Assessment of The Conditions For The Development of Bulgarian Business

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Abstract: The study assesses certain conditions, affecting the development of non-financial enterprises in Bulgaria, through five indices based on an empirical survey of the four groups of enterprises:micro, small, medium-sized and large. The study and the analysis revealed the need for economic polices, directed towards improving the business environment so that the innovation activity be increased.

Keywords: Indices, Development, Conditions, SMEs, Large Enterprises.

Introduction

Micro, small and medium-sized enterprises are the spine of Bulgarian economy, being 99,8% of non-financial companies. Almost ½ of the working population works in them.The microenterprises employing up to 9 people prevail, their percentage from the total number of non-financial companies, amounting to 91,9%. Small enterprises employing 10 to 49 people are decreasing as compared to the other groups, their percentage being 6,7%. Medium-sized enterprises with 50 to 249 workers are the smallest sub-group of SMEs - 1,3%. Large enterprises with over 251 employeesare0,2%, which puts Bulgaria around the EU average.

The aim of the study is to assess some of the conditions, influencing the development of non-financial enterprises in Bulgaria, applying the indices: „Business Environment“, „Access to Finance“, „Innovation Activity“, „Qualification of personnel“ , „Education–Business Synergy“.

Methodological approach

The **„Business Environment“Index** (Atanasova and Ivanova, 2015) assesses the conditions for doing business in Bulgaria. „Favorable environment“ is the one in which the existing legislative and economic conditions offer good opportunities for business development. The index comprises two equal components: a) assessment of conditions (statutory, economic, market, etc., existingon a regional and national level), having been announced by the people interviewed in relation to their business; b) evaluation of the influence of the world economic crisis on the development of their companies. The mathematical formula for calculating the index is:

$$IBE_i = \frac{\frac{Conditions_i^j}{p} + \frac{Consequences_i^j}{q}}{2}.100,$$

***IBE**$_i$*–**business environment for enterprise*i* index;**

Conditions$_i^j$-extent to which enterprise*i*determines condition*j*as an opportunity for business development;

p-maximum admissible score, given by enterprise*i*for the conditions for business development;

Consequences$_i^j$- extent to which enterprise*i*determines consequence*j*from the economic crisis as an opportunity for development;

q-maximum admissible score, given by enterprise*i*for the consequences of the world economic crisis on business development in Bulgaria.

The **„Access to Finance“Index**(Simeonova-Ganeva et al., 2012) assesses the degree of enterprises' access to funding.„Easier access to funding“ allows the enterprises a fast and easy use of funding from the following sources: a) Funds received from commercial banks, national and European Funds and programmes, risk capital, etc.; b) Own capital and savings from activities in Bulgaria and abroad. The mathematical formula for calculating the index is:

$$IAF_i = \frac{\sum_m FinSource_i^m + \sum_n Personal_i^n}{\max\left(\sum_m FinSource_i^m + \sum_n Personal_i^n\right)}.100$$

IAF_i- access to finance for enterprise *i* index;

$FinSource_i^m$ – measures whether enterprise *i*uses a source for funding*m*;

$Personal_i^m$ – measures whether enterprise *i*uses their own capital*n*.

The **„Innovation Activity"Index**(Simeonova-Ganeva et al., 2012) assesses the extent of innovation performance of enterprises.„High innovationactivity" means that the enterprise participates in scientific and research activities in the country and abroad, and develops new technologies and products. The index comprises two equal components:a) Business partnership with educational and scientific institutions; b) Development of new technologies and products. In calculating the index an assessment of the innovations planned for the next 5 years is done. The mathematical formula is:

$$IRD_i = \frac{\frac{\sum_m RDpartner_i^m}{\max\left(\sum_m RDpartner_i^m\right)} + \frac{\sum_n RDstrategy_i^n}{\max\left(\sum_n RDstrategy_i^n\right)}}{2}.100,$$

IRD_i- innovation activity of enterprise *i* index;

$RDpartner_i^m$- enterprise *i* forms partnerships witheducational and scientific institutions;

$RDstrategy_i^n$- enterprise *i* develops new technologies and products.

The**„Qualification of Personnel"Index** (Vladimirov et al., 2013) assesses the degree of the staff's professional training. It has two components: a) qualified staff in the enterprise; b) training provided for qualification improvement. The mathematical formula is:

$$HRD_i = \left(0,4.Qualification_i + 0,6.\frac{\sum_k Training_i^k}{\max\left(\sum_k Training_i^k\right)}\right).100,$$

HRD_i- qualification of personnel of enterprise *i*index;

$Qualification_i$ – index for high staff qualification as evaluated by the interviewee from enterprise *i*;

$Training_i^k$- need for increase of qualification in area*k*of enterprise*i*.

The**„Education-Business Synergy[1]"Index** assesses the extent to which enterprises are engaged in joint activities with educational institutions (schools, universities). „Strong synergy" means that business cooperates with secondary and higher education. The index comprises two equal components: a) evaluation of enterprise's activities assisting education; b) assessment of educational activities, assisting business.

The mathematical formula is: SEB_i- education-business synergy of enterprise*i*index;

BE_i^m- extent to which enterprise*i*,while engaged in activity*m*,may help education;

EB_i^n- extent to which and university, while engaged in activity*m*,may help the development of enterprise*i*.

The indices were calculated for each enterprise and the results were summed up. Evaluation of different-sized enterprises was done. Each index has values ranging from 0 to100 points, presented in Table 1.

[1]„Synergy"-The interaction of two or more agents or forces so that their combined effect is greater than the sum of their individual effects.

$$SEB_i = \frac{\frac{\sum_m BE_i^m}{\max\left(\sum_m BE_i^m\right)} + \frac{\sum_n EB_i^n}{\max\left(\sum_n EB_i^n\right)}}{2}.100,$$

Table 1. Indices'estimated values.

Qualitative Estimation Range	INDICES „BusinessEnvironment“	„Access to Finance“	„Innovation Activity“	„Staff Qualification“	„Education-Business Synergy“
0 – 20	unfavourable	impeded	low	low	poor
21 – 40	rather unfavourable	rather impeded	rather low	rather low	rather poor
41 – 60	neither favourable nor unfavourable	neither impeded nor easier	neither low nor high	neither low nor high	neither poor, nor strong
61 – 80	rather favourable	rather easier	rather high	rather high	rather strong
81 – 100	favourable	easier	high	high	strong

Analysis and evaluation of indices

In 2014 a survey was conducted among non-financial enterprises in Central Bulgaria. The survey engaged random sampling. The enterprises included in the survey were 0,5% of the total number of micro and small enterprises; 4,1% of the medium-sized ones and 5,3% of the large ones, all of which were active as of the beginning of 2014 in the region. The economic activities of the enterprises studied were: industry, construction, trade and services (Atanasova and Stoyancheva, 2014).

BusinessEnvironmental Index

The conditions for doing business assessed by the index are „neither unfavourable, nor favourable“for 78,3% of all companies. Only17,4% assess Environment as „rather favourable“,whilefor 4% it is „rather unfavourable“.

Figure 1 presents the assessment of the environmental index for different-sizes enterprises. There are 3 different evaluations for regional microenterprises: 7%find the environment to be„unfavourable“; 21%assess it as „favourable“; for 72%it is „neither unfavourable, nor favourable“.The result can be explained with the fact that they are the closest to the consumers, they are most strongly affected by the market and are the fastest to adapt to environmental turbulence. While 17% of the medium-sized and 11% of the small enterprises assess the business conditions as „rather favourable“, neither of them assesses the conditions as „favourable“. **Access to Finance Index**

Results revealed that the access to funding of the enterprises included in the study was „impeded“for 86% and„rather impeded“for 14%. Microenterprises with an average index value of 12 encountered the greatest difficulties. That value is 19 for small enterprises and 20 for medium-sized and large ones. The results obtained for microenterprises can be explained with the small amount of assets, low efficiency and creditworthiness, which discourage the banks from extending credits.

The other three groups – small, medium-sized and large enterprises are more creditworthy than microenterprises but their access to credit resources is impeded as well. That can be explained with the loss of markets resulting from the world economic crisis.

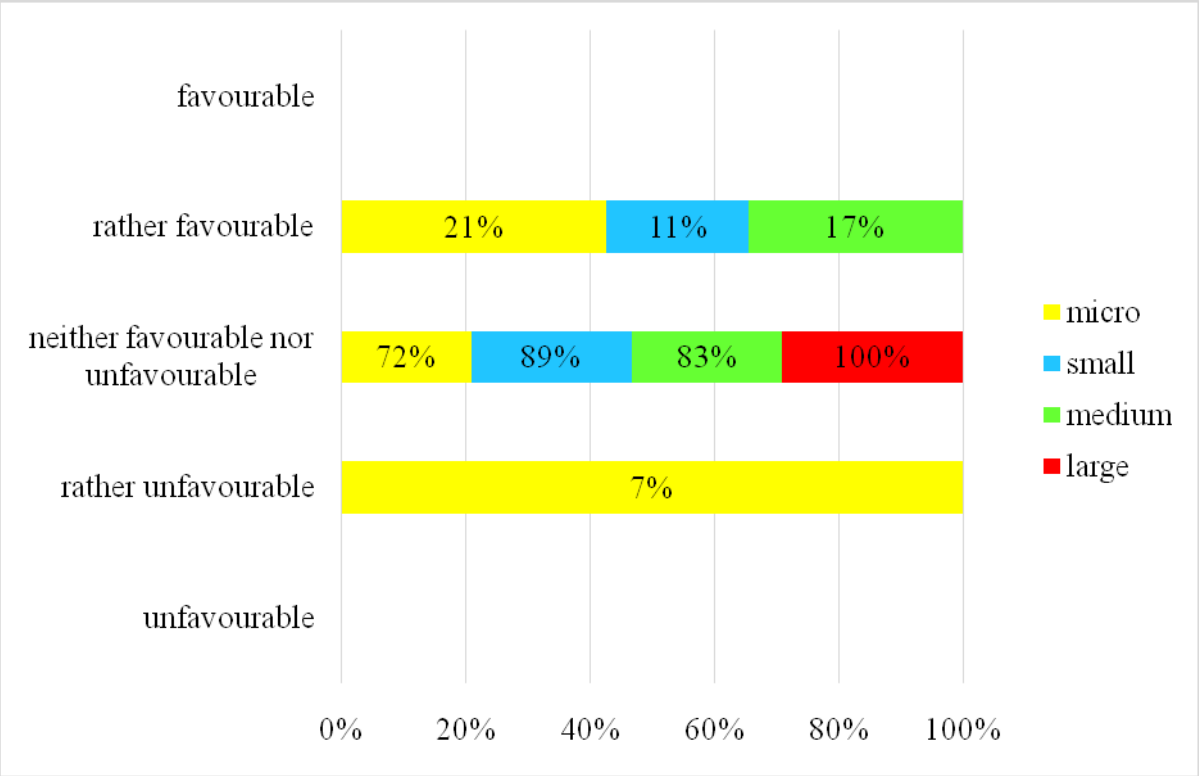

Fig. 1. Business Environmental Index

Innovation Activity Index

It is specific for this index that the enterprises studied are divided into 2 subgroups: enterprises partnering with educational and scientific institutions; and those that do not have such a partnership.

It was found that 44%of the enterprises in the first subgroupassess innovation performance as „neither low nor high".Another 44%assess it as „rather low". Only 11% of the enterprises in this subgroup assess their innovation performance as „rather high".

45%of the companies in the second subgroup have „low", while 55% have „rather low" innovation performance.

Figure 2 presents the results for the innovation activity evaluations for the two subgroups, where the enterprises are grouped according to their size. It was found thatin 11% of the micro and 50% of the medium-sized enterprises innovation performance was „rather high", as a result of the cooperation. In 67% of the micro, 40% of the small and 100% of the large enterprises, the cooperation with scientific and research institutions had no significant impact on their innovation performance and it was assessed „neither low nor high".

The results of our study confirm the existing picture of low innovation performance of Bulgarian companies.The results can be explained with a lack of funding and lack of guarantees regarding the ownership of the innovation. Despite the existence of a patent system the innovation process is long and the innovations themselves are too expensive.

Qualification of Personnel Index

Results show that only 2% of the companies assess their staff qualification as „high", 11%find it as „rather high". The relative share of those that assess it as "low" is significantly higher- 39%.

Figure 3 presents the results for different-sized enterprises. Only small companies- 9% define their staff qualification as „high". For 5% of micro, 27% of small and 14 % of medium-sized enterprisesthe assessment is „rather high". The relative share of enterprises finding their staff qualification to be "low" is significantly higher- 46% of micro,43% of medium-sized and 50% of large ones.

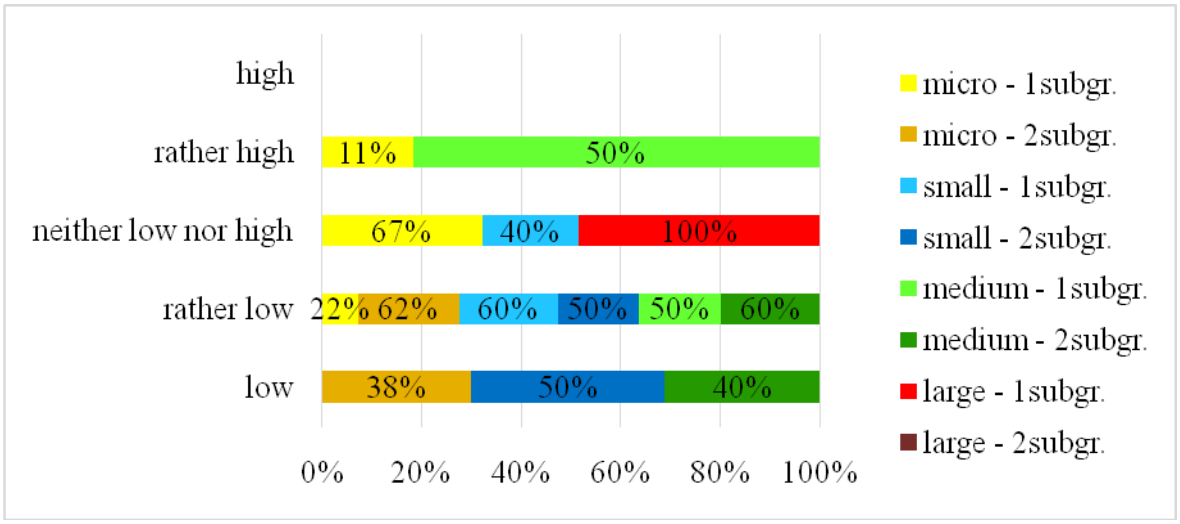

Fig. 2. Innovation Activity Index

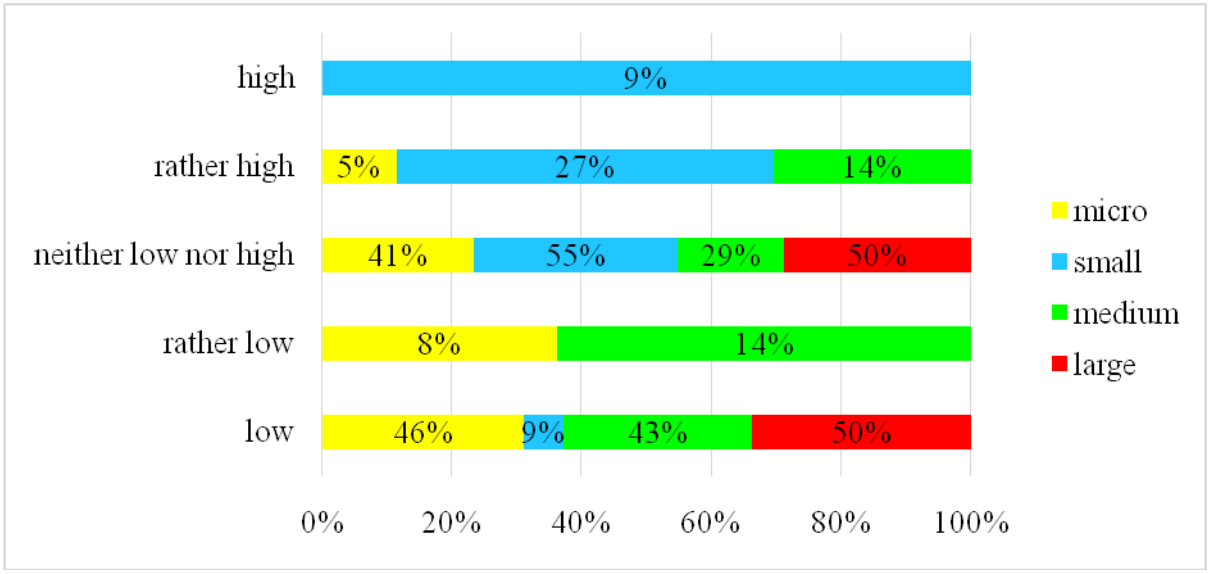

Fig. 3. Qualification of Personnel Index

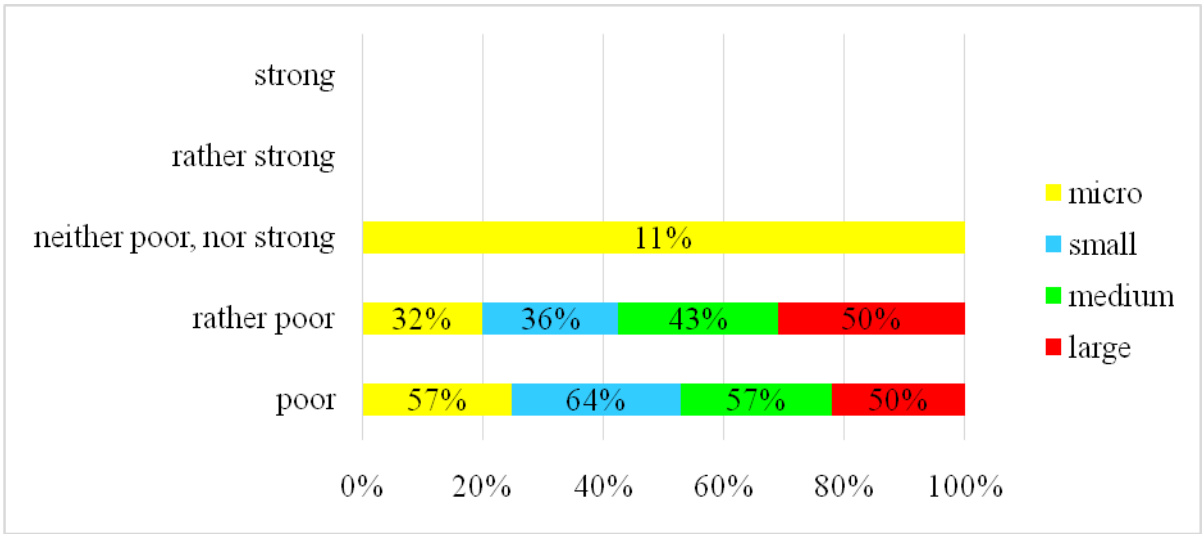

Fig. 4. Education-Business Synergy Index

Conclusion

The study and analysis showed that changes are needed not only in enterprises but in business environment as well.

The aim of national programmes like „Innovation and Competitiveness 2014-2020“ and „Initiative for SMEs“ is to improve the access to funding and increase innovations but there is no established practice for joint research and development related activities between business and scientific and research institutions. The innovations in SMEs can be stimulated by institutional measures which may encourage business to cooperate with universities and research centers on the basis of public-private partnership.

The experience of one of the leading universities in the world– Cambridge (Wicksteed, 2000) may be used. In 1990 it startedtheir own Modernization Programme, realizing the fact that traditional funding methods are not sufficient for the development of science and technologies. The university's ambition to be a leading scientific and educational institution urged them to seek cooperation with business. Alec Broers, Vice Chancellor, has signed agreements for joint activities with ten companies, including „Microsoft", „Rolls Royce", „Hitachi", „Toshiba", „Seiko", erc.

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