially attributed also to the low number of listed companies and to the relatively low capitalisation of the market. In contrast to this, the low liquidity of the Bulgarian and Romanian capital markets highlights the rather conventional set-up of the activities, in the case of Bulgaria and the low diversity in investment opportunities in the case of Romania.

Taking into account the presented data, we can conclude that the financial systems from the analyzed countries have gone through a period of strong development prior to the financial and economic crisis. Their financial systems are all banked based, as the capital market has known a period of slow development at the beginning of the 1990 as a result of the slow reform and privatization process and also because of the lack of informed national investors. Despite their sustained development, the capital market never actually managed to grow close in importance to the banking sector.
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Source: Own simulation based on the data provided by the [15] and [16]

Figure 8: The ratio of total volume of trades in GDP between 2005 and 2009

Thus we can affirm that the future development of these countries depend in great measure on the efficiency of their banking sectors and also on the ability to transform their capital markets in functional systems which would provide a real alternative for the finance of the economy.

The banking loans rapid growth and the implications of the current global crisis

One of the most significant events that marked the analyzed country’s banking sector is the extremely high dynamic (expressed by two digits) of the credit granted to the economy (see figure 9). A particular situation has been registered in Romania and the Baltic countries, where the growth of the credit granted to the economy was on average of more than 50%, respectively over 42%, during 2005-2008.
Figure 9: The evolution of the loans granted by credit institutions to the economy (non-financial corporations and households), between 2005 and 2008* (percent change from a year earlier)

Source: Own simulation based on the data provided by [15] and [25]

The sharp increase of the lending process can be highlighted also through the ratio between the value of the granted credits and the value of the attracted deposits (see figure 10), which in the case of most analyzed countries is at over 100%. This high level underlines a significant development at the national level of the lending process in comparison with the level of attracted deposits, especially in the case of the Baltic counties and Hungary. Such a development was possible through external financing at very low interest rates, as international markets were characterized by abundant and cheap liquidities and a relatively facile access to lending opportunities. By comparison, in the case of the Czech Republic, this ratio is well below 100%, which underlines a financing strategy of the banks present in this country based on the attraction of deposits. As a result of this, the Czech banks had a lending policy which didn’t depend very much on their ability to obtain foreign financial resources.
In most of the analyzed countries, the significant increase of the loans granted to economy was the result of a very pronounced increase of the loans granted to households (see figure 11), especially in Romania, the Baltic countries and Bulgaria. In the case of these countries, the increase was on average of more than 70%, 46% and 43.24% during 2005-2008.

In this context, the loans granted to households were the main driver of the accelerated dynamic of the loans granted to economy. It is also noteworthy that in the case of most countries, the loans granted to households have increased more rapidly than the ones granted to non-financial corporations.

Regarding the structure of the loans granted to households, can be noted in 2008, the share of over 50% of the loans for housing purchase in most countries, with the exception of Romania and Bulgaria (see figure 12). However, Romania is significantly detached from the other countries through the large share of consumer credit (74.29%), which emphasizes the population low standard of living. Another outstanding trend is represented by the rapid pace of the increase of loans granted for housing purchase in 2008 compared to 2005 (see figure 12), especially in Romania (with approximately 60%) and in Bulgaria (with 51%).
Figure 11: The evolution of the loans granted to non-financial corporations and households, between 2005 and 2008

Source: Own simulation based on the data provided by [15] and [25]

Note: 1 - refers to the year 2005; 2 - refers to the year 2008

Source: Own simulation based on the data provided by [15]

Figure 12: The structure of households’ credit portfolio according to destination in 2005 and 2008
Another significant feature of the loans granted to households is given by the high share of foreign currency-denominated loans in housing loan portfolio (see figure 13). In all the analyzed countries, except for Bulgaria, the share of these loans is over 60%. In this respect, extremely high shares, namely over 90% were registered in Latvia, Romania and Estonia, thus increasing significantly the exposure of the households to the national currency depreciation risk. By contrast, in Czech Republic the foreign currency lending of households is almost inexistent (below 1%) and is therefore not reflected in the figure below. The high share of the foreign currency-denominated loans in the housing loan portfolio and the risks involved determined certain reactions of the authorities. For example, in Hungary, in August 2010, the Parliament adopted a regulation that has banned the granting of this type of loan.

Source: [18]

**Figure 13:** Share of foreign currency-denominated loans in housing loan portfolio in the analyzed countries, between 2005 and 2009

The extremely accelerated dynamic of the loans granted to the economy, and especially of the loans grater to households, has driven major imbalances materialized especially in the huge growth of the housing price, increased consumption and sharp deterioration of the current account balance (see figure 14). Also, in most of the analyzed countries were recorded extremely high ratios (expressed by two digits) of the current
account deficit in GDP. Thus, in 2005-2008, the average ratio of the current account deficit in GDP stood at more than 20% in Bulgaria, over 17% in Latvia, more than 13% in Estonia and over 11% in Lithuania and Romania.

**2005-2008 avg (as percentage in GDP)**

*Source: Own simulation based on the data provided by [19]*

**Figure 14:** The evolution of the current account balance, between 2005 and 2008*

The extremely rapid growth of the granted credits and the financial and macroeconomic imbalances involved had determined a reaction from the supervisory authorities and the central banks. Among the measures most commonly adopted by the monetary authorities of the analyzed countries we can mention those included in the category of “moral suasion”. These measures have materialized in improved communication by central banks of the risks related to rapid credit growth, especially through Financial Stability Reports and recommendations made by prudential supervisors aiming to increase banks’ risk awareness [20]. In some countries, particularly in Bulgaria and Romania, the monetary authorities have responded through the use of indirect monetary policies tools (like, minimum banking reserve requirements and the adjustment of the monetary policy interest rate) and also measure of management nature, such as introducing some crediting limits and limits to loans expressed in foreign currencies [21]. However, the impact of these measures has been limited, mainly due to possibility of non-financial corporations to borrow directly from abroad and from non-bank financial institutions.
The current global economic crisis stopped the extremely high increases (expressed by two-digit rates) of the loans granted by various credit institutions. As a result of the economic downturn and implicitly of the consumption reduction, but also of some significant cross-border outflows, in 2009 has been registered a significant decrease in the growth rate of the loans granted to the economy (see table 2). Unlike Poland, the Czech Republic and Bulgaria where the growth rate although it has decreased remained positive, in the case of the other countries, especially in Lithuania and Romania, the bank loan market collapsed (see table 2), as a result of the rapid and significant restraining both of the supply and of the demand for loans. Regarding the structure of the credit portfolio in terms of beneficiaries, it can be noted in most of the studied countries a more pronounced decline of the loans granted to non-financial corporate loans than of the loans granted to households (see table 2), with the exception of Romania, where as a result of the significant growth of the unemployment rate, the uncertainty about the prospects for the economy and the austerity measures adopted by the government, banks are more reluctant in lending to the households.

**Table 2**: The evolution of the loans granted to the economy in the analyzed countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Loans growth in % year on year</th>
<th>Growth in loans granted to non-financial corporations (in % year on year)</th>
<th>Growth in loans granted to households (in % year on year)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2008</td>
<td>2009</td>
<td>2008</td>
</tr>
<tr>
<td>BG</td>
<td>31.87</td>
<td>3.60</td>
<td>32.15</td>
</tr>
<tr>
<td>CZ</td>
<td>17.22</td>
<td>4.10</td>
<td>14.89</td>
</tr>
<tr>
<td>EE</td>
<td>8.87</td>
<td>-3.95</td>
<td>6.72</td>
</tr>
<tr>
<td>HU</td>
<td>14.85</td>
<td>-2.32</td>
<td>7.28</td>
</tr>
<tr>
<td>LV</td>
<td>11.62</td>
<td>-5.65</td>
<td>17.95</td>
</tr>
<tr>
<td>LT</td>
<td>18.26</td>
<td>-7.00</td>
<td>16.36</td>
</tr>
<tr>
<td>PL</td>
<td>19.90</td>
<td>7.37</td>
<td>12.18</td>
</tr>
<tr>
<td>RO</td>
<td>20.43</td>
<td>-3.54</td>
<td>16.36</td>
</tr>
</tbody>
</table>

*Source: Own simulation based on data provided by [15].*
The pronounced reduction of the bank lending activity has had significant implications for the housing market, leading to a dramatic decrease in housing prices, especially in the Baltic countries (see figure 15). In this context, the value of the real estate’s put as collateral for the already granted credits has dropped, leading to an accumulation of risks which could affect the stability of the financial system.

![Figure 15: Variation of housing price before and after the crisis (percentage points)](image)

Source: [17]

Another direct consequence of the current severe crisis on the banking credit activity from the analyzed countries is represented by the significant deterioration of the quality of the banks credits portfolio starting with 2009. As a result of the economic downturn, the raise of the unemployment rate, the diminishing of the households incomes and the depreciation of some national currency from the analyzed states, the banks have registered an increase in the ratio of non-performing loans (see table 3), especially in Latvia, Lithuania and Romania. In this context the banks being forced to create additional provisions which had an important impact on their profitability. Thus, the profitability indicators were substantially depreciated, especially in the Baltic States. It is remarkably that, despite these evolutions, the capital adequacy index has registered a value above the
minimal requirements of the European and international regulations (of 8%) in all the analyzed states.

Table 3: Capital adequacy index and the indicators of banking sector soundness¹

<table>
<thead>
<tr>
<th></th>
<th>Bank non-performing loans to total loans</th>
<th>ROA</th>
<th>ROE</th>
<th>Capital adequacy (% of risk weighted assets)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BG</td>
<td>2.5</td>
<td>6.4</td>
<td>11.9</td>
<td>2.1</td>
</tr>
<tr>
<td>CZ</td>
<td>3.3</td>
<td>5.4</td>
<td>6.6</td>
<td>1.2</td>
</tr>
<tr>
<td>EE</td>
<td>1.9</td>
<td>5.2</td>
<td>5.4</td>
<td>1.2</td>
</tr>
<tr>
<td>HU</td>
<td>3.0</td>
<td>6.7</td>
<td>9.1</td>
<td>0.8</td>
</tr>
<tr>
<td>LV</td>
<td>3.6</td>
<td>16.4</td>
<td>19.0</td>
<td>0.3</td>
</tr>
<tr>
<td>LT</td>
<td>4.6</td>
<td>19.3</td>
<td>19.7</td>
<td>1.0</td>
</tr>
<tr>
<td>PL</td>
<td>4.5</td>
<td>8.0</td>
<td>8.8</td>
<td>1.5</td>
</tr>
<tr>
<td>RO</td>
<td>2.8</td>
<td>7.9</td>
<td>11.9</td>
<td>1.6</td>
</tr>
</tbody>
</table>

¹BG, EE, HU, LV, LT, PL, RO – December; CZ – September  
Source: [22]

The impact of the current financial and economic crisis on the capital markets from the analyzed countries

The current financial crisis has represented a good opportunity to test the maturity degree of the Central and Eastern Europe capital markets, especially taking into account the sustained growth that they have registered in the last ten years. Thus, in order to illustrate the evolutions of the analyzed capital markets we have taken a look at the evolution of their main indexes during the unfolding of the financial crisis and its aftermath events, using as a benchmark the date of 1st of January 2006, almost one year and a half before the economic downturn.

We can observe from figure 16 that between 2006 and 2008 the analyzed markets have registered a correlated evolution, caused especially by the economic and political changes that took place in these countries and
which provided some degree of economic stability, thus attracting a multitude of foreign investors. We can note that the Bucharest Stock Exchange has registered the highest growth rate in this period from all the analyzed stock markets.

**Figure 16:** The evolution of the main indexes of the stock exchanges from the analyzed countries for the period January 1, 2006 to January 31, 2011 (daily values)

The subsequently decline registered by these stock markets was also correlated, as foreign investors, alarmed by the developments that took place on the American stock markets and on the major European ones, reduced their presence in emerging markets as a precautionary method to avoid further losses. This has led to the fact that despite an economic and financial climate which wasn’t yet hit by the global financial crisis, the stock exchanges from these countries have registered substantial losses. Another factor that came into play was the fact that these markets had a relatively medium to low degree of liquidity, which meant that significant sell orders couldn’t be traded unless the price was severally reduced. The massive liquidation of portfolios undertaken by the foreign investors also inhibited regional and local investors which in turn drove prices even lower. The
The deepest fall of the index was registered by the SOFIX Index, with a drop of almost 85% percent, followed by the BET with a 72% drop, while the other markets registered a slightly lower fluctuation during the crisis.

The almost perfect correlation that existed between the analyzed stock markets before and during the first stages of the financial crisis is underlined in Table 4, which highlights a correlation of over 0.90 between these markets in the period from January 1st 2006 to July 1st 2008.

**Table 4:** The correlation matrix of the main indices of the stock exchanges from the analyzed countries for the period 1 January 2006 to 31 December 2009

<table>
<thead>
<tr>
<th></th>
<th>BET</th>
<th>BUx</th>
<th>WIG20</th>
<th>PX</th>
<th>OMXN40</th>
<th>SOFIX</th>
</tr>
</thead>
<tbody>
<tr>
<td>BET</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BUx</td>
<td>0.9434</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WIG20</td>
<td>0.9643</td>
<td>0.9363</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PX</td>
<td>0.9655</td>
<td>0.9572</td>
<td>0.9574</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OMXN40</td>
<td>0.9638</td>
<td>0.9332</td>
<td>0.9776</td>
<td>0.9685</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>SOFIX</td>
<td>0.9658</td>
<td>0.9421</td>
<td>0.9531</td>
<td>0.9681</td>
<td>0.9568</td>
<td>1.000</td>
</tr>
</tbody>
</table>

However, the evolution of these stock exchanges in the later stages of the financial and economic crisis and its aftermath didn't match their previous high correlation. This has happened primarily as a consequence of several factors, most importantly being: the measures adopted by the central government of each country in order to counteract the effects of the financial and economic crisis, the degree on which the real economy was hit by the economic downturn, the level of maturity and sophistication of each individual stock exchange (e.g. the usage of financial innovations in the daily activities of the exchange) and consequently of the local investors and nevertheless the size, number and field of activity of the listed companies.

If we correlate the figure 16 with table 5 we can see that the previous correlated evolution of the analyzed stock exchanges didn't held up in the aftermath of the financial crisis.
In this respect, observing the data from table 5, it can be noticed a distinction between the stock markets from the Baltic States, Poland and Hungary, which have registered a speedier recovery and those from Romania, Bulgaria and Czech Republic.

**Table 5:** The correlation matrix of the main indices of the stock exchanges from the analyzed countries for the period 31 December 2009 to 31 January 2011

<table>
<thead>
<tr>
<th></th>
<th>BET</th>
<th>BU X</th>
<th>WIG20</th>
<th>PX</th>
<th>OMXN40</th>
<th>SOFIX</th>
</tr>
</thead>
<tbody>
<tr>
<td>BET</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BU X</td>
<td>0.6967</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WIG20</td>
<td>0.1125</td>
<td>-0.0007</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PX</td>
<td>0.6992</td>
<td>0.5333</td>
<td>0.2262</td>
<td>1.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OMXN40</td>
<td>0.7005</td>
<td>0.5351</td>
<td>0.8476</td>
<td>0.3063</td>
<td>1.0000</td>
<td></td>
</tr>
<tr>
<td>SOFIX</td>
<td>0.6943</td>
<td>0.5217</td>
<td>0.0247</td>
<td>0.6157</td>
<td>0.7215</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

Source: Own simulation

In the case of Poland, the macroeconomic characteristic and the maturity of the stock exchange in itself played a major role in the rapid recovery that it has known. Nevertheless, Poland was the only European Union member state which achieved a positive macroeconomic evolution during the crisis and in its aftermath. Also, the Warsaw Stock Exchange has the most listed companies from all the analyzed stock markets, except for OMX which is a pan-European stock exchange. It also offers fairly complex financial products and also provides the investors with the opportunity to trade the shares of the most important companies in Poland from every major economic field.

In the case of Hungary, the financial and economic crisis has severally destabilized the macroeconomic environment, which in turn has led to a destabilization of the stock market. The particular fact that in Hungary derivatives are largely used, even by individual investors, provided an opportunity for the diminishing of the losses which followed as a backlash of the global financial crisis. Also the strong reform measures undertaken by the Hungarian government have helped to some degree the recovery of the Budapest Stock Exchange, although the introduction of a
“Robin Hood” type of tax for financial services didn’t inspire too much confidence in the investors.

The Baltic States have been hit also hard by the financial crisis, but the macroeconomic effects were rather different. In the case of the capital markets these states benefited from the fact that they were part of a pan-European exchange, OMX, which provided in this tough economic context sufficient liquidity in order to prevent severe consequences for the listed companies.

In the case of the Czech Republic the recovery period for the capital market is much slower. Although it provides a wide functional range of financial products the Czech Stock Exchange has been directly affected by the macroeconomic conditions of the country. As the Czech Republic economy is centred on exports, it was severally crippled first by the financial and then by the economic crisis which followed, as exports dropped significantly. These evolutions had a direct negative impact on the quotations of the Czech firms, which made the recovery of stock market even harder.

By contrast, the stock markets from Romania and Bulgaria are suffering directly because of their shortcomings in term of size and diversification. The lack of major listed companies and even the lack of the presence of whole economic sectors from the stock market, like the IT sector in the case of Romania, coped with the relatively unsophisticated products which are offered and to which we add a relatively low liquidity, almost brought to a halt the activity on these stock markets. We must also add to this that the measures taken by the governments in order to counteract the effects of the financial and economic crisis didn’t paid exactly the envies results, this being more evident in the case of Romania, which in turn had a negative effect on the capital markets of these countries.

The measures undertaken by the authorities in order to counteract the effects of the current crisis

The sever implications of the global economic crisis on the European economies and financial sectors have determined the European Commission to adopt in November 2008 the European Economic Recovery
Plan. In regard to the loan activity and the role of the banks in the national economies the European Economic Recovery Plan emphasis’s the necessity that the European Union member states will financially support the banking sector in order to ensure that the real economy can access its credit facilities. Also as a result of the current crisis several measures have been adopted at EU level, that aim at reforming the European financial sector, including a rethinking of the financial regulatory framework based on the activity of the Larosière group. Thus, through the creation of the new European Supervision Authorities (European Banking Authority, European Insurance and Occupational Pensions Authority, European Securities and Markets Authority), for the first time in the history of the EU, the supervision activities of the different segments of the financial sectors would be correlated at European level, this process being still in its early stages (see figure 17).

Source: own simulation based on data from [23]

Figure 17: The new architecture of the European financial supervision framework
An important role in the re-establishment of the trust in the banking sector of the analyzed countries and the prevention of the possible redrawing of the foreign banks from these markets was attributed to the initiative of the IMF, the EBRD and the EU which created the “Vienna Initiative” also known as “the European Bank Coordination Initiative”, through which the parent banks engage themselves to refinance their subsidiaries from CEE.

The major implications of the current economic and financial crisis have led to an intensification of the efforts from the national monetary and governmental authorities in order to prevent the collapse of their banking systems and to re-launch the bank’s credit activities. Thus, most European central banks have adopted a relaxed monetary policy, which was materialized in a prudential reduction of the monetary policy interest rate without discouraging capital inflows and avoiding fluctuation of the rate of exchange (see figure 18).

Source: Own simulation based on data provided by the National Bank of Czech Republic, the Magyar Nemzeti Bank, the National Bank of Latvia, the National Bank of Poland and the National Bank of Romania

**Figure 18:** The evolution of the key policy rate between 2007 and 2010
Regarding the governmental measures adopted by the analysed countries the most important one was the raise of the minimum guaranteed level for deposits, in order to prevent mass panic and to re-establish the trust of the depositors in banks (see table 6).

Overall, all the measures adopted at EU level and also by each member state have contributed to avoid the collapse of the financial systems and the stabilisation of the financial markets.

<table>
<thead>
<tr>
<th>Capital injection</th>
<th>Liability guarantees</th>
<th>Asset support</th>
<th>Total commitment</th>
<th>Deposit insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within Schemes</td>
<td>Outside Schemes</td>
<td>Guaranteed issuance of bonds</td>
<td>Other guarantees on loans</td>
<td>Within Schemes</td>
</tr>
<tr>
<td>BG</td>
<td>(-)</td>
<td>0 (-)</td>
<td>(-)</td>
<td>-</td>
</tr>
<tr>
<td>CZ</td>
<td>(-)</td>
<td>0 (-)</td>
<td>(-)</td>
<td>-</td>
</tr>
<tr>
<td>EE</td>
<td>(-)</td>
<td>0 (-)</td>
<td>(-)</td>
<td>-</td>
</tr>
<tr>
<td>HU</td>
<td>0.1 (1)</td>
<td>2.3 (5)</td>
<td>(-)</td>
<td>7%</td>
</tr>
<tr>
<td>LV</td>
<td>(-)</td>
<td>0.3 (-6)</td>
<td>(-)</td>
<td>27%</td>
</tr>
<tr>
<td>LT</td>
<td>(-)</td>
<td>0 (-)</td>
<td>(-)</td>
<td>-</td>
</tr>
<tr>
<td>PL</td>
<td>(-5)</td>
<td>0 (5)</td>
<td>(-)</td>
<td>3%</td>
</tr>
<tr>
<td>RO</td>
<td>(-)</td>
<td>0 (-)</td>
<td>(-)</td>
<td>-</td>
</tr>
</tbody>
</table>

*billions of EUR unless stated otherwise.
Source: Data centralization based on [24]

The macroeconomic and financial imbalances recorded by the countries that in the years previous to the outbreak of the current global crisis have registered a rapid and unsustainable growth of the loans, as well as the extreme negative effects of the crisis, emphasizes the international financial system major gaps regarding the institutional and regulatory framework. In this context, the efforts in order to reform the financial system have been enhanced. From the regulatory point of view, the adoption of the Basel III accord by The Basel Committee on Banking Supervision has a
major importance, which in terms of the banking lending activity makes reference to an important macro-prudential tool, namely “countercyclical capital buffer”, meant to, especially, prevent excessive lending periods and banking systems crashes. Regarding the institutional framework, for example, at the EU level, came into operation on 1 January 2011 the European System of Financial Supervision, which major objective is the macro-prudential supervision of the EU financial system.

In the current state, the central banks and the supervisory authorities from the surveyed countries, as well as the European authorities, are facing new challenges related to the process of improving the financial system risk management and of providing a proper regulation and supervision for it in order to ensure its stability.

**Conclusions**

Over the last years previous to the start of the current global crisis, the financial systems of the analyzed countries have recorded a rapid development. Such an evolution is considered positive in terms of convergence, but it was accompanied, in most countries, by certain vulnerabilities from the financial and macroeconomic point of view. From the financial point of view, the vulnerabilities have been materialized into the rapid and often unsustainable growth of the banking loans, determined, especially, by the significant capital inflows and the increasing competition in the banking market. Also, financial risks have been exacerbated by the rapid growth of the mortgage loans and the high percentage of the foreign currency-denominated loans. From the macroeconomic point of view, the easy access to credits and their extremely rapid increase has determined the significantly increase of the demand for goods, which under the conditions of an insufficient domestic supply and the appreciation of the national currencies has conducted, especially in Bulgaria, the Baltic countries and Romania, to a sharp aggravation of the current account deficit and exposed those countries to external financial vulnerabilities.

The financial and macroeconomic imbalances registered by the analyzed countries, prior to the triggering of the current global crisis, have
considerably amplified the crisis effects as most of the examined countries were severely affected.

The financial and economic crisis had also a direct and strong impact on the analyzed countries capital markets. In this respect, it must also be taken into account the fact that the fall of the capital market was very correlated and triggered by events which didn't necessary had anything to do with their macroeconomic environment, these negative consequences being rather a spill over effect of the event that took place on the more advanced European and American capital markets. Despite these, the recovery process was very heterogeneous, as some countries managed to provide the necessary measures in order to stimulate the real economy and in turn provide sufficient liquidity for their capital markets, while other countries had more negative results in this process. Overall, we can conclude that despite a rapid development of the capital markets in the last decade in the case of the analyzed states, these markets are still far from being full growth and mature, the current financial and economic crisis providing a good argument for this statement.

The serious implications of the current crisis on the analyzed countries highlight the vital role for the real economy of the sound functioning of the financial system and the indispensable need for its reformation. Hence, among the elements of the European financial system reform a significant role is occupied by the approval of Basel III Accord, the significant improvement of risk management process and the reformation of the micro- and macro-prudential regulatory and supervision framework.

Therefore, the entire European financial environment is in full transformation process, aiming the elimination of a series of serious gaps in its functioning and the building on solid foundations of a new financial system that will be able to prevent or limit the building up accumulation of imbalances which could generate deep crisis.

Acknowledgments

I hereby acknowledge the support of the “Alexandru Ioan Cuza” University of Iasi, in the development of this article through the grant POSDRU/88/1.5/S/47646, entitled “Studii doctorale: portal spre o carieră de
excelență în cercetare și societatea cunoașterii”, co-financed through the European Social Fund, within the Sector Operational Programme Human Resources Development 2007-2013.

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