AGRICULTURAL BUSINESS COMPETITIVENESS AND SUSTAINABLE DEVELOPMENT FEATURES OF HUNGARY

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Abstract: *The case study examines the composition of the Hungarian business sector and demonstrates the nation's economic weight and the role of the agricultural industry. It presents business performance and competitiveness of the agricultural enterprises throught financial indicators. Sustainable Development are environmental, economic and social well-being issues of today and tomorrow, by adopting sustainable practices, agricultural firms can gain competitive edge. This paper points the characteristics of agricultural enterprises' competitiveness and sustainable development features in Hungary.*

Keywords: *competitiveness, s*ustainable development, *business performance, financial indicator, agricultural firm*

INTRODUCTION

The enterprises are facing with strong competition in the economic life due to the globalization and accession to the European Union. They have to find the most appropriate answers for the environmental changes in the intensified competition to preserve and increase their competitiveness. It applies to every industry, especially to the agricultural sector, because the agricultural enterprises' business performance and competitiveness is particularly affected by weather, the economic policy of the EU, the size of the enterprises and technological standard. The aim of the case study is to examine the structure of the enterprises operating in Hungary, and to present the role and weight, business performance, eco-efficiency, sustainability practices of the enterprises operating in the agricultural sector.

There is no generally accepted definition for the term of competiveness. The usage and spreading of the expression originated from the USA, when the economic competitiveness takes on priority status because of the USA's power efforts. Later on the enterprises also used the term of competitiveness for comparing their business performance. A chapter was published at STIGLER (1971) The Theory of Economic Regulation study, which addresses the issue of competitiveness. Competition plays an important role in the arrangement of the production, and also in the prices and incomes definition. Competition is present at every field of life, and mainly it means that at least two individuals or a group are competing for a defined prize. The competition often seems to be an end in itself, but not in the economic, here it is purposeful arranging tool of the economic activity. The economic importance of the competitiveness in particular is that it causes the economic operators to produce cheap and good quality goods [17]. If we accept Stigler's point of view, than competiveness can be deduced from the enterprises' financial reports and strategic plans. According to SAMUELSON-NORDHAUS (1988), one of the most important assumptions of the economics is that the resources are limited and they can be used in several ways. The basis of the current and future consumption's increasing is the most efficient usage of the resources, therefore achieving more results with less expense [11, 16]. The economic advantage may result from the enterprise's power sources, therefore firm level competitiveness can be measured by business performance, with the profitability, efficiency financial indexes [12].

The resource and competency based approach suggests that the basis of the enterprise competitiveness are those specific resources, which are inimitable, have value, and their efficient usage is a competitiveness increasing factor, what can be partly measured by the enterprises financial reports, with the help of financial indicators [3, 9, 10, 12].

The Competitiveness Research Centre, which functions alongside the Corvinus University of Budapest Institute of Business Economics, has been researching the competitiveness since 1990. ATTILA CHIKÁN (1995) has stated that firm competitiveness manifestation is the company's ability to operate and change. It means that it is able to produce the greatest possible profit with the available resources, and also able to respond to the changes of the environmental and in-company in a way where profit stream allows permanent operability. That is why the companies should possess the features and resources, they should constantly renew it to be able to conform to the environment's changes [6]. CHIKÁN et al. (2002) complemented the term that it is done besides ensuring socially accepted norms [7]. Firm competitiveness has to components, the customer value and the basic competences which are required to ensure this. That kind of basic competences are the firm resources and individual skills. The firms competitiveness are defined by their performance, the most effective utilization and usage of their resources. This can be described with the measurement of economy, efficiency and effectiveness. The change of the competitiveness can be measured by the indicators profitability, for what accounting provides data. Two aspects deserve to be considered at analyzing. The ability of revenue's increasing and dynamic, which can refer to the ability of market share growing at the same time. The effectiveness, how is it able to utilize its resources, the ability for profitability improvement, because this gives the opportunity for innovation [14]. SZERB (2011) listed company performance and competitiveness into seven factors. These are the physical and human resources, the routine of administration, networking, demand and supply factor and innovation [18]. A number of competitiveness research highlight the importance and significance that the resources of the companies sustainability influence their business performance competitiveness. The companies create their business performance with the company resources and by unique company features, competencies. The business activity optimatisation and the best utilization of the competencies give the business performance. The power of the competition and intensity are constantly growing, the question is that how can the enterprises adapt to these altering challenges and to the changing environment. The term of successful and competitive enterprises are replaced nowadays by the definition of sustainable enterprises. A sustainable enterprise is an enterprise, which contributes to the sustainable development by creating the balance of economic, social and environment factors.

MATERIALS AND METHODS

One of the test area of the research is that what characterizes the structure and business performance of the Hungarian entrepreneurship, the role and weight of enterprises operating in the agricultural sector inside the national economy. The research period is between 2003 and 2012 at the level of national economy, the ten years of the accession to the EU. The next question is the business performance and competitiveness of the Hungarian agricultural enterprises in the light of the utilization of the available resources. The basis of the secondary data collection is given by the annual reports of the national enterprises, which are available by the Company Information and Electronic Company Proceedings Service of the Ministry of Public Administration and Justice. The financial statements give a true and fair view [12]. There are 70 agricultural enterprises in the

database, as regards their activity dealing with plant production, farming of animals, mixed farming, seed processing services for propagation, hunting.

First 40 enterprises were included, by ownership composition 20 Hungarian-owned and 40 foreign-owned agricultural enterprises' business performance was processed. The main question was, whether is there a significant difference between the business performance and competitiveness of the agricultural enterprises by means of ownership structure. The influence of ownership structure was excluded from the results with the help of MINITAB. Therefore the data of the 70 enterprises was analyzed together. 42 enterprises, mainly medium enterprises had financial data which can be subject to research with regard of nine financial years between 2004 and 2012. Company practices developed to be sustainable were collected on the basis of environmental statements, press release and financial reports supplements.

RESULTS AND DISCUSSIONS

The main features of the Hungarian corporate sector

After the regime change in Hungary the privatization and foreign capital inflow significantly changed the entrepreneurship's structure, size, business performance and competitiveness. The Hungarian entrepreneurship has transformed due to the regime change and it was ready to access to the European Union, and after 2004 the economic relations enjoyed a greater degree of freedom thanks to the free capital and goods flow, and they had greater chance to become operators of the economic competition. The willingness of entrepreneurship increased after the years of regime change, the number of companies multiplied, the company forms transformed. The appearance of foreign investors influenced the economic structure, and due to the technological and technical changes the composition of the exported goods modernized [15].

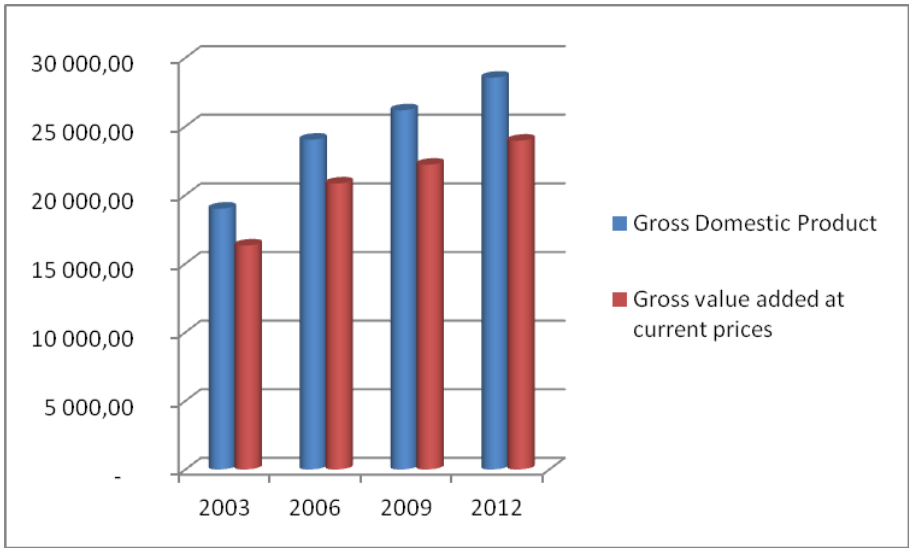

Figure 1. The gross domestic product (GDP) and Gross value added at current prices (billion HUF)

Source: according to research data author's compilation

After the regime change Hungary had the possibility to join to the market management. Figure 1 represents it is economic growth. In Hungary the gross domestic product (GDP)[1] increased from 2003 to 2012, during 10 years from 19 007,39 billion HUF to 28548,80 billion HUF, which is 50% growth. The distribution of gross value-added [2] also increased from 16318,63 billion HUF to 23958,99 billion HUF, which means 47% growth. This means that the growth of producer consumption exceeded the gross domestic product growth, that is why it did not grow at the same level as the GDP.

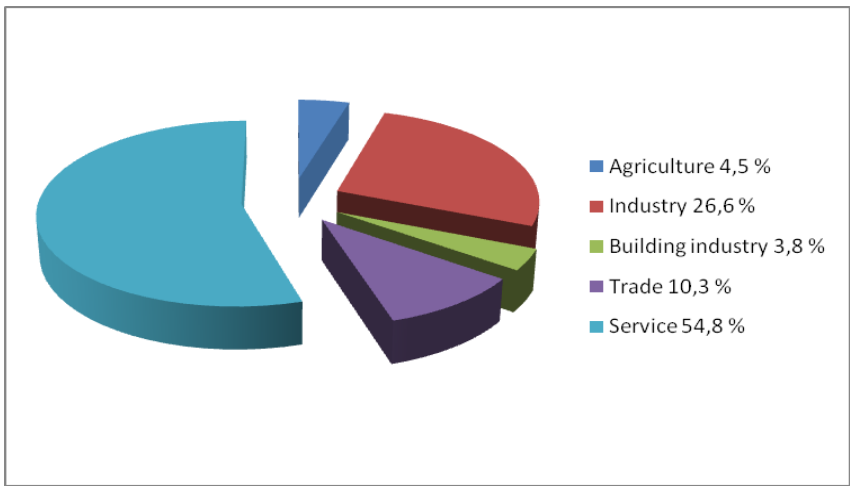

Figure 2. The value of the gross value-added distribution in 2012 (%)
Source: according to research data author's compilation

The gross domestic product's distribution rate did not change significantly by branch of economic activity in the past ten years. The most remarkable is the rate of service, industry and trade. Agriculture represents 4.4,5 % of the gross domestic value, which is illustrated by Figure 2.

Table 1 The number of acting enterprises 2003-2012 - pc

Economic Sectors	2003	2006	2009	2012
Agriculture	25 246	23 519	22 744	22 633
Industry	67 686	60 864	54 632	51 304
Building industry	72 140	71 670	67 730	55 544
Trade	153 776	145 544	139 254	133 866
Service	382 007	396 549	404 636	381 345
Total	**700 855**	**698 146**	**688 996**	**644 692**

Source: according to research data author's compilation

1 The gross domestic product (GDP) is the measure of the economic activity's result. The GDP is the value of the total produced goods and services, reduced by the value needed for the goods used for their production and services.

2 Gross value-added distribution calculated from the side of production equals to the gross values added which is estimated at basic price the produced by sectors and branches (the differences of the output basic price and the intermediate consumption market purchase price) and the balance of the amount of taxes on products and subsidies which cannot be divided into branches and sectors.

In Figure 1 the number of working enterprises shows those real market operators who define the economy's operation, with their activity and performance they contribute to the national economy performances. The number of the enterprises operating in Hungary is reducing continually since 2003. This reduce is partly the result of the method change within the framework of KSH (Central Statistical Office), because until the end of 2004 only those were considered operating enterprises who submit tax return or performed data reporting. Since 01.01.2005 those were considered operating enterprises, who have turnover and employee. The other reason of the reducing is that less new operating enterprise were established than ceased trading.

In 2012 there were 644692 operating enterprises in Hungary. Inside the operating enterprises the agriculture-forest management-fishing national economy branch represent 4% ratio. Between 2003 and 2012, during 10 years, the number of operating enterprises is less with 2613 at this branch, which can be partly explained with the statistical registry method, but mainly that more enterprises ceased than who started its working as a new one. The number of agriculture-forest management-fishing national economy branch was 23 519 in 2006, 22 744 in 2009, it is clearly visible that due the crisis the number of the operating enterprises reduced with 775 within three years. In the next period there is still a reducing tendency, because from 2009 to 2012 the operating enterprises are less with 111 at this branch. Over the past years there were about 3,8 million employed in Hungary, from them approximately 192 000 working in agriculture, which means 5% of the total employment.

Table 2 The number of foreign interested enterprises by national economy branch 2008-2012 – pc

Economic Sectors	2008	2009	2010	2011	2012
Agriculture	705	737	774	754	733
Industry	3 462	3 404	631	3 392	3 304
Building industry	1 520	1 473	1 418	1 371	1 278
Trade	8 872	8 838	9 002	9 210	8 457
Service	14 434	14 700	15 113	15 223	14 557
Total	**28 993**	**29 152**	**26 938**	**29 950**	**28 329**

Source: according to research data author's compilation

The number foreign interested enterprises decreased after 2009 from 29152 to 26938, in 2010 it was less with 2214. In the case of agricultural companies their number increased from 737 to 774. Here the decrease come forward in the next years, when in 2010 it changed from 774 to 754, and their number reduced from 754 to 733 in 2011. The agriculture represented 3% ratio inside the foreign interested enterprises in 2012. The value of the foreign investment in Table 3 is constantly growing since 2008 until nowadays. The Only 1 % of the capital inflow get into the agricultural national economy branch.

Table 3 The foreign capital of foreign interested enterprises by economy branches 2008–2012 - billion HUF

Economic Sectors	2008	2009	2010	2011	2012
Agriculture	88,2	96,4	113,7	121,2	139,3
Industry	6 059,3	6 522,9	6 999,7	4 928,3	5 106,8
Building industry	201,5	183,4	183,1	107,1	85,1
Trade	2 049,2	1 921,0	1 972,0	2 003,1	2 047,2
Service	6 213,2	6 740,9	6 794,4	10 340,1	10 743,8
Other (not be divided)	396,7	409,8	422,9	435,7	450,7
Total	**15 008,3**	**15 874,4**	**16 485,8**	**17 935,5**	**18 572,9**

Source: according to research data author's compilation

Eco-efficiency of the agricultural companies

The WBCSD's eco-efficiency concept and the rates recommended by them. The concept of eco-efficiency was introduced first by the World Business Council for Sustainable Development (WBCSD) in its report, which was submitted to the ENSZ (United Nations) conference about sustainable development in 1992. The OECD defined the term, that „ Eco-efficiency expresses the efficiency with which ecological resources are used to meet human needs" on the basis of the OECD report eco-efficiency can be defined as a ratio of production and input, where production expresses the value of the goods or services produced by a company, while input is the totality of environmental impact caused by production. Eco-efficiency can be reached if they offer competitively priced goods or services which satisfy the human needs and improve the standard of living, by reducing at the same time the environmental impact and the intensity of resource usage during the lifecycle until the optimum level of the Earth estimated carrying capacity. Eco-efficiency expresses the efficiency, with which the ecological resources are used to satisfy human needs, it confirms, that with a unit of input how much value, added value is produced by them. Eco-efficiency is the value of the goods or services and the proportion of environmental impacts. The net turnover and the proportion of impact can be obtained by information of financial reports [1, 2, 5].

The same turnover reached by less expense means bigger eco-efficiency for a company. Therefore, the result should be above 100% value. The index was calculated in the case of the inspected 20 Hungarian and 20 foreign owned agricultural big and medium enterprises between 2008 and 2012. In the average of five years, the results show that the ownership system does not influence the eco-efficiency of the agricultural enterprises. The results were examined by Wilcoxon-test with the help of MINITAB. The signed-rank Wilcoxon-test compares the median at least an ordinal scale with a predefined value by us in a group. It is practically the non-parametric alternative of the signed-rank t-test. The signed-rank Wilcoxon-test does not have precondition, therefore the distribution not normal, over against the signed-rank t-test. There were no major differences during the comparison of the two company groups' data. It was diagnosed that the Hungarian and foreign owned companies eco-efficiency shows difference, but these differences are not significant. It was proved by statistical test. After that 42 companies' data was analyzed from the involved 70 between 2004-2012, in view of nine years.

The average of the company indexes was above 100% in every year, which means that the eco-efficiency is appropriate. Reaching higher turnover by less expense, with the usage of less environmental factor, results bigger eco-efficiency what is represented in Figure 2. Since 2004 the average index was continuously reducing from 129% to 112% until 2008. Accordingly, accessing to the EU influenced badly the eco-efficiency of the agriculture. After the crisis is started growing again and it was 125% in 2011. In 2012 there was reduced again, because the average indicator index was 118%.

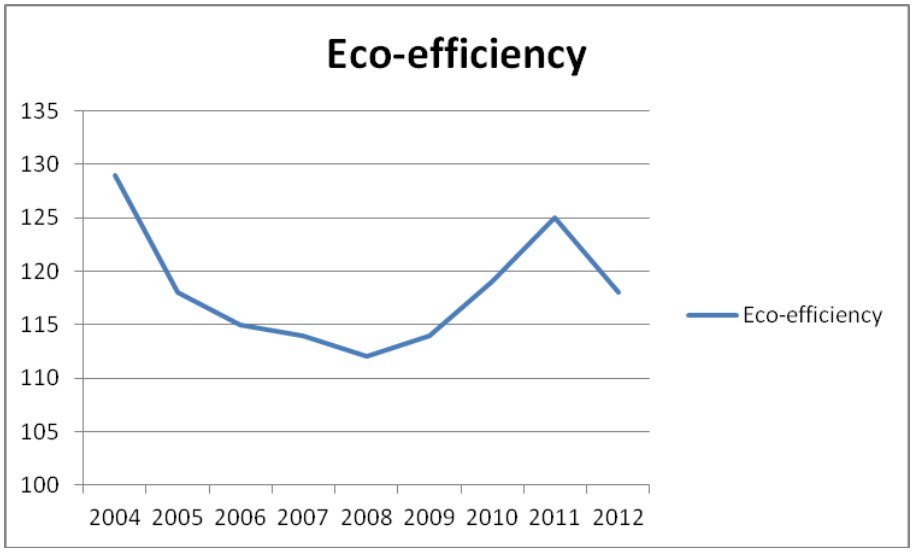

Figure 3. The value of Eco-efficiency 2004-2012 (%)
Source: according to research data author's compilation

Specific features of the agricultural companies' business performance and economical sustainability

The financial indexes characterize well the condition of the companies' profitability and solvency, they are suitable for risk measurement and management, all these have impact on their competitiveness [19]. The financial indexes can be reliably derived from the data of financial reports. They lean on the data of the past, but points to the future. If we compare these indexes with the business performance of our competitors, then we can conduct competitiveness analyses. During the analyses we can apply the indexes for comparison, inside the enterprise in different periods how were they developed, the change shows function-like relation, what kind of trend can be outlined for the past data [8]. It can be a positive sign for the future, but also the sign of the adverse tendencies' development. For sectors, we can identify general statements with analyses in the same sphere, in the case of the enterprises who are working at the same sphere. We can conduct more competitor's comparing analyses inside the sphere. If we group the enterprises by their sizes to micro-small, medium and big enterprises, than by their business performance or by the derived indexes we can make a study about their competitiveness. The DuPont scorecard was established with the American DuPont chemical concern in 1919, which since then has spread and often used.

In the indexes used by international practice prioritization predominates inside profitability indexes. If this prioritization cannot be detected at an enterprise, then there are

serious management problems. The highest value should be the Return on Equity. The reason is that this index informs about the enterprises' dividend payment or capital growth. The next one is Return is Assets, which should be less, because assets appear in total in the nominator, which is the resources together. This index measures the effectiveness of the company, how effectively operated they the assets (power resources). Return on Investment shows the efficiency of the investments, this is lower than the ROA, because taxes paid reduce its bigness. The Return on Sales measures the effectiveness of the company's operation. It shows how much percentage is the profit of the revenue [4].

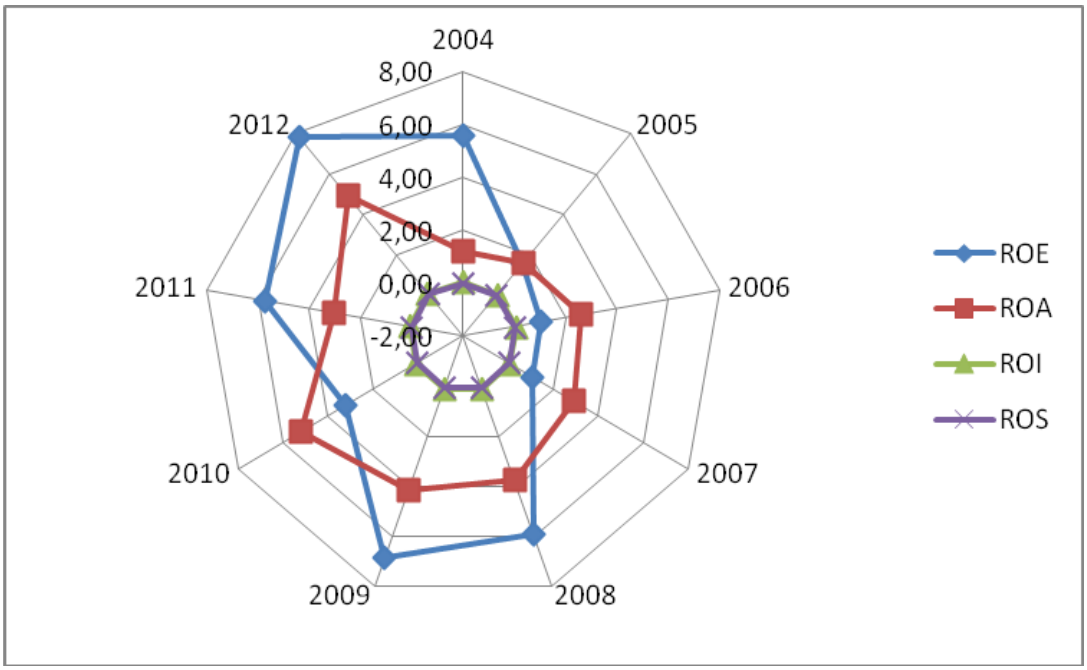

Figure 4. Business performance of the agricultural enterprises 2004-2012
Source: according to research data author's compilation

The international accounting standards do not use extraordinary result category, therefore the usual company result category was considered as pre-taxing result category. Result received in this context was reduced with taxpaying obligation, and the taxed result category was examined accordingly. From the 70 agricultural enterprises who were involved in the examination 42 enterprises had analyzable data, which derived from their financial reports. After the index numbers calculation usual values were represented at Figure 4. The indexes were demonstrated by size, the highest value was given by ROE indicator, than ROA, ROI, ROS.

Order of magnitude was demonstrated in the financial indexes of agricultural medium enterprises. The highest value was the Return on Equity and Return on Assets. The average values are considered acceptable, because the usage of the available resources is profitable. The value of the ROI and ROS are approaching the value of zero, which means that paying corporate tax negatively influences the profitability, and at this company size it creates significant burden for the economy of the companies.

Table 4 Business performance of the agricultural enterprises 2004-2012 - %

	ROE	ROA	ROI	ROS
2004	5,60	1,21	0,03	-0,01
2005	1,57	1,60	0,04	0,01
2006	1,05	2,62	0,06	0,04
2007	1,10	2,90	0,07	0,02
2008	5,93	3,79	0,09	0,03
2009	6,88	4,19	0,10	0,05
2010	3,24	5,19	0,12	0,04
2011	5,71	3,05	0,07	-0,01
2012	7,81	4,90	0,12	0,06

Source: according to research data author's compilation

Social sustainability

The environmental communication has close connection with the sustainable development, with its success. The basis is the accessible, exact, reliable, sufficient information and the traceable information flow. Environmental information should increase the knowledge about environment and have real role in decision preparation. The enterprises provide environment protection information to the interested ones. They can do it in the appendix of public annual reports, or in the form of sustainability reports. Beyond the annual company reports more enterprises present environmental and sustainability accounts to indicate the importance of the company's environmental , social and economical results publication. With the widespread of the sustainability ideal the companies recognized the importance of the components of the sustainability (economy, environmental protection, society) continuous evaluation and integrated publication. According to this, the leading companies decided on the publication of sustainability report. They provide an account on their environmental and social activities. The environmental reports increasingly transformed into sustainability reports, and beyond the company's environmental performance, questions about social responsibility and economy receive recognition also. A proposal was created with the collaboration of UNEP and CERES for the standardization of sustainability reports. The result of this is the worldwide applied GRI-guide. The GRI report can be widely applied, serves the information demand of the interested parties, and can be applied by every sector. It unifies the economic, social and environmental elements which are needed for the company's operation. Highlighted advantages: easier applicability, clarity, controllability and comparability, completeness and credibility. Agriculture is in the early development stage in the field of reporting about corporate social responsibility. However, this does not mean that they are not doing everything on sustainable development. Several successful projects was executed in order on sustainability within the support system of EU.

Further below there is the summary of the main fields, what agricultural enterprises do for sustainability:

- Sustainable management
- Serving welfare system: forest protection, conservation, environmental education
- Building of biogas plant

- Biogas for oyster mushrooms waste usage
- Production of natural goods
- Sustainable land-use
- Preservation of the environmental and natural values
- Extensive-and sustainable pig farming
- Cleaner production (pollution prevention, waste minimalisation)
- Energy-rationalization (reducing energy wastage to a lower level)
- Eco-efficiency (producing more products, with the usage of less resource and pollution)
- Reducing the energy demand of goods and services
- Toxic emission reduce
- Strengthening the used materials recyclability, maximalisation of natural resources sustainable usage, increase the durability of the goods
- Developing bio products
- Constant innovation according to the enterprise, in service of implementing sustainable future
- Environmental product labelling, eco-friendly products
- Environmental performance evaluation, actions made for reducing environmental burden caused by the company's actions and goods
- Environmental-friendly offices
- Environmental management system
- Conservation programs, environment actions
- Strengthen outside company dimensions, collaborating with local communities

CONCLUSIONS

The role and weight of agricultural enterprises in the national economy was analyzed during the preparation of the case study, and how the sustainability issues appear in the course of their business activity. The leading sphere is the service, industry, trade inside the national economy in the view of gross added value and operating companies in Hungary. Agriculture represents only 4% ratio. Their role in employment is about 5 %. Foreign direct investment appeared in the operating companies at the agricultural economy, but only one percentage of capital inflow goes to the national economy. The increase of the agriculture's role and weight is partly economical question, and partly prosperity and sustainability also. Economical sustainability means competitiveness, environmental sustainability characterize eco-efficiency, and responding to societal expectations counts as factors of human quality of life and the condition of our environment. At the establishment of company sustainability the economical sustainability can be identified with the company's profitable, long-term competitiveness, the environmental sustainability can be identified with eco-efficiency, and social sustainability is identified mainly with certain affection to basic norms practice and monetary charity. The economical sustainability, corporate competitiveness is analyzed with the help of financial indexes. Order of magnitude was demonstrated in the financial indexes of agricultural medium enterprises. Eco-efficiency expresses the efficiency with which ecological resources are used to meet human needs and it confirms that with a unit of input how much value, added value is produced. Since 2004 the average index was continuously reducing from 129% to 112% until 2008. Accordingly, accessing to the EU influenced badly the eco-efficiency of the agriculture. After the crisis is started growing again until 2011, however in 2012 there was a reduced again. It is an important task for

every company to be able to develop in the long term in sustainable way and pace, in accordance with economic, environmental and social conditions. Sustainability appears in the business activity of the agricultural companies, what increases these companies competitiveness.

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