



COMPETITIVE INDUSTRIAL GROWTH OF BULGARIAN FOOD PRODUCTION

N. Sterev*

Industrial Business Department, Business Faculty, University of National and World Economy,
Sofia, Bulgaria

ABSTRACT

Industrial growth is the desired possible scenarios for economic development of Bulgaria nowadays. Thus, the economists are looking at international markets and exported-oriented industrial sectors. So, the Food processing sector is one of the most perspective sectors that could be in the core of the economic growth. This arise a question: Does food processing sector do ready for such important role? The next paper discusses not just the preparedness of the food industry for growth but shows the starting position for this growth perspective. So the main aim of the paper is to present the current state of the food producers (at micro-economic level) and to identify the perspectives for future development. The analysis covers the presence indicators of food producers in Bulgaria according to usage micro data statistical analysis. This analysis reveals some basic factors as: labor costs, investments, financial costs and etc.; that are directly connected not just with the enterprise growth, but also with their competitive advantages' possession. According to this analysis, the basic findings explore the dynamic of Bulgarian food industry's growth and respectively it change at business level. Some important recommendations for increasing the competitive growth potential of Bulgarian food industry are made as conclusion.

Key words: competitive growth, production function, competitive potential, food processors

INTRODUCTION

The problems of industrial growth and national or enterprise competitiveness are put in the center of the common economic policies, strategies and plans. But does it mean that the business could growth through competitiveness' excellence?

There are many examples that the businesses could growth just by the good opportunities and respectively, businesses that possess high competitive advantages could bankrupt. The explanation besides these stories is the different nature of the business growth and competitiveness. But according above, is it possible to have competitive growth?

* **Correspondence to:** *Nikolay Sterev, Business Faculty, UNSS, Studentski grad, 1700 Sofia, tel: +359 2 8195 411, e-mail: sterew@abv.bg*

To find out the answer of these questions we had to compare the nature as of being competitive as well as to growing at the market.

First of all, the problems of the economic growth and competition are not just common ones. They have been put in the economic discussions since the end of 16th and the beginning of 17th century. Even though, the economists still looking for appropriate methods to get an economic growth through free competition. Why the decision is set so hard? It is because the perceptions of the economic categories and respectively the economic relations have been constantly changing. Just for example, any smaller or a bigger economic crisis has put another brick out of this discussion. Respectively, the last financial and economic crises from the 2008-2009 showed that the economic growth is not necessary even though continuous competitive excellence. Thus, we need a slight different understanding of these two economic categories nowadays.

Second, the understanding of competitiveness and growth are based on different foundations. Even though the economic evolution or revolutions, the competitiveness excellence is basically grounded on the comparison between different market players. Thus, the competitiveness is perceived more as business war than the cooperative play. Vice versa, the growth theory relies on the production factors distribution than the market fight for these factors possession.

At last but not least, the business has been changing. The contemporary market is an arena of long-life fight between the businesses death and new-born businesses. Many of these newer entities are fated to die, but they give their contribution for the overall business development and respectively growth.

According to above, different industrial sectors have met different opportunities as well as different market and competition development. Therefore, it is interesting how the competitiveness find the growth way in different business.

STATE OF ARTS

Understanding the competitive growth perspectives need to look into the historical evolution of growth and competition theories.

1. Competition

A first sight of the market mechanism is given by the “revolutionaries” from the classical economics as Adam Smith and David Ricardo. As they set, the competition is this engine that drives the economic to move up. So it is easy to find that there is a very slight connection between economic development and competition.

In this very beginning Adam Smith (1932, p.329) stated: “In general, if any branch of trade, or any division of labour, be advantageous to the public, the freer and more general the competition, it will always be the more so“, he put the free market competition as an engine of market. Furthermore, the competition brings about an optimum allocation of resources in that consumers receive the goods they want at the lowest possible cost and maximum rates of growth are ensured (Smith, 1932).

David Ricardo has developed Smith’s theory for free market (1817, chapter VII). He defined that the market is driven by possession of “competitive advantages/disadvantages” as he stated that “... if one had the advantage in the manufacture of goods of one quality, and the other in the manufacture of goods of another quality, there would be no decided influx of the precious metals into either; but if the advantage very heavily preponderated in favour of either, that effect would be inevitable”.

Thus, the early understanding of competition and competitive advantage is focused on the resource approach as well as the competition is a continuous fight for these rare resources. According to Smith and Ricardo the economic theory just perceived that competitiveness means resource possession. So, bigger means better. The improvement of manufacturing techniques as well as the enlargement of the international trade during the last century has changed the point of view of the competition. Therefore, the competition is not just a fight for the scarce resources but it is a fight for the consumers’ attention. This focus change needs to put the competition at a newer foundation. So this falls down from the macroeconomic perspective of competition (as Smith’s and Ricardo’s one) to the microeconomics one is done in the beginning of 1980’s from Michael Porter as he defined a “value chain concept”.

According to Porter (1988) “value chain” describes the enterprise activities that are related to the competitive strength of any entity. Thus, this model evaluates which particular activity adds value to the products or services and respectively consumers are willing to pay a price for such value. The perception of the Porters theory gives the sight that the entity is not a random compilation of machinery, equipment, people and money but a well-organized system of activities. Therefore, the entity could arrange its activities in way of creating more value with lower costs. Thus, the Porter’s point of view of competition is focused on process approach.

2. Industry growth

The economic category of “industrial growth” is developed much more lately than the category of “competition”. As it is mentioned above, the economic growth is an evolutionary result of competition development for the early

economists. But this growth perception is stopped by fast market saturation in the 1960's. Therefore, the industry growth is well defined just in the middle of 20th century to answer of production enlargement.

As it is stated above, the theory of economic growth is basically introduced in the description of the economics' nature as the classical economist (Adam Smith, François Quesnay and others). They explain growth as an economic result that is dependent by the possession and usage of the land. With development the economic theory the industry growth production factors enlarged from two factors: labour and capital in the 19th century, to three factors: capital, labour and land in the beginning of the 20th century.

The brief preview of growth's theory development (see: Mishra) shows that the first mathematic formulation is given by Douglass and it is known as Cobb-Douglas production function (Douglass, 1976). Later, in the middle of the 20th century, innovations and technology transfers are put as a growth factor. Thus, as Carlsson and Eliasson (2001) define: the contemporary economic growth is a result from the interaction of all market actors.

According to the above, Kopeva et al. (2010) wrote that industrial growth measures as the quantity as well the quality enlargement of the industrial sells in terms of free competition. So, the industrial growth gives a sight not just the productivity of usage of production resources as well as it characterized the level of overall

competitors' co-operation for sustainably conducting industry growth.

3. Competitive industrial growth

The competitive industrial growth seems like an intersection between competition and economic growth. Thus, in comparison of the industrial growth potential with the competitiveness potential we can find the contemporary approach of industrial dynamic.

Industrial dynamic's approach is set by Forester (1961) when he defined that industrial dynamic is a result of the increasing ability to enforce the industry evolution (Forrester, 1988) for a long-term periods. Furthermore, industrial dynamic is focused on the changes of the industry architecture that lead to evolution of the free competition markets (see: Mattig, 2009).

So, by usage of the approach of the industrial dynamics we are able not just to describe and to analyse the current industrial structure (as it is done in competitiveness' analysis), but to find out more about the production factors (resources and processes) that change market competition structures inside. (see: Krafft, 2006; Dietrich, 2006 and others).

Therefore, the connection between these competitiveness and industrial growth is set by the next approach of the industry system, where in the begging are different out-of-enterprise inputs, after that they are transformed in production process, and finally, result in different outputs. (**Figure 1**)

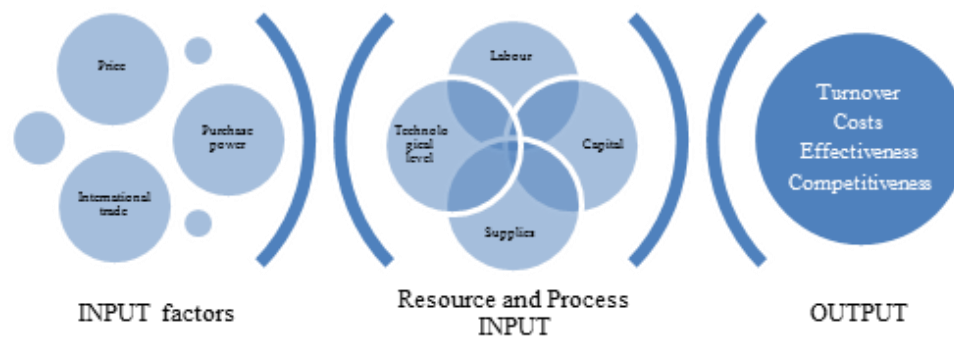


Figure 1. Competitive industrial growth approach

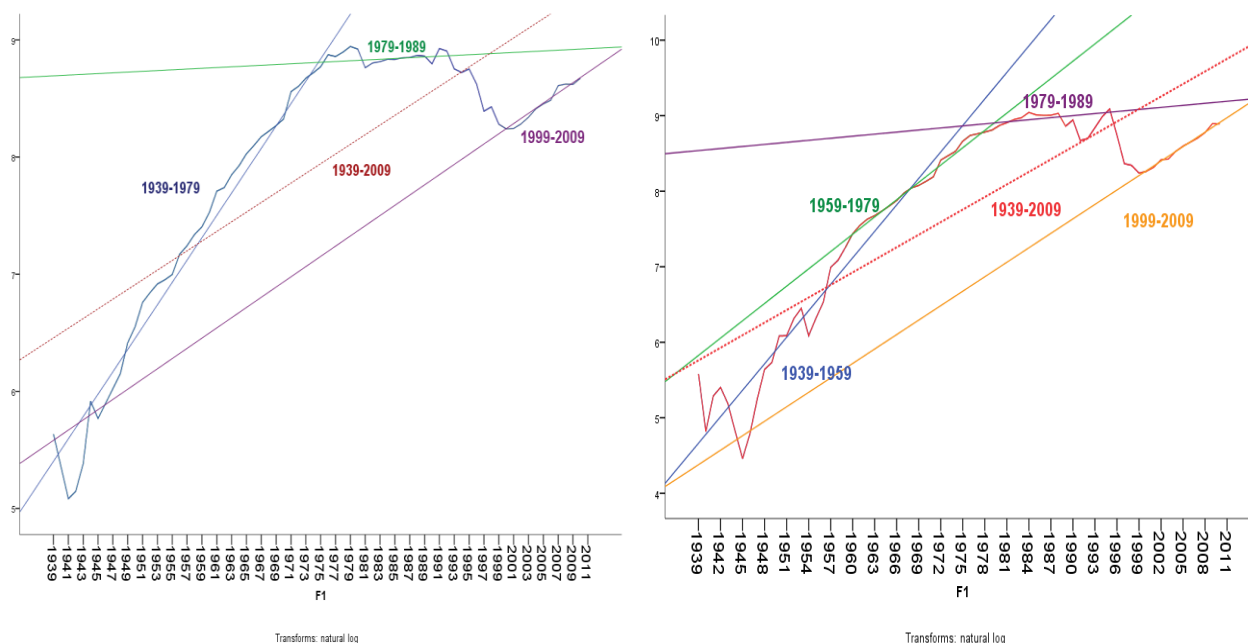
STATE OF FOOD INDUSTRY IN BULGARIA

For understanding what exactly stands beside the food producers' competitive growth we need to look at the presence of the Food industry for the last century.

The analysis on the food industry includes as the analysis of a change of the overall food production as well as total food products

turnover in Bulgaria over time. To ensure that there is no statistically confidential autocorrelation we use the log-function of the production and turnover (Kopeva 2011a; Blagoev 2013).

The change of the food production and food products turnover in Bulgaria for the period 1939 – 2009 is given on the next **Figure 2**.



Source: Blagoev 2013

Figure 2. Production (left) and Turnover (right) in Food industry in Bulgaria

The figures show not just the stages of development of food production and consumption in Bulgaria, but also give a picture of overall dynamic growth of the food industry in Bulgaria for the last century.

Another important state is that the food consumption in Bulgaria grows much faster than the food production grows. This could be perceived as a first demonstration of growth potential loss of the food producers in Bulgaria.

The last conclusion is verified by identifying the Industry Dynamic Index (see Kopeva 2010, 2011). This index has a negative value for the Bulgarian Food industry (**Figure 3**)

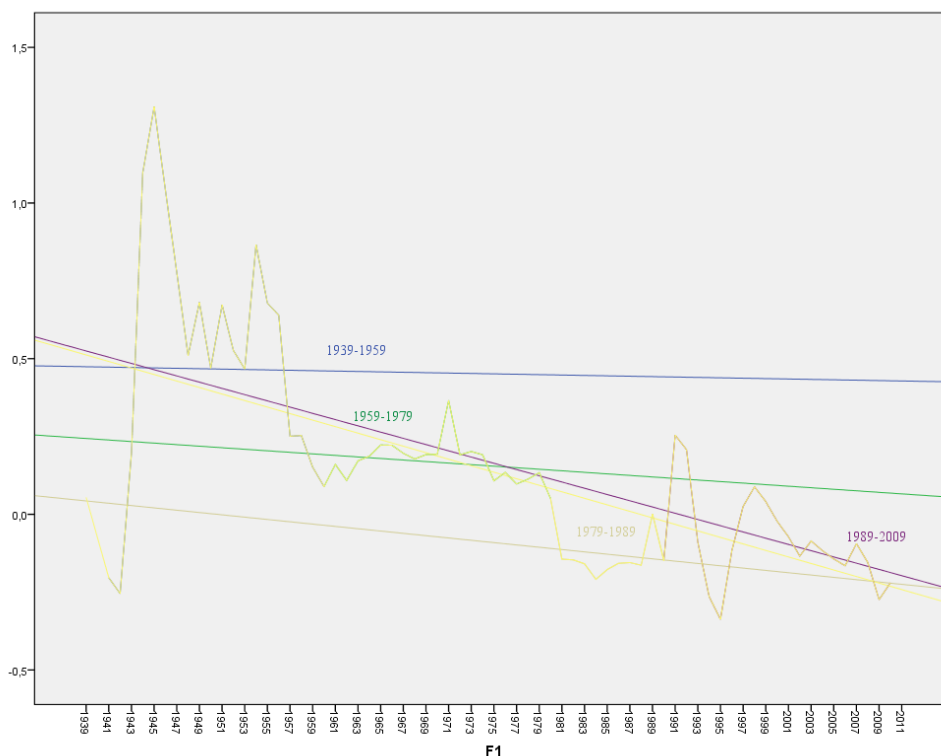
As the figure shows, the food turnover exceeds the food production in Bulgaria for the whole period. But this is not so sufficient in the middle of the 1950's then in nowadays.

The connection between production growth and competitiveness is based on the next:

- **Deterioration of food industry competitiveness** – in this meaning the added value of the food production is lower than the added value of other industries.
- **Deterioration of international competitiveness** – in this meaning Bulgaria has lost its competitive advantage in food

specialization since 1990's. So, the Bulgaria has changed its position and from the food exporter became a food importer for the last 10-20 years.

How we can explain the food production competitiveness loss? The analysis covers these production factors that move the food production up.



Source: Blagoev 2013

Figure 3. Industry Dynamic Index of Food industry in Bulgaria

The main results of the production factor analysis for the Bulgarian food industry are given in the next **Table 1**.

Table 1. Correlation coefficients between elements of the food production function

		Food production	Material costs	GVA per employee	Investments in TFA	Innovation index
Food production	Pearson's correlation	1,000	,867**	,748**	,574**	-,348**
	Sig. (2-tailed)		,000	,000	,000	,007
Material costs	Pearson's correlation	,867**	1,000	,572**	,392**	-,351**
	Sig. (2-tailed)	,000		,000	,002	,006
GVA per employee	Pearson's correlation	,748**	,572**	1,000	,360**	-,171
	Sig. (2-tailed)	,000	,000		,005	,197
Investments in TFA	Pearson's correlation	,574**	,392**	,360**	1,000	-,193
	Sig. (2-tailed)	,000	,002	,005		,147
Innovation index	Pearson's correlation	-,348**	-,351**	-,171	-,193	1,000
	Sig. (2-tailed)	,007	,006	,197	,147	

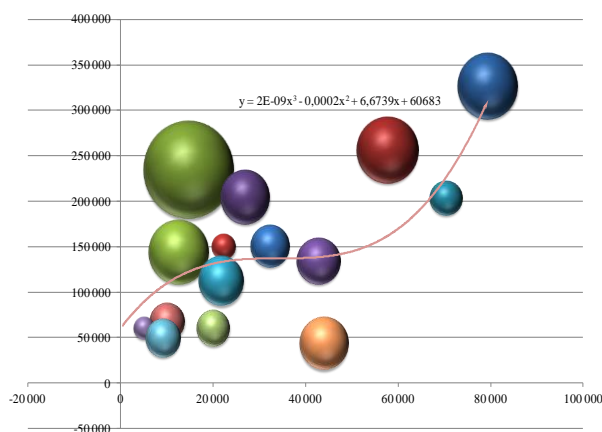
Remark: ** The correlation was significant at 0.01 (2-tailed)

Source: Blagoev 2013

According to the table Bulgarian food production is based on material cost reduction as well as value added by employee increase. But the growth of food production does not lay on the investment pull on as well as innovation growth.

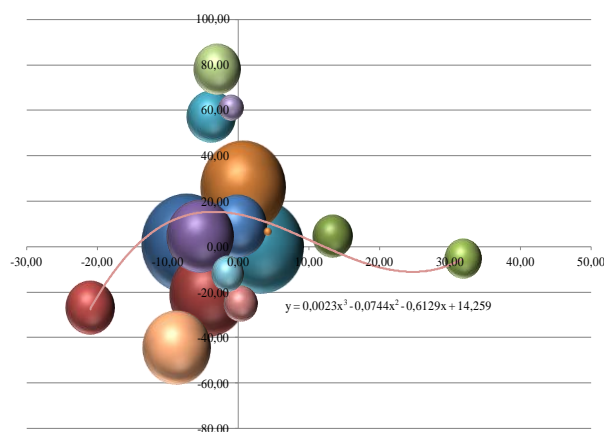
This state gives two general mistakes of food industry growth that limit the competitive growth of the food industry in future:

- **Production of low-cost food products** with minimum material costs as well as reduced employee costs. This reflects on quality personnel loss.
- **Production of food products in their maturity stage.** This reflects on sustainably dependence of Bulgarian food production on the



Source: Sterev 2013

Figure 4. Distribution of the biggest food producers by their Turnover, Number of employee and the Assets (on the left), and their profitability (on the right) for 2009



The figures above show the conclusions as follows:

- The overall production drop of the 18 biggest food producers is lower than 1% in comparison with the 9% drop of turnover within the food industry in Bulgaria.
- The profit of the 18 biggest food producers is enlarged in crises in comparison with the shrinking profit within the Bulgarian food industry.
- The financial measurement of the 18 biggest food producers is show a 10% growth.

The problems that were identified above could be shown by analysing the competitiveness of the food producers in Bulgaria. According to Sterev (2012) the overall food producers' competitiveness drop down as a result of

international food products and technologies' development.

These both give the conclusion that Bulgarian food industry has kept losing its identity since 1990's.

ANALYSIS OF GROWTH POTENTIAL OF FOOD PRODUCERS IN BULGARIA

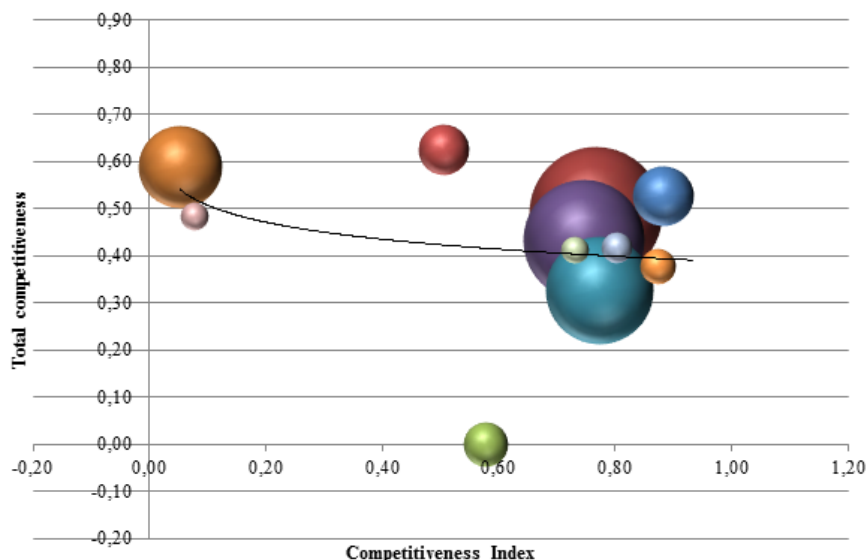
To look inside the competitive growth problems, we evaluate the biggest food production enterprises in Bulgaria. This analysis gives back the acknowledgment of the resource approach in meaning that "bigger means better". It covers of the biggest 18 food producers in Bulgaria and shows how they use the strategy of low-cost production. Their basic result on market is given on **Figure 4**.

insufficient products, resources or technology changes of the food producers in Bulgaria.

This conclusion that food producers in Bulgaria loos their competitive advantages at the local (resp. national) food market is given in the next **Figure 5**.

The figure shows that the food producers that possess comparative advantages lose on the common food market. Thus, these food producers are doomed to market failure. And this state gives an advantage of "cheapies" and "competitive disadvantage" ones.

As a final result, we do not expect to have an accelerate growth of the food production in Bulgaria because the enterprises that bring out such growth are reducing their number.



Source: Sterev 2012

Figure 5. Distribution of food producers by their Competitive Indices and Their Total Competitiveness indices

CONCLUSIONS

The competitive industrial growth is an intersection between market competition and economic growth. Thus, the competitive industrial growth's potential is given by usage the industrial dynamic's approach. According to the literature preview the competitive growth depends not just on the competition but on that how competitors use the production's factors to generate growth sustainably.

Practically, the food production is very important industrial sector that shows how Bulgarian economy has been developing. But the analysis of competitive growth potential of Bulgarian food producers gives a lot of problems inside the food industry. In summary, food producers have lost a lot of their competitive advantages in the last 10-15 years. The problem is worse as this lost is not distributed equally in the food industry. According to the possessed competitive advantages: low-cost production and low-labour force input; give that the biggest food producers goes bigger and vice versa, the smaller food producers become smaller and smaller.

Finally, we do not expect an accelerated competitive growth of the food production in Bulgaria in the next 5-7 years.

REFERENCES

1. Blagoev D. et al (2013), Industrial Dynamic of Food and Beverage Industry (Bulgarian

Example), 2nd Edition of International Symposium "Advancing socio-economic research", 24-25 May 2013, Bucharest, Romania

2. Bresnahan and Malerba (1997) [ONLINE]: Industrial dynamics and the evolution of firms and nations competitive capabilities: in the world computer industry
3. Cantner et al. (1999): Economic Evolution, Learning and Complexity – Econometric, Experimental and Simulation Approaches
4. Carlsson, B., Eliasson, G. (2001), "Industrial dynamics and endogenous growth", paper prepared for the Nelson and Winter Conference of the Danish Research Unit for Industrial Dynamics (DRUID), June, available at: www.druid.dk/conferences/nw/
5. Dietrich (2006): The Economics of the Firm, Routledge, London
6. Douglass P.(1976) The Cobb-Douglas Production Function Once Again: Its History, Its Testing, and Some New Empirical Values". Journal of Political Economy 84 (5): 903–916. October 1976
7. Forrester J., 1999, Industrial Dynamics, Productivity press: MA. Massachusetts.

8. Forrester, J. 1961, *Industrial Dynamics*. Portland, Oregon: Productivity Press.
9. Kopeva D. et al (2010), *Basic Determinants Of Bulgarian Industrial Growth After The Eu Accession Bulgaria*, ACTA TECHNICA CORVINIENSIS - Bulletin of Engineering, Fascicule 4 [October-December] 2010, pp. 83-90
10. Kopeva D. et al (2011a), *Bulgarian Food Industry Growth And Trade With BRIC Countries*, International Scientific Conference on „ECONOMIC POLICY AND AGRI-FOOD SECTOR”: „CHANGES IN AGRI-FOOD SECTOR IN EUROPEAN COUNTRIES”, 1 December, 2011, Warsaw, Poland
11. Kopeva D. et al (2011b), *Comparison of Industrial Dynamics in Bulgaria, Romania, Greece and Turkey*, International Conference for Entrepreneurship, Innovation and Regional Development (ICEIRD 2011), May 2011, Ohrid (CD – ISBN 987-608-65144-1-9)
12. Kopeva D. et al (2011c), *Industrial Dynamics at national level as a factor of sustainable industrial growth in EU*, 3rd European Conference on Corporate R&D (CONCORD-2011):The dynamics of Europe's industrial structure and the growth of innovative firms, 6th October 2011, Seville, Spain
13. Kopeva D. et al (2011d), *Industrial Growth, Investment Behavior and Innovations in Bulgaria*, 3rd International Conference of Economic Sciences: Sustainable economics – community strategies 19-20 May 2011 - Kaposvár – Hungary
14. Krafft 2006, *Introduction: what do we know about industrial dynamics?*, Revue OFCE, June 2006, <http://www.ofce.sciences-po.fr/pdf/revue/hs-06-06/rhs-06-06-intro2.pdf>
15. Mattig A., *Industrial dynamic and the evolution of markets in the mutual Fund industry*, Garbler, 2009
NSI (1939 – 2009) [ONLINE]: <http://www.nsi.bg>
16. Porter M. (1988), *Competitive Advantage: Creating and Sustaining Superior Performance*
17. Porter, M. (1996), *What is strategy?* Harvard Business Review, November–December, 61-78
18. Ricardo, David (1817), *On the Principles of Political Economy and Taxation*. Piero Sraffa (Ed.) *Works and Correspondence of David Ricardo*, Volume I, Cambridge University Press, 1951
19. Smith, Adam, (1932), *The Wealth Of Nations*, Book II, Chapter II, p.329, <http://www.bibliomania.com/2/1/65/112/frame-set.html>.
20. Sterev (2012), *Contemporary product and enterprise competitiveness of Bulgarian industry*, Working papers, UNWE 3/2012, pp.98-158
21. Sterev N (2013), *Impact of the economic crisis on the competitiveness of the Bulgarian food industry*, 4th International Conference of Economic Sciences Quality of Life, Sustainability and Locality, 9-10 May 2013, Kaposvar, Hungary