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ECONOMIC PERFORMANCE OF SME AGRICULTURAL PRODUCERS IN THE CONTEXT OF RISK MANAGEMENT: FOCUS ON VISEGRAD 4 MEMBER COUNTRIES

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Abstract

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The long term regulation of the EU agrarian sector via the Common Agricultural Policy (CAP) and its respective instruments focuses on the sustainable development both of the agriculture and rural area as a whole. It is needed above all to stress out the equalization instruments of CAP within the context of negative impacts' diminish of outer sectorial environment in relation with the economic status of agricultural businesses, specifically the small and medium ones. The EU programming period of years 2014–2020 is focused from the view point of the agrarian sector on more efficient CAP to encourage the competitiveness of European farmers. The aforementioned programming period is for agricultural producers from V4 countries the first one when CAP guarantees the maximum amount of operational subsidies for them, of course regarding the respective agreed EU accession treaties. Nevertheless, CAP subsidies cannot be considered to be the key factor of competitiveness within EU single market. The relation between long term increasing of production's inputs on one hand and the decreasing of agricultural producers' prices on the other one can be marked as very important negative aspect within the need of farmers' sustainable competitiveness.
So, the direct consequence of a negative influence of aforementioned factor is the subsequent negative direct influence on profitability of agricultural producers. The need for increasing the efficiency of production, marketing and other related processing activities appears to be relevant and inevitable. The business processes are repeated cyclically, that is why there is emerged the need for its systematic and continuous management, measurement, assessment and subsequent changes and optimization. The management of risks has to be involved in the business activities of agricultural businesses regardless their economic size and branch, taking into account possible negative influences.
The article aims at identification of instruments for measuring the sustainable economic performance of agricultural businesses via management of risks using secondary economic data. Subsequently, there are defined factors influencing the economic performance of SME agricultural producers settled in the V4 countries using the economic analysis. There are utilized secondary data of Eurostat and official EU documents.

Keywords: agri-business, agriculture, economic performance, factors of production, risk management, standard output of agricultural production

INTRODUCTION

Present days are period of dynamic development of outer economic environment of business entities. Enterprises are open up systems, which are in permanent interaction. Agrarian sector can be marked as the biggest recipient of subsidies from EU public budget using Common Agricultural Policy (CAP). The main focus of CAP is to encourage sustainable development of agricultural businesses, which are settled in the European Union with

specific approach to new EU member countries including Visegrad 4 (V4) ones. Despite the fact of the amount of disbursed subsidies for agriculture it is inevitable for the prevailing share of EU agricultural enterprises to manage their business economic performance, because the public subsidies cannot guarantee them the sustainable economic viability. The last decade has witnessed both period of strong economic growth of national economies that was connected regarding agricultural industry with increase of input prices of factors of production and prices of agricultural commodities as well (e. g. Paloma, Ciaian, Cristoiu *et al*., 2013; Schwarcz, Bandlerová, Schwarzová *et al*., 2012; Soutar, 2012; Mickiewicz, 2012). So, economic managing an agricultural business entity is very similar to other branches ones, which covers areas as strategic and operational planning. These areas have to take into account aspects of risk, which inevitably belongs to entrepreneurial activities. Nevertheless, lack of ability to manage the risk can be the main factor causing the business failure (e. g. Bigliardi and Bottani, 2010; Saunders, Kaye-Blake, Hayes *et al*., 2007). So, the economic performance of agricultural businesses depends on both natural/climate conditions and efficient factors of productions' utilisation, which can be as whole held as the entrepreneurial risk.

The risk in business activities is defined as the group of influences or shocks, which has to be managed in order to become an economically successful enterprise. So, the risk is intended to be an attribute that is an inseparable part of the respective business. Under this definition the risk cannot exists itself and has to be described and analyzed in connection with the respective object, conditions, environment and time frame. Information resources, which are utilized in managing the risk, do not have usually the same meaning and they are not equally reliable (Martinovičová, Beranová, Polák *et al*., 2010). Managing the risk in business entities both large and small ones includes broad scope of problem areas. The prevention of risk is supposed to be the most important because of possibility to reduce impacts of risk management failures. This prevention consists of planned and goal oriented behaviour, which is based on the complex of rules to diminish consequences of business decision making failure (Martinovičová, 2009).

The risk management has to be the part of the strategic management, which has to respond to future possible situations suitably in advance by providing alternative solutions (Fotr, Dědina and Hrůzová, 2000). Methods of so called early alerts are united via using corporate data regarding economic status of respective business entity (e. g. Kislingerová *et al*., 2007; Konečný and Režňáková, 2000).

Analysis of corporate economic performance is a multi-disciplinary problem area involving variable approaches and output user-groups. The specific needs for information content of economic analyses can be circumscribed by respective user groups such as stakeholders, investors, banks, policy makers and other related entities.

Bernstein and Wild (1998) states that economic analysis provide essential data background for operational decision making processes of management and also investment purposes both stakeholders and other external entities, which can be interrelated to business activities of respective entity.

Economic performance of the agricultural industry based on corporate data of businesses in respective countries is provided by Economic Accounts for Agriculture (EAA). EAA are held by national statistical offices and by Eurostat as well and it is a part of the European system of national and regional accounts. EAA provides methodological instruments for measuring the economic size and performance of agricultural sector in member and candidate countries of EU. EAA consist of four sub-accounts, namely the Production Account, the Generation of Income Account, The Entrepreneurial Income Account and Elements of the Capital Account. The overall performance of agricultural businesses can be stated via indicator Output of the Agricultural Industry within the Production Account. Output of the Agricultural Industry is enumerated as a sum of sub-indicators: Crop Output, Animal Output, Agricultural Services Output and Non-agricultural Secondary Activities (Regulation (EC) No. 138/2004).

Additionally to EAA, there is held the census of agricultural businesses to reveal more consequences on business activities of farmers focusing on the economic size of businesses. This census called the Farm structure survey is held usually in 2 or 3-years period. The indicator Standard output of agricultural products can be observed under this survey and it covers the average monetary value of the agricultural output at farm-gate price, in euro per hectare or per head of livestock. Agricultural holdings are classified

I: *Economic size of farms measured by indicator Standard output.*

Size category of farm	Category class	Standard output in EUR
Micro	I–III	0–7999
Small	IV–V	8000–24999
Medium	VI–IX	25000–499999
Large	X–XIV	500000 and over

Source: own elaboration based on European Commission Decision No 85/377/EEC

by type of farming and by economic size that is described in Tab. I (Commission Regulation (EC) No. 1242/2008)".

MATERIALS AND METHODS

The sample of secondary economic data is based on the Farm structure surveys 2005, 2007 and 2010 held by Eurostat across EU member countries. This survey is census among all active agricultural business entities.

The economic analyses are using indicators Standard output of production (SO), Annual working units (AWU) and productivity of labour (PL) and respective intensive (IPL) and extensive (EPL) factors influencing period-on-period changes in *PL*.

Indicator SO is the average monetary value of the agricultural output at farm-gate price, in euro per hectare, per head of livestock or per AWU.

$$PL = \frac{SO}{AWU}$$

$$IPL = \frac{(PL_1 - PL_0)}{AWU_1}$$

$$EPL = PL_1 \times (AWU_1 - AWU_0)$$

There was employed the Chi-square independence test to analyse contingency tables of identified factors having influence on economic performance of agricultural holdings.

There were utilised software Microsoft Excel and Statistica 10 for conducting the economical and statistical analyses.

RESULTS AND DISCUSSION

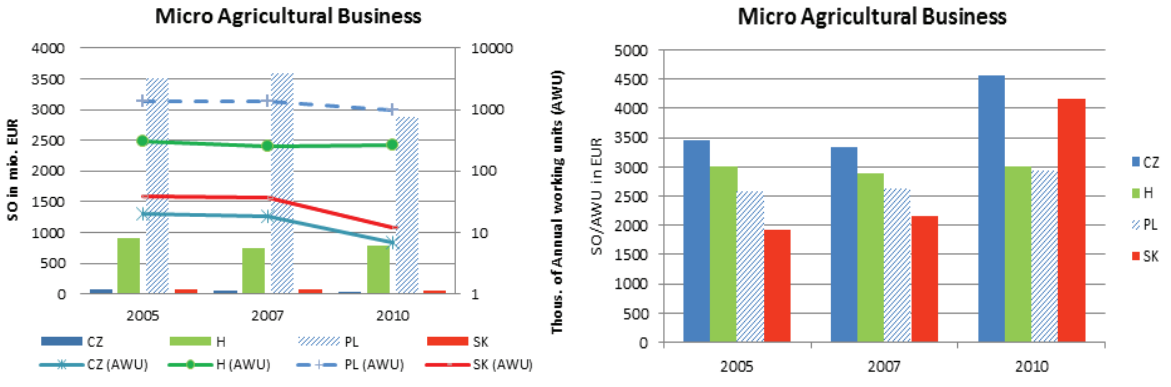
The ability of observed categories of agricultural business entities within V4 countries to manage the entrepreneurial risk connected with their business activities is measured by the gained levels of their Standard output of production. It is obvious that the recent world economic crisis hit the agricultural industry in all observed countries directly after the period of the strong economic boom. Such an aspect obviously stressed the ability of agricultural holdings to cope with broad scale of mostly unexpected business risks.

Fig. 1 describes Standard outputs of production among respective V4 member countries within smallest category of farms both in absolute and relative values. There is provided evidence of mixed development of both absolute values of Standard outputs and productivity of labour measured by annual working units.

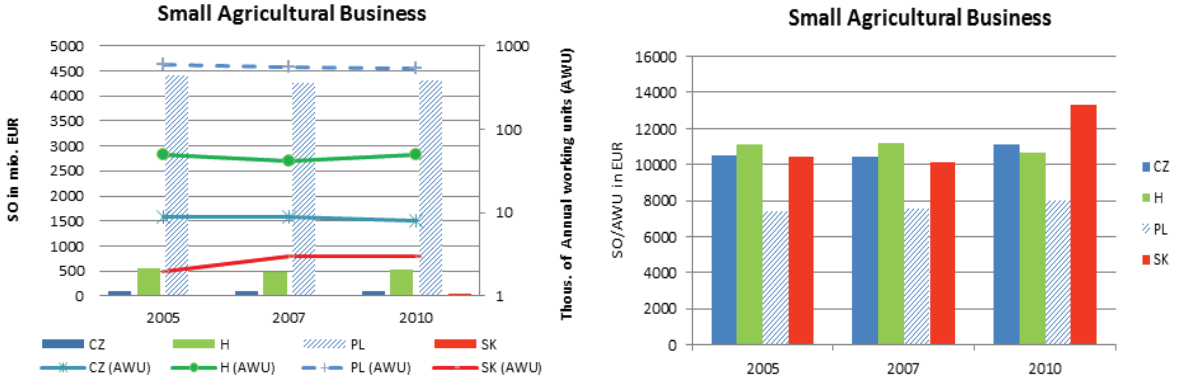
The biggest decrease of total amount of Standard output of production was identified in the Czech Republic in the period 2007–2010, namely the slump of nearly 56%. On the other hand it was identified the biggest productivity of labour within micro agricultural businesses in the Czech Republic over the whole observed period. The prevailing factor affecting the labour productivity in the Czech Republic was identified as the extensive one that is connected with the strong decrease of labour force measured by annual working units.

There are described Standard outputs of production among respective V4 member countries within category of small agricultural businesses on Fig. 2. The biggest period-on-period increase of Standard output of production was identified in Slovakia in year period 2007–2010, however its absolute value in comparison mainly with Poland was in this economic size category inconsiderable. The identified prevailing factor influencing positive development in the labour productivity in category of small farms was the intensive one, which can be connected with broad scope of qualitative aspects. So, the ability to manage the risk is intended to be the part of these qualitative aspects.

Fig. 3 describes Standard outputs of production among respective V4 member countries within

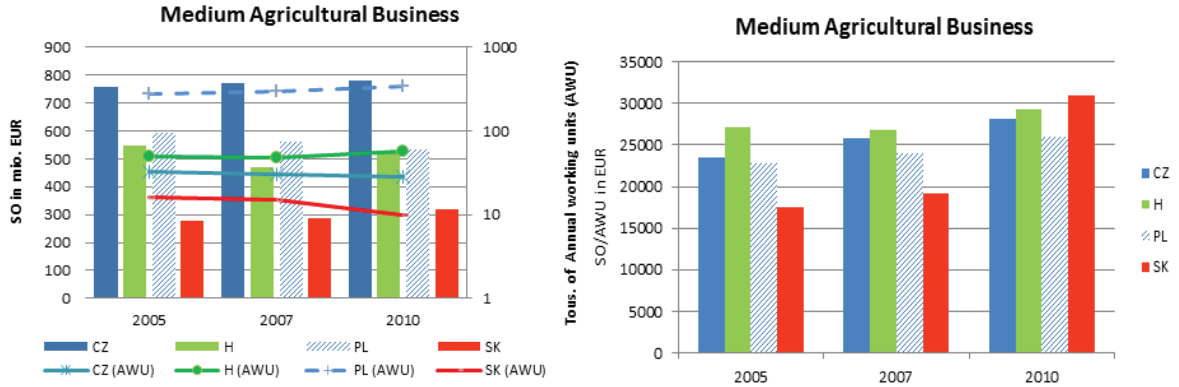


1: *(a) development of Standard output and Annual working units within micro agricultural businesses in V4 countries; (b) development of labour productivity within micro agricultural businesses in V4 countries*
Source: own elaboration using data of Eurostat and Farm structure surveys



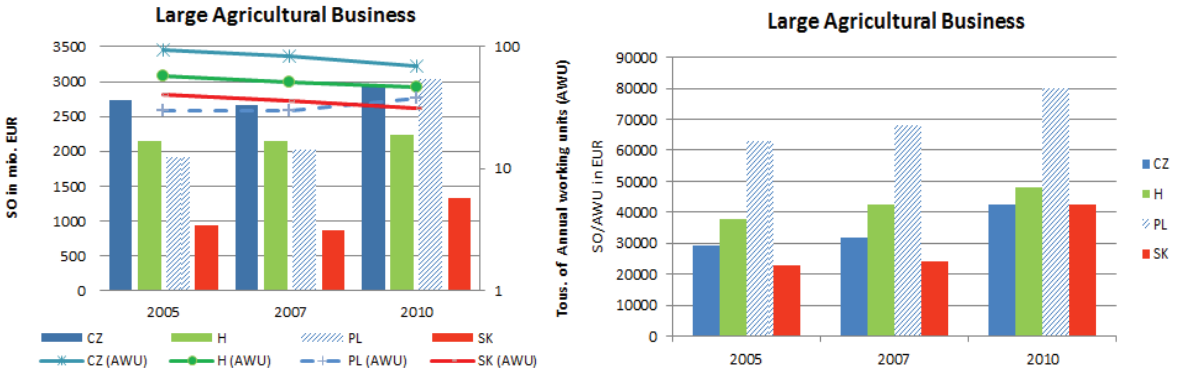
a) b)

2: *(a) development of Standard output and Annual working units within small agricultural businesses in V4 countries; (b) development of labour productivity within small agricultural businesses in V4 countries*
Source: own elaboration using data of Eurostat and Farm structure surveys



a) b)

3: *(a) development of Standard output and Annual working units within medium agricultural businesses in V4 countries; (b) development of labour productivity within medium agricultural businesses in V4 countries*
Source: own elaboration using data of Eurostat and Farm structure surveys



a) b)

4: *(a) development of Standard output and Annual working units within large agricultural businesses in V4 countries; (b) development of labour productivity within large agricultural businesses in V4 countries*
Source: own elaboration using data of Eurostat and Farm structure surveys

category of economically medium sized farms in absolute and relative values.

There were identified different trends in the Standard output of production among observed countries. Decreasing trend or rather stagnation was identified in Poland and Hungary, respectively. The identified prevailing factor influencing positive development in the labour productivity in this size category of farms was again the intensive one, connected with the qualitative growth.

II: *Results of Chi-square test of independence*

Chi-square test statistic	Critical value of Chi-square statistic	P-value
10.46	3.84	< 0.01

Source: own elaboration

There is described development of Standard outputs of production within V4 member countries and category of largest farms in absolute and relative values on Fig. 4. Similarly to the medium sized companies, there were identified prevailingly period-on-period increases of the indicator Standard output of production. Conversely to the economically smaller farms, large companies settled in Poland were the leaders in labour productivity across whole observed period. The intensive growth of the labour productivity was identified as the prevailing factor affecting the positive trend of the aforementioned ratio.

The identified extensive and intensive factors across all observed periods and economic size categories of companies affecting both positive and negative development of labour productivity were statistically tested on their dependence among respective increase and decrease trends of productivity (see Tab. II).

The results of the Chi-square independence test using contingency tables of identified influence of extensive and intensive factors on labour productivity reveals the following facts. There is proved statistically significant dependence of identified types of extensive/intensive factors influencing increasing/decreasing trend of labour productivity. More precisely, the factor prevailingly influences the period-on-period positive change of labour productivity is the qualitative one, which is supposed to be interrelated with the ability to efficiently manage the business risks by respective agricultural enterprises.

CONCLUSIONS

The business processes of respective enterprises are repeated cyclically, so there is emerged the need for its systematic and continuous management, measurement, assessment and subsequent changes and optimization. The management of risks has to be involved in the business activities of agricultural businesses regardless their economic size and branch, taking into account possible negative influences by resigning these aspects.

The article aims at identification of instruments for measuring the sustainable economic performance of agricultural businesses via management of risks using secondary economic data focusing on Visegrad 4 member countries. The conducted analysis revealed that there exist differences among economic performance within agricultural businesses measured by Standard output of production and labour productivity across observed V4 countries, size categories of businesses and time periods. The abilities of effective risk management among observed categories of business entities authors interconnect with qualitative factors influencing the growth of labour productivity. The identified positive influence of qualitative factors on labour productivity was statistically proved.

The article presents authors' approach to risk management and its measuring at corporate level within agricultural industry based on primary study of this problem area. The respective results will be continuously verified and the following studies will be broadened to identify and further analyse mutual coherences within factors influencing the economic performance of agricultural producers taking into account business risk management.

SUMMARY

Agrarian sector can be marked as the biggest recipient of subsidies from EU public budgets using Common Agricultural Policy (CAP) in order to encourage sustainable development of agricultural businesses. Despite the fact of the amount of disbursed agricultural subsidies it is inevitable for agricultural enterprises to sustainably manage their economic performance, because the public subsidies cannot per se guarantee them the sustainable economic viability. The article aims at identification of instruments for measuring the sustainable economic performance of agricultural businesses via management of risks using secondary economic data of EU census Farm structure survey and Eurostat. Subsequently, there are defined factors influencing the economic performance of SME agricultural producers settled in the V4 countries, using the economic analysis based on labour force factor of production's productivity decomposition to intensive and extensive influence on its year-on-year development. The conducted analysis revealed that there exist statistically significant differences among economic performance within agricultural businesses measured by their Standard output of production and labour productivity across observed V4 countries, size categories of businesses and time periods. The abilities of effective risk management among observed categories of business entities authors assigns to qualitative factors influencing the growth of labour productivity.

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