Current Challenges and Future Trends for Romanian Small and Medium Enterprises: An Empirical Study

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Abstract

This study is an exploration of the dynamics of the present Romanian SME’s landscape. I offer first an overview of the characteristics of Romanian entrepreneurship and of the general impact of the recent crisis on the Romanian SME. I outline further the main constraints faced by the SME in the specific Romanian context and sketch current trends of Romanian SME. I employ hereby an econometric model - Markov chains - which I state as rewarding when investigating the evolution of SME, and apply it to a set of empirical data (SME from Romania’s South-Eastern region), in order to assess the evolution of these Romanian SME during the period 2007-2011. I present further two scenarios for the evolution of Romanian SME for the current and next period (up to 2016). Based on the results of this analysis, I formulate in the conclusions a set of recommendations which are aimed at supporting the consolidation of the Romanian SME sector.

JEL classification numbers: D7, L2
Keywords: economics, e.g. Small and Medium Enterprises, prognosis, development, entrepreneurship, Romania

1 Introduction

Small businesses do not receive the recognition they would deserve in a world where success is mandatory. This is a strange fact, if one considers that 70% of the world business is represented by small businesses owned by visionary persons who take advantages of acting at small scale and help to create a more dynamic economy. Moreover, the largest share of GDP is produced in small and medium firms, and most of

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the employed workforce is to be found in small and medium enterprises (SME). The owners are flexible and creative people and their business growth is qualitative rather than quantitative.

The SME sector plays an important role in overcoming social tension brought about by the globalization tendencies connected with the rapid transfer of certain industrial programs to countries with lower wage costs and with a high intensity of global competition. In the case of the European Union, a special attention was conferred to the following types of SME: SME from the rush and medium technical sectors that have affinities by the nature of their businesses deployed with Internet and the new evolutions of the market; the SME that exploit the opportunities offered by the electronic commerce, especially in the services sector – sometimes named cyber-firms; the SME integrated in the chains of added value of the big companies which are forced to innovate under the pressure of the main clients.

The central theme of the article is to present a forecast model that allows quantification of effects on SMEs applied to a set of empirical data (SMEs from Romania's South-Eastern region), in order to assess the evolution of tissue Romanian SMEs during the period 2007-2011. We tried to get a reasonable answer to questions: Is there optimism among small business? To what extent SME activity is influenced by the crisis, and how can those called to take decisions (governments) manage the policies and methods of obtaining relevant information for all stakeholders? The research started from the idea that, at a global level, the action to find small survival of SMEs is a fact as important as creating "antibodies" to the crisis. Literature review indicates that, in Romania and in other countries, the transition issues to elaborate forecasts able to provide information to generate viable strategies regarding the development of SMEs is relatively recent, with 10-15 years old looking but for countries with a market economy and taking into account traditional and aligning our country to the European Union, is expected to boost this phenomenon in Romania.

To get an answer to the questions already mentioned, we used the data source [White Paper edition of SMEs, 2011]. I applied a mix of research methods, namely document analysis, comparative method, typological method, external observation (non-participating) and participatory observation.

In the following, we first present the current trends of the research, technical and practical aspects of the research method used, and in the next step we present the reacted empirical analysis of the problems they investigate in the evolution of SMEs from Romania's South-Eastern region.

Alongside the adhering to the European Union, Romania experiences a new stage of profound transformations, in accord with the tendencies of the contemporary world. Against the background of greater challenges in recent years, the SME sector introduced a series of measures to accelerate its increase. These measures aimed at designing a permissive, favourable regulation environment, both legislatively and fiscally, and were meant to provide financial assistance for SME’ support and development. They aimed also at improving the competitiveness and stimulating the development of the entrepreneurial culture. These SME are nowadays active contributors to the Romanian economic development as a whole.

Romania is one of the countries most affected by the economic crisis. Compared to other European countries, apart from the large number of SME that declared bankruptcy in Romania, many others, according to a survey conducted in May 2009 by the National Credit Guarantee Fund for Small and Medium Enterprises, faced a decrease in sales.
figures (21-50%). Romania’s EU accession has led to a series of difficulties for SME. The consequences were reflected by inflation ranks with an average of 3.51%, followed by currency appreciation (3.34%), excessive controls (3.28%), high interest loans (3.22%), excessive taxation (3.16%), delays in paying bills (2.84%), bureaucracy (2.78%), and difficult access to credits (2.75%), corruption (2.72%), competition from imported products (2.48%), low domestic demand (2.24%) and other difficulties (2.22%) [Carta Alba a Intreprinderilor Mici si Mijlocii din Romania 2011].

The percentages of entrepreneurs who were affected by the economic crisis in a large measure were higher among younger firms (27.27%), companies in Romania’s Central region (47.37%), micro companies (25.30%), joint-stock company-sized (29.55%), SME operating in the industry (26.98%), lower-performing organizations in 2008 (39.36%) and SME run by women (25.23%). 58.40% of entrepreneurs expected that a maximum level of crisis will be reached in 2009, 34.09% of respondents expected the peak in 2010 and 3.85% of them provide a peak in 2011. 24.70% expected the highest crisis’ intensity in the third quarter of 2009, 21.25% thought the culmination of recession in the fourth quarter of 2009, 16.40% anticipated the first quarter of 2010 and 11.17% of respondents considered the peak to be reached in the second quarter of 2010. 43.97% of entrepreneurs considered that the government has reduced capacity to cope with the crisis quickly, about one quarter (25.86%) believed that the executive has a medium capacity, 22.51% considered that the executive had the capacity to combat economic decline rapidly and only 7.66% affirmed that the executive had high strength to counter the downturn. [www.insse.ro].

The Romanian industry operates already in an open and competitive environment. There is a series of measures that can facilitate the maintenance of SME’ competitiveness in order to operate further more competitive and playing a more important role on the autochthonous market, even if sometimes this matter is unrealistically neglected. In future, every national jurisdiction has to offer an answer to questions like: “What tax rate should be imposed on the revenues?”, “How to uphold the small and medium businesses sector?”, “What facilities should be granted to this sector?”, “How could one attract new investors or how could one make the national context more attractive for potential investors?”

The prognosis made on the basis of two scenarios in the present study shows that the crisis is a severe test of the maturity degree of Romanian SME. With regard to the chances to overcome the crisis, immature SME are unlikely to survive, whereas mature SME have theoretically greater opportunities, but they have no guarantee that they will successfully pass over the crisis. It should be noted that the maturity of a company has nothing to do with its age, but rather with its turnover. The medium-term development prognosis on the SME segment in Romania’s South-Eastern region helps sketching the probable trends of future evolution and directing planning activities to establish a long-term behaviour, so that decisions enrol in this thinking in long-term logical perspective.

The conclusion points out that this crisis should not be seen as a catastrophe but as a broad movement for global change, with not only economic, but also socially and politically effects. It seems increasingly obvious that this is more than just the economic crisis; it signals a major change of system that affects especially SMEs. The analysis of these case studies that we definitely have more victims among SMEs, we need not to ilusionate in this regard, as the crisis will have winners and the winners will be those who will be able to make accurate forecasts medium and long term.
2 Presentation of the Econometric Model - Markov Chains (Research Method)

To estimate the medium-term prognosis on SME segment of Romania’s South-Eastern region, I used a prognosis model whose algorithm is based on the theory of Markov chains:

\[ S_1 = S_0 \times P \]  
\[ S_2 = S_1 \times P = S_0 \times P^2 \]  
\[ S_n = S_{n-1} \times P = S_0 \times P^n \]

in which:
\( S_0, S_1, S_2, \ldots, S_n \) represents the structure of SME by classes
\( P, P_2, \ldots, P_n \) represents the matrix of transition probabilities from one class to another in the next years

Performing calculations by this algorithm, one obtains the distribution prognosis of SME by classes, depending on the turnover until the year 2016.

In developing this prognosis model one starts from the analysis and the grouping of SME from the South-Eastern region in relation to turnover indicator. Corresponding to the different mode of evolution of this indicator in each company in the South-Eastern region from year to year during the researched period 2007-2011, SME experienced a transition to upper classes, remained in the same class, or experienced a transition to lower classes.

These transitions from one class to another from year to year are reflected in the four matrices of annual transitions: 2007-2008, 2008-2009, 2009-2010, and 2010-2011.

The SME in South-Eastern region which moved to higher classes are located above the main diagonal, those which moved to lower classes are located under the main diagonal, and those which remained in the same class from year to year are located on the diagonal of the matrix.

By direct summation of the elements of the four transitions’ matrices, the total transitions’ matrix is obtained for the whole period 2007-2011. Based on this matrix one determines the stochastic matrix of transition probabilities for the period 2012-2016.

2.1 Distribution of SME in Romania’s South-Eastern Region by Size Classes of Turnover

The SME in the South-Eastern region are grouped after the turnover volume according to Law no. 346/2004 as it follows:
- Group I – under 2,000,000 €;
- Group II – between 2 -10,000,000 €;
- Group III – between 10 – 50,000,000 €;
- Group IV – over 50,000,000 €.

This type of SME cluster according to their turnover volume is useful for economically developed countries. Using the cluster for SME in the South-Eastern region produces an excessive concentration in the first group. Thus, out of the 71,442 SME in the region, 98.46% are part of the first group.

A method used to avoid the excessive concentration is that of regrouping the SME in three categories:
- Group I – under 20,000 €;
- Group II – between 20,000 -200,000 €;
- Group III – over 200,000 €.

Regrouping SME in these categories results in a balanced distribution as follows:
- Group I – 37%;
- Group II – 36.45%;
- Group III – 26.55%.

For the purpose of the research, neither the first mentioned, nor this method is appropriate, because it would not allow the assessing of sensitive transition of SME from one group to another. To achieve the purpose, I adopted 10 groups as shown in Table 1.

Table 1: SME groups based on turnover

<table>
<thead>
<tr>
<th>No. group</th>
<th>The range of turnover</th>
<th>No. firms in the range</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>under 20,000 €</td>
<td>26,428</td>
</tr>
<tr>
<td>II</td>
<td>20,000 – 40,000 €</td>
<td>4,215</td>
</tr>
<tr>
<td>III</td>
<td>40,000 – 60,000 €</td>
<td>4,129</td>
</tr>
<tr>
<td>IV</td>
<td>60,000 – 80,000 €</td>
<td>2,919</td>
</tr>
<tr>
<td>V</td>
<td>80,000 – 100,000 €</td>
<td>3,176</td>
</tr>
<tr>
<td>VI</td>
<td>100,000 – 120,000 €</td>
<td>2,518</td>
</tr>
<tr>
<td>VII</td>
<td>120,000 – 140,000 €</td>
<td>1,963</td>
</tr>
<tr>
<td>VIII</td>
<td>140,000 – 170,000 €</td>
<td>2,816</td>
</tr>
<tr>
<td>IX</td>
<td>170,000 – 200,000 €</td>
<td>4,307</td>
</tr>
<tr>
<td>X</td>
<td>over 200,000 €</td>
<td>18,971</td>
</tr>
</tbody>
</table>

Source: Own calculations

When analysing the table, one observes an extreme value distribution of SME grouped by turnover, in Group I, respectively Group X. The cause of this polarization is given by a variety of economic factors that has occurred over time, such as: business management, business environment, industry, etc.

2.2 The Analysis of SME’ Evolution in Romania’s South-Eastern Region during 2007-2011

According to causal relationships mathematically transformed by Markov’s theory, the elapsed activity determines the evolution of future work. The selected elapsed period of analysis covers a period of economic boom and a period of economic crisis which manifests itself worldwide. In this way, one can obtain information about the behaviour of SME as reflected in turnover both in a favourable economic environment, as well as in a hostile economic environment.

For the period 2007-2011, annual matrices are constructed that outline the transitions to a superior group (above the regression line) or to a lower group (below the regression line). The firms that did not change the group remain on the diagonal line of the matrix.
The number of firms that entered a superior group is about 12%, which indicates favourable conditions of the economic environment (Table 3). Those which relegated represent an insignificant number, and the cause is represented by internal factors.

Also during this period the transition to superior groups of turnover remains at a high level. This indicates the maintenance of favourable business conditions at the macroeconomic level (see Table 4).
The situation is comparable to the previous years, with the favourable conditions for the economic environment continuing to manifest.

Table 5: Transitions’ matrix 2010 – 2011

<table>
<thead>
<tr>
<th>Group</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>VIII</th>
<th>IX</th>
<th>X</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>79</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>79</td>
</tr>
<tr>
<td>II</td>
<td>2236</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2259</td>
</tr>
<tr>
<td>III</td>
<td>2412</td>
<td>41</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2453</td>
</tr>
<tr>
<td>IV</td>
<td>2738</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2746</td>
</tr>
<tr>
<td>V</td>
<td>2681</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2685</td>
</tr>
<tr>
<td>VI</td>
<td>2702</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2708</td>
</tr>
<tr>
<td>VII</td>
<td>2737</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2745</td>
</tr>
<tr>
<td>VIII</td>
<td>2822</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2825</td>
</tr>
<tr>
<td>IX</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1793</td>
<td></td>
<td>1793</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1257</td>
<td>1257</td>
<td>1257</td>
</tr>
<tr>
<td>Total</td>
<td>2236</td>
<td>2491</td>
<td>2761</td>
<td>2722</td>
<td>2708</td>
<td>2741</td>
<td>2828</td>
<td>1801</td>
<td>1260</td>
<td></td>
<td>21550</td>
</tr>
</tbody>
</table>

Source: own calculations

One can observe a reversing of the trend during this period with over 21,000 companies which drastically reduced turnover relegating thus in a lower class. They represent 30.16% of the total number. If during the first three periods over 98% of the companies were in growth trend, in this period the number of those who increased their turnover is very low. This period is an illustration of how global economic crisis has affected the SME segment.

3 Present Research Organizations

I selected as research method the continuous parameter application from the Markov chains, in the present case the parameter being the turnover. After investigating the period 2007-2011, I decided to forecast the turnover evolution of SME based on two medium-term scenarios, namely:

➢ Scenario I: One takes into consideration the effects of the economic crisis manifested in 2009, which in the perception of most investors continued until the first quarter of 2011.

Four factors of influence were taken into account in order to calculate the probabilities. I considered the following factors to be decisive for the medium-term development of SME:

1. Access to financial resources.

Equities tend to reduce due to lower turnover and failure to respect payment terms by the customers.

The borrowed capital becomes little accessible due to several factors as, for example, the prudence of banks in granting loans due to increasing risks in the real economy, attracting banks’ budget to the state budget, etc. The credit cost is high and the level of guarantees too.

As far as the grant funds awarded by the European Union and by the state aid scheme are concerned, they are insufficient and the companies do not receive them in real time. One
can notice over the past two years that the projects approved more than 10 months ago have not yet received the requested funding.

2. *Competitiveness’ increase is directly linked to the possibility of mobilizing the necessary funds.*
Otherwise no investment program can become reality.

3. *State of the market share.*
Consumption is in a market economy the segment concluding an economic process in terms of recovering money previously allocated in the form of expenditure and achieving profit. Under the conditions of restraint of business partners’ activities and of population’s lower purchasing power, enterprises’ business will become reduced too.

4. *Taxation*
In a crisis context governments tend to increase the tax burden as a result of reducing its mass. In this respect the fiscal policy of the Romanian government is illustrative. In contrast, the German government decided in 2010 to cancel the income tax for SME in difficulty over a period of three years.

<table>
<thead>
<tr>
<th>No.</th>
<th>Economic factors considered</th>
<th>Factors’ mode of expression</th>
<th>Event probability</th>
<th>Factors weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Access to financial resources</td>
<td>Reduced</td>
<td>50%</td>
<td>0.50</td>
</tr>
<tr>
<td>2.</td>
<td>Competitiveness’ increase</td>
<td>Lacking financial resources, the acquisition of modern technology is difficult</td>
<td>10%</td>
<td>0.20</td>
</tr>
<tr>
<td>3.</td>
<td>State of market share</td>
<td>Shrinking due to lower purchasing power of people and companies</td>
<td>20%</td>
<td>0.20</td>
</tr>
<tr>
<td>4.</td>
<td>Taxation</td>
<td>Growing</td>
<td>20%</td>
<td>0.10</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>100%</td>
<td>1</td>
</tr>
</tbody>
</table>

Based on the weighted average of the probabilities of economic factors’ manifestation in a crisis context, one can construct the following matrix of probabilities of moving to other groups of turnover.

<table>
<thead>
<tr>
<th>Group</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>VIII</th>
<th>IX</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>0.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>0.10</td>
<td>0.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>0.04</td>
<td>0.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>0.05</td>
<td>0.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>0.06</td>
<td>0.04</td>
<td>0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VI</td>
<td>0.04</td>
<td>0.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VII</td>
<td>0.02</td>
<td>0.03</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VIII</td>
<td>0.02</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>IX</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.04</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Own calculations*
As indicated in the table, the probabilities of transition to higher classes are reduced due to economic crisis. There is a concentration of probabilities on the regression line, which means that in one way or another, the turnover of firms cannot pass over two or more classes during a financial year.

➢ Scenario II In this scenario, one removes the year 2009 when the economic crisis manifested itself at the top. The probability calculation was based on economic developments in the period 2007-2008.

To calculate the probabilities, one takes into account the same influence factors which were considered also in the first scenario:

1. Access to financial resources.
Equities tend to increase creating thus the additional own financial resources available to SME.
Access to bank loans is relatively easy as long as the economy risks are reduced. Also the cost of credit (interest + fees) is at a tolerable level.
As far as the grant funds awarded by the European Union and by the state aid scheme are concerned, they are insufficient and the companies do not receive them in real time. One can notice over the past two years that the projects approved more than 10 months ago have not yet received the requested funding.

2. Competitiveness’ increase is directly linked to the possibility of mobilizing the necessary funds.
When an easy access to credit as the main source of financing for SME is provided, a long term investment strategy can be developed.

3. State of the market share
A period of economic growth stimulates the activity of firms and increases people’s purchasing power.

4. Taxation
The tax base increases due to economic growth and state revenues can be secured by a lower level of taxation. However, the state can support a broad program of investment and the SME segment benefits from it.

Table 8: Probability and weight of economic factors in an economic growth context

<table>
<thead>
<tr>
<th>No. unit</th>
<th>Economic factors considered</th>
<th>Factors’ mode of expression</th>
<th>Event probability</th>
<th>Factors weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Access to financial resources</td>
<td>Easy</td>
<td>35%</td>
<td>0.50</td>
</tr>
<tr>
<td>2.</td>
<td>Competitiveness’ increase</td>
<td>The existence of financial resources makes increase of investments possible</td>
<td>25%</td>
<td>0.20</td>
</tr>
<tr>
<td>3.</td>
<td>State of market share</td>
<td>Demand for products and services market increases</td>
<td>20%</td>
<td>0.20</td>
</tr>
<tr>
<td>4.</td>
<td>Taxation</td>
<td>Percentage decreasing</td>
<td>10%</td>
<td>0.10</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>100%</td>
<td>1</td>
</tr>
</tbody>
</table>

The weighted average is also used for this scenario.
Compared to the matrix in scenario I, there is an increased probability to accede to a higher class. It is even possible to surpass two groups in a financial year (see groups II, III, IV and V).

The comparative analysis of the results of the two scenarios pointed out the following:
- long-term effects of economic crisis;
- given scenario II, one has a representation concerning the level the development of SME could have achieved without the crisis situation;
- the comparative analysis can lay the base for a national strategy elaboration to promote accelerated development of SME.

### 3.1 Prognosis of the Transition Process of Romanian South-Eastern Region’s SME to other Groups of Turnover for the Period 2012-2016

- **Scenario I**  Medium-term effects of the crisis

<table>
<thead>
<tr>
<th>Group</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>VIII</th>
<th>IX</th>
<th>X</th>
</tr>
</thead>
<tbody>
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<td>VIII</td>
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</tbody>
</table>

Source: Own calculations

The analysis of the above table highlights the following aspects:
- the agglomeration of turnover in groups IV-IX;
- the group with the highest level of growth (42%) is number V with 80-100000 € turnover;
- there is a decrease by 1.9% in group I, but this is an insignificant decrease, since this
group remains the largest;
- group X with a turnover of over 200,000 € records the most drastic decrease by 7.4%.

**Conclusion:** The impact of the crisis will be felt in the medium term, SME do not have a real chance to develop.
Negative effects will affect the degree of capitalization for companies to a considerable extent, the investment development and the hiring additional staff. In my opinion, a national strategy elaboration to promote SME’ development is imperative.

- Scenario II SME evolution forecast ignoring the crisis

<table>
<thead>
<tr>
<th>Group Years</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>VIII</th>
<th>IX</th>
<th>X</th>
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<tr>
<td>2011</td>
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<td>4215</td>
<td>4129</td>
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<td>1963</td>
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<td>2012</td>
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<td>8170</td>
<td>3899</td>
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<td>3566</td>
<td>2727</td>
<td>2124</td>
<td>2760</td>
<td>4126</td>
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<td>2013</td>
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<td>3638</td>
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<td>2014</td>
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<td>11545</td>
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<td>3745</td>
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<td>5901</td>
<td>5652</td>
<td>4898</td>
<td>3447</td>
<td>2608</td>
<td>2683</td>
<td>3652</td>
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<tr>
<td>2016</td>
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<td>5275</td>
<td>3779</td>
<td>2811</td>
<td>2661</td>
<td>3512</td>
<td>20549</td>
</tr>
<tr>
<td>Percentage evolution</td>
<td>-152%</td>
<td>+177%</td>
<td>+59%</td>
<td>+44%</td>
<td>+66%</td>
<td>+50%</td>
<td>+43%</td>
<td>-6%</td>
<td>-23%</td>
<td>+8%</td>
</tr>
</tbody>
</table>

Source: Own calculations

The above table refers to the following aspects:
- without crisis conditions a sustained growth rhythm of SME would be observed;
- group I (less than 20,000 € turnover in 2012) was the largest and experienced a decrease by 152% due to the migration of firms into groups of high turnover;
- groups II-VII recorded appreciable increases (between 43% and 177%);
- with an increase of 8% in the period 2012 - 2016, group X with a turnover of 200,000 € is the largest group;
- economically the most important signal is the increased capitalization of SME which represents the basis for accelerated investments to increase competitiveness and personal absorption and to diversify the business.

## 4 Comparative Analysis of Scenarios

**Scenario I** is the real one and it encompasses the medium-term effects of the economic crisis. The scenario takes into account the natural development of SME without concerted action at governmental level.

**Scenario II** ignores the effects of the crisis and regards also the natural development of SME. Although it may be considered only a theoretical model under the current conditions, it is of paramount importance for elaborating a national strategy to support SME.
Table 12: Comparative analysis of scenarios

<table>
<thead>
<tr>
<th>Group</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>VIII</th>
<th>IX</th>
<th>X</th>
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</thead>
<tbody>
<tr>
<td>Scenario I</td>
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<td>3404</td>
<td>3616</td>
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<tr>
<td>Scenario II</td>
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<td>11676</td>
<td>6564</td>
<td>4215</td>
<td>5275</td>
<td>3779</td>
<td>2811</td>
<td>2661</td>
<td>3512</td>
<td>20549</td>
</tr>
<tr>
<td>Absolute differences</td>
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<td>-3160</td>
<td>-599</td>
<td>-758</td>
<td>-1142</td>
<td>-520</td>
<td>+690</td>
<td>+1899</td>
<td>-2885</td>
</tr>
<tr>
<td>Scenario I (%)</td>
<td>-1.9%</td>
<td>-3.2%</td>
<td>-21%</td>
<td>+24%</td>
<td>+42%</td>
<td>+5%</td>
<td>+17%</td>
<td>+19%</td>
<td>+26%</td>
<td>-7.4%</td>
</tr>
<tr>
<td>Scenario II (%)</td>
<td>-152%</td>
<td>+177%</td>
<td>+59%</td>
<td>+44%</td>
<td>+66%</td>
<td>+50%</td>
<td>+43%</td>
<td>-6%</td>
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</tr>
<tr>
<td>Percentage differences</td>
<td>+150.1%</td>
<td>+180%</td>
<td>+80%</td>
<td>-20%</td>
<td>-24%</td>
<td>-45%</td>
<td>-26%</td>
<td>+25%</td>
<td>+49%</td>
<td>+14.4%</td>
</tr>
</tbody>
</table>

Source: Own calculations

A comparative analysis of the scenarios results in:
- scenario I does not allow a number of 15,428 firms to move into a higher group of turnover (150.1%);
- an evolution under scenario II would allow a number of 2885 companies to increase their turnover over 200,000 €;
- scenario I concentrates the turnover in the middle groups, while scenario II concentrates it in the higher groups.

The undertaken analysis emphasizes the practical utility of Markov model in achieving medium-term forecasts. In scenario I, I highlighted the adverse long-term effects of the economic crisis. Hence there is a strong need for measures at national level to support SME as very important segment of any economy regardless of the level of its development. This is especially important in Romania where predominantly the low level of capitalization of SME makes them vulnerable to any negative factor.

5 Concluding and Recommendations

A distinctive feature of the global economy is the vital role of entrepreneurship as a central pillar of economic growth. Studies in this field emphasize also the importance of SME in creating jobs and economic development. In addition, SME are likely to increase market competition, which results in lower prices and improved product quality, and to promote the implementation of new technologies at firm level.

Given the constraints that SME are facing in terms of resources and their vulnerability related to environmental change and uncertainty, a thorough understanding of the factors and mechanisms explaining the development of small enterprises is a crucial matter for business owners and economy. Therefore, there is a growing interest in identifying the main characteristics that distinguish firms which recorded growth from those which do
not develop or even go bankrupt. On the other hand, it is important to know more about the growth and development processes that firms go through. The comparative analysis shows that in the medium term the SME, if not supported, will have to strive to reach a level comparable to that of 2009. Logically the pace of long term development will slow down in such a situation. Improving the business environment and accelerating the pace of SME development are only possible under a government strategy meant to stabilize the macroeconomic environment. From my point of view, such a strategy should centre on the four factors considered in this study: finance, investment, consumption and taxation.

Further, the analysis of the present research highlights the usefulness of econometric models for capturing with a high level of probability the overall economic development in different sectors of activity and in every company. Large-scale spread of software programs makes possible the use of mathematics and statistics in economic applications with more and more accurate results. The Markov model with continuous parameter can be extended to complementary analyses on other important economic indicators such as profitability, economic efficiency, productivity, solvency, liquidity, etc. In this way, one responds in due time to the financial and economic desiderata of practice as obtaining a desired return for shareholders, providing a good solvency of the company as an imperative for ensuring good credit and securing flexibility of action for participants in the company’s activity.

The picture of the SME segment of Romania’s South-Eastern region in late 2009 leads to a first observation, namely that the SME sector continued to decrease demographically, as total number of active SME, but also concerning the categories of size and economic sectors, and further in almost all sub-sectors of manufacturing, excluding the food and textile industries, which demonstrates the ability to compete on an enlarged internal market and the private sector’s sustainable development emerging in Romania.

In this context, the main changes in SME outlined by this analysis are: a constant decrease in the number of SME, on average between 20,000 and 35,000 annually; changes in the structure of the SME sector, that is, the increase of SME importance in service, constructions, transport, industry and import-export; an increased re-engineering of SME as a result of massive technical and high-technological imports; accelerated modern approaches to management, marketing, finances, etc. in SME; creation of more and modern forms of SME - clusters, networks of firms, industrial parks, spin-offs with great development prospects in the Romanian economy; the emergence of specific forms of electronic economy (e-commerce, e-banking, e-learning, etc.), which is yet at a considerable distance from those practiced in the developed countries in the European Union.

Periodical assessments of the status of the implementation of the European Charter for SME are carried out in Romania. The strategies for development of this sector include the European Commission proposal and introduce several directions as investment in research and development in order to increase the productivity, reforms in education meant to enable people to find work more easily, and measures for a greener economic growth. The priorities set in Romania will support in shaping the Strategy 2020. Efforts are intended to go towards improving the framework conditions that allow enterprises to innovate, creating a single European license and a court specialized in licenses, towards modernizing the protection of copyright and trademarks, towards improving SME access to protection of intellectual property, and towards accelerating the establishment of interoperable standards.
It is interesting to note that there is a positive correlation for all developing regions between survival of firms for longer than a year after their establishment and the percentage of managers with related work experience or experience as technical staff, and a negative correlation with the proportion of entrepreneurs who had been workers previously. This aspect suggests that the support programs (such as the international development program in entrepreneurship and business networking EMPRETEC, conducted by the Ministry for SME, Trade, Tourism and Liberal Professions, and focusing on the training of entrepreneurs) are the key to improving the survival of enterprises. Last, but not least, this series of structural changes was reflected in changes in the structure of employment and number of employees in the economy, the private sector becoming the main creator of jobs in the economy. However, these improvements in the period before accession should be seriously further extended through integration in the European economic structures, a process which will run until the beginning of the years 2013 - 2015.

Even facing several challenges, the SME sector in Romania has already proved some progress and benefits, such as:

1. Productive activities in the SME sector recorded slight increases. These are the very essence of economic development and progress. When engaging in production activities, the entrepreneur plays a dual role. The first relates to the discovery of still unexploited sources of profit, which allow pushing production from an inefficient economic position to an efficient economic one. The second role relates to innovation, taking into account the fact that results of innovation lead to a better use of resources, thus pushing the production possibilities frontier. This move marks the essence of economic development, a real increase in production due to real growth in productivity. In short, a productive entrepreneurial business includes those activities from which both the entrepreneur and society as a whole benefit, the entrepreneurs obtaining benefits for themselves while letting others benefit too.

2. A notable success in developing SME is in the field of information and communications technology (ICT) sector, where many jobs have been created by the emergence of internet service providers and large investments of software companies.

The global objective of SME support should be to enhance the competitiveness of businesses, maintain the attractiveness of Romania, its regions and towns for investors, promote innovation, stimulate demand for research and development results, foster a spirit of entrepreneurship and encourage the growth of the knowledge-based economy by means of capacities for the implementation of new technologies and innovated products, including new information and communication technologies. All these factors lead to the very important social role and social responsibility of SME, especially in the regions with economic problems.

Both at the level of SME sector as a whole, as well as across the activity sectors, the importance of medium-sized enterprises is growing. The share of industry increases in the case of all variables involved in the analysis, but less pronounced when considering indicators for expressing resources (number of enterprises, number of employees, total assets), and more significantly when considering indicators for expressing the results of activity (turnover, operating income, net profit, value added, operating costs, etc.). The service sector is the most homogenous in terms of business classes in the total of the category size class.

An economic model widely used in practice today is that in which the market is dominated by a few large oligopolies, that allow the existence of certain “niches” reserved
for small competitors like the SME, that survive exclusively by economic relations with one or more of the oligopolies. The competition specific for this model is also an asymmetric one, that is, one in which, over time, the unprivileged competitor is doomed to fail. Although currently small specialized competitors - Romanian SME - manage to survive, they are doing so only tolerated by the oligopolies, which have main economic and non-economic interests to tolerate them.

Based on the observations presented above, I outline further a set of recommendations and priorities, such as to ensure the consolidation of the SME sector, its development and thus the general recovery of the national economy.

Recommendation 1: Development of an efficient system of training and consultancy for SME. Given the limited financial potential of the SME sector in Romania, this system is required to be partly supported by the state. In addition, in order to ensure a realistic approach centred on the needs and opportunities for entrepreneurs in running this system at all levels, it should be necessary to include representatives of organizations representing SME and national confederations in the national development strategies.

Recommendation 2: Non-taxation of the reinvested profit of SME in industry, agriculture, constructions, transport and telecommunications and halving the tax on profits reinvested in services and trade. Halting the economic crisis and recovery of investment process is conditioned by the firms’ recapitalization and increased amounts of resources available for firms’ modernization and development.

Recommendation 3: Systematic organization of training programs for entrepreneurs, managers and executive staff of SME. Entrepreneurial activity has a specificity which requires a comprehensive and diverse sphere of knowledge and skills related to preparation, implementation and capitalization of a business idea while involving a small number of people.

Recommendation 4: Configuration of a strong national network of centres for counselling and management - entrepreneurial training for SME. Performance of SME in developed countries would not have been possible without the foundation of their work on professional business concepts, methods and management techniques. Of course, this is true also for Romania. The praxis of activities of Romanian SME shows that only a small proportion of them use consistently input provided by professional management. The main causes of this situation are the scarce high quality management and training consultancy and its relatively high cost compared with the payment possibilities of the vast majority of local SME.

Recommendation 5: Development of a national network of business incubators and science parks. Contemporary period is characterized by a very high rate of production and implementation of scientific progress. As a result, innovation becomes a determinant of competitive performance for a growing proportion of the SME, especially in industry, communications and construction, but with increasing frequency also in services, transport, agriculture and even commerce. In this respect the global practice highly recommends the business incubators and science parks (techno poles).

Recommendation 6: Establishing a national computerized data bank, specialized in topics and problems of SME. SME performance and functionality depend increasingly on fast and cheap access to information, which is a basic vector of economic development. The resources and staff available to most SME do not endow them with the capacity to obtain, on economic grounds, the vital information that they need. In order to overcome this situation, I propose the establishment of a national data bank providing specialist information on SME, which could meet multiple needs of SME, namely: an updated...
source of economic information (tax, customs, banking, monetary, etc.), information regarding the main regulations affecting SME, applications and business opportunities with local and foreign partners, information on the creditworthiness of potential partners in the country and abroad, a source of information on equipment and high technologies in various industries, etc.

Recommendation 7: Revising the economic legislation on SME in order to eliminate present contradictory elements / inconsistencies and proceeding to its full and without delays operationalization. The activity and economic - financial results of SME are influenced in multiple forms and to a considerable extent, directly and indirectly, by the quality of legislation. It is therefore essential that legislation impacting on SME to be more complete, thorough, simple and easy to apply.

Coherent and effective solutions for the problems encountered by the SME sector, starting with the causes that generate them, are subject to action in key areas that determine their functionality and performance. Sure, an adjustment will be necessary in order to cope successfully with one of the most demanding markets in the world, the European Union. Romanian entrepreneurs will have to think more in terms of European competition and strive to become more competitive, in resonance with the motto of the Club of Rome, “Think globally and act locally”.

In conclusion, the Romanian SME brings a significant contribution in what concerns competitiveness, research, innovation, employment, as well as solutions to particular problems. One should strive to develop further a dynamic and competitive SME sector, which will contribute to economic growth, employment and reduction of poverty.

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