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Lessons from the EU accession for agricultural enterprises in the Visegrad group countries in the light of CAP 2014

Abstract. The importance of evaluating different impacts of the EU accession has not decreased in the last decade. Some of the problems, such as the problems of competitiveness and effectiveness of the agricultural sector, or the delay in transformation of the payment scheme are still unsolved. The continuous learning process has not ended by the accession; not only institutions but also individuals shall observe and learn the changes of the agricultural policy, which of course means a heavy task for farmers, besides the management of their farming activities. This paper wishes to examine how the agricultural enterprises in Visegrad countries could utilize advantages of the EU accession and what kind of problems has arisen during the accession process. These questions became more actual in present days, as a draft of the new CAP reform was announced in October 2011. Thus, the readiness of farmers will have a great importance in the future. Without knowing the new system, the opportunities cannot be utilized, and without taking these advantages we cannot speak about a competitive and effective agricultural sector.

Keywords: CAP reform, agricultural enterprises, Visegrad countries.

Introduction

Eight years after the EU accession by the Visegrad countries, the impacts may be evaluated by either general observations and experiences or literary sources, and, furthermore they can be confirmed by statistical data. This paper examines the impacts of the EU accession at farm level: how the agricultural enterprises of these four countries (Czech Republic, Hungary, Poland and Slovakia) could manage themselves, how their financial situation developed and how could they finish their closing-up to the EU-15 member states.

The new reform of the Common Agricultural Policy means a new challenge for all stakeholders of the agricultural sector. The proposal of new CAP reform was announced on October 2011, and it forms a quite new situation for all the member states. The two payment systems, i.e. the Single Payment Scheme (SPS) and the Single Area Payment Scheme (SAPS) which was created for the new member states, will be changed for a

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uniform scheme, the so-called Basic Payment Scheme. It will be used all over Europe, and all the farmers and agricultural enterprises should learn the new regulations and supporting opportunities. Our paper wishes to make a short introduction to the draft of the new CAP reform. It is very important for all the European farmers and agricultural enterprises to get enough information about the new system, but it is more important for the V4 (Visegrad group) countries to take its advantages and to try to finish their convergence process.

Materials and methods

The main purpose of this paper is to summarize the development of the agricultural enterprises of Visegrad countries compared to those in the EU-15 member states. In our research we have made an international comparative analysis which included the assessment of the financial and economic status of the examined agricultural enterprises. The analysis was performed basing on secondary sources of the international Farm Accountancy Data Network database. The examined period is between 2004 and 2008, because only these data were given by the FADN database for the V4 countries in the modelling stage of the research.

For our calculations, we used the same typology for all the four V4 countries as well as for the average of the EU-15 member states. In our assessment, a detailed financial analysis of the examined enterprises was completed and the results were controlled by statistical methods. The statistical analyses were done by the SPSS 18 (PASW Statistics 18) for Windows programme; the differences were verified by one-way ANOVA (carried out by Games-Howell and/or LSD post-hoc tests).

The evaluation of the EU accession of the V4 countries can not yet be finished, as a brand new situation may be formed by the new CAP reform. The 50 years old CAP has always been adapted to respond to the challenges of its time and now, as a result of the actual political and economic changes, a new reform was proposed by the Commission for the years between 2014 and 2020. It was announced in October 2011. In our paper, we also summarize the main objectives and the proposed measures of the CAP reform 2014-2020 based on international literature and the original EU documents.

Examination of the impacts of EU accession on agricultural enterprises in Visegrad group countries

In our research, a detailed financial analysis of agricultural enterprises was carried out based on the data of FADN public database for the Visegrad group countries and the average of EU-15 member states. The methodology and typology used in the assessment process were in accordance with the FADN principles [Definitions... 2007]. As FADN methods do not differentiate agricultural enterprises according to their ownership, this database covers different kinds of properties (e.g. family farms, corporate farms, cooperatives etc.). The farms were classified by their ESU (European Size Unit) values into three groups: large farms (with more than 100 ESU), medium size farms (between 40 and 100 ESU) and small farms (less than 40 ESU). It should be underlined that the research was connected only with the financial processes and not with the results of real processes.

For the analysis of financial situation of agricultural enterprises, 20 indicators were determined (M1-M20), classified into five groups: indicators of capital structure, profitability, efficiency, liquidity and special indicators for the EU support. Because of the limited length of this paper, we would like to introduce the results for the five most typical indicators: M1 which is capital intensity (own equity/total capital); M4 which is long-term liabilities/total liabilities; M10 which is profitability ratio on equity; M18 which is total subsidies (direct payments plus subsidies on investment) per hectare of total UAA; M20 which is liquidity indicator (total current assets/short term liabilities). The values of indicators were calculated using the data from the FADN public database [FADN... 2004-2008].

In the selection of examined farm types, the most determinant factors were the domestic significance of the given farm type and the possibility of comparability. Only field crops producing, dairy and mixed farm types could be inserted into the comparative analysis, because of missing data for some member states. The main objective of the research was to explore how these indicators changed after the EU accession, what were the countable results of the accession at farm level and how could the Visegrad group countries take the advantages of the accession.

According to the assessment of the database, the capital intensity of farms may be well distinguished by their size. In small farms, the share of own capital is rather high, between 90-95%, except for Hungary, where it is near 80%. Large farms use more borrowed capital (total liabilities), except in Slovakia. Hungarian large farms have less own capital, only about 55-60% of the total capital. The trends of leverage (i.e. the ratio of total liabilities and own equity) of differently sized agricultural farms are illustrated in Figure 1. It may be observed that Hungarian farms are the most dependent on liabilities among all farm size categories in the V4 countries. Thus, it may be stated that the capital intensity of Hungarian farms is lower than the EU-15 average and the level of all other Visegrad group countries in all farm size categories.

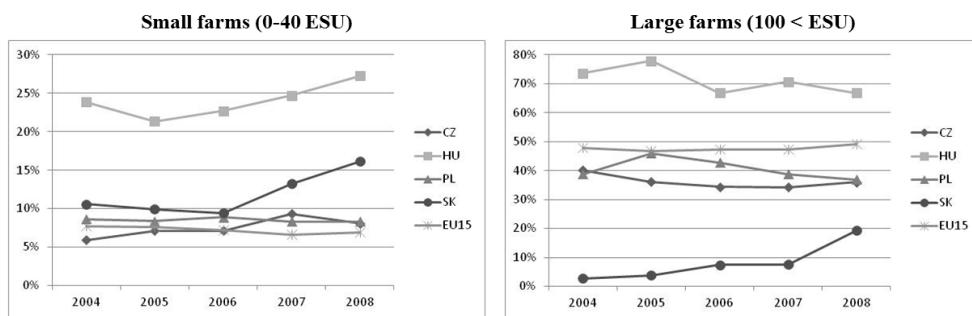


Fig. 1. The total liabilities and equity ratio in small and large farms

Source: own calculations based on FADN public database [FADN... 2004-2008].

Some financial categories are not registered in the public FADN database, thus the widely used ROA, ROE and ROS ratios should be substituted by similar indicators. For the calculations of profitability, a new indicator was introduced in our research, called 'Financial outcome of farm production', whose calculation method was: total output – total input + interest paid.

According to the results of our examinations, the farm level profitability indicators of the V4 countries has not been improved substantially.

In Hungary, a slight improvement may be observed in large farms which may be resulting from the very high leverage. In the other Visegrad group countries a stagnation or a small decrease of this indicator prevailed. In case of Slovakia and the Czech Republic, the values of the profitability ratio are rather variable. As a result of the low profitability level, the self-financing capability of the agricultural enterprises could not improve substantially after the EU accession.

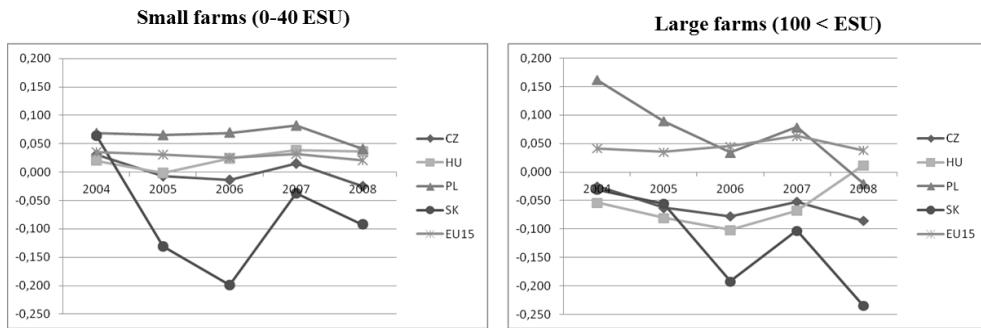


Fig. 2. Values of the M10 indicator, profitability ratio on equity*

*Calculation method: (total output – total input + interest paid)/equity

Source: own calculations based on FADN public database [FADN... 2004-2008].

The values of liquidity indicator in every farm size category were generally high, both in the EU-15 and in the Visegrad group countries. The average liquidity in the EU-15 member states was higher than in the V4 countries except Slovakia, where extremely high values could be observed in every farm size category and all farm types. The values of net working capital were positive and showed an increasing tendency in all countries; this indicates the spreading of conservative financing strategy. A conservative financing strategy is stable; it uses long-term funds to finance all of firm's projected needs and it uses short-term funds only in emergencies, which will not make the capital structure more expensive. Nevertheless, in case of the V4 countries, most of the agricultural enterprises are not creditworthy and the liabilities are more expensive than own sources. Thus, the spreading of conservative financing strategy is not absolutely resulting from an awareness, but rather from compelling reasons.

The results of calculations of total support (i.e. the total sum of direct payments and subsidies on investment) per hectare showed nearly the same values in all farm sizes in the EU-15 member states, while in the V4 countries different farm size categories enjoyed different levels of support. In the Visegrad group countries (except for Poland), large farms had significantly higher values of total support, which suggests that large agricultural enterprises could apply more successfully for different types of support. It may have several reasons. The level of direct payments per hectare is determined by the EU regulations for each member state, so the differences between farm sizes are probably caused by a different level of subsidies on investments. The unequal distribution of these, mostly Second Pillar, subsidies was examined by a former survey of Hungarian farms [Töröné Dunay 2012A, pp. 130-132]. Findings of this survey suggested that large farms apply for subsidies more

successfully than small farms. The information level of large farms is higher; they can pay services of consultants in different applications, they have more own resources and they are more creditworthy. In addition, small farms have fewer employees and their workforce should be used in production, instead of administrative tasks connected with applications for subsidies.

According to the results of our international comparison, V4 countries were not able to catch up with the former (EU-15) member states between 2004 and 2008, in contrast with the probably too optimistic expectations. The analysis of support and the values of the calculated indicators of financial situation revealed that the increased support and payments level could not make a solution for the farms, as neither the profitability nor the efficiency indicators improved despite of the significantly, because of the EU support, increased income. The share of support in the total income could not decrease. In practice, the sum of the EU payments means an optional tool for the agricultural enterprises in the V4 countries, by which credits may be substituted. The volume of income, particularly in smaller farm categories, is determined by the sum of payments and other support; this situation worsened after the accession due to the increased support level. The present form of the EU payments may conserve the unfavourable farm structure; their volume is not enough for modernization and development, but it is enough for survival, which may preclude an improvement of competitiveness. In Hungary, this situation is worse, as the Hungarian farm data presented the poorest results. Thus, it may be stated that Hungary is lagging behind in comparison with other Visegrad group countries.

Table 1. Significant differences between Hungary and the other examined countries (V4 and EU-15) according to the chosen indicators, by farm size categories (average results for 2004-2008)*

| Farm size | Country | Indicator | | | | |
|--------------|---------|-----------|-----|-----|-----|-----|
| | | M1 | M4 | M10 | M18 | M20 |
| | CZ | (-) | (+) | (0) | (0) | (0) |
| 0-40 ESU | PL | (-) | (0) | (-) | (0) | (-) |
| Small farms | SK | (-) | (0) | (0) | (0) | (0) |
| | EU-15 | (-) | (0) | (0) | (-) | (-) |
| | CZ | (-) | (+) | (0) | (0) | (0) |
| 40-100 ESU | PL | (-) | (-) | (-) | (0) | (-) |
| Medium farms | SK | (-) | (0) | (+) | (0) | (0) |
| | EU-15 | (-) | (0) | (0) | (-) | (-) |
| | CZ | (-) | (-) | (0) | (0) | (-) |
| > 100 ESU | PL | (-) | (-) | (0) | (+) | (-) |
| Large farms | SK | (-) | (0) | (0) | (0) | (0) |
| | EU-15 | (-) | (-) | (-) | (-) | (0) |

* (+) and (-) signs means statistically significant values (0) means no significance.

Source: own calculations.

The results of the financial analysis were confirmed also by statistical methods. For these calculations, depending on the results of the former financial analyses, only five indicators were chosen (see Tables 1 and 2.). The calculations were carried out by average

data for the years between 2004 and 2008, in order to exclude the distorting effect of different years. Calculations were made both for the different farm sizes and for the different types of farming.

Table 2. Significant differences between Hungary and the other examined countries (V4 and EU-15) according to the chosen indicators, by types of farming*

| Type of farming | Country | Indicator | | | |
|-------------------------|---------|-----------|--------|--------|--------|
| | | M1 | M4 | M10 | M18 |
| Field crops | CZ | (-) | (0) | (0) | (0) |
| | PL | (-) | (0) | (-) | (0) |
| | SK | (-) | (0) | (0) | (0) |
| | EU-15 | (-) | (-) | (0) | (-) |
| Milk | CZ | (0) | (-) | (+) | (0) |
| | PL | (-) | (-) | (-) | (+) |
| | SK | (-) | (0) | (0) | (0) |
| | EU-15 | (0) | (-) | (0) | (-) |
| Other grazing livestock | CZ | (0) | (+) | (+) | (0) |
| | PL | (-) | (0) | (-) | (0) |
| | SK | (-) | (0) | (0) | (0) |
| | EU-15 | (-) | (0) | (0) | (-) |
| Granivores | CZ | (-) | (0) | (0) | (+) |
| | PL | (-) | (-) | (0) | (+) |
| | SK | n.d.a. | n.d.a. | n.d.a. | n.d.a. |
| | EU-15 | (-) | (-) | (0) | (+) |
| Mixed | CZ | (0) | (-) | (0) | (0) |
| | PL | (-) | (-) | (-) | (0) |
| | SK | (-) | (0) | (0) | (0) |
| | EU-15 | (0) | (-) | (-) | (-) |

* (+) and (-) signs mean statistically significant values, (0) means no significance, n.d.a. no data available.

Source: own calculations

Table 1 shows the direction of significant differences between Hungary and the other V4 countries (CZ, PL, SK) and the EU-15 average, according to the three farm size categories (small, medium and large farms). The (-) signs mean a negative a positive value of mean differences (i.e. their advantages compared to the farms in other countries), and (0) sign means that differences are not statistically significant. According to these results, the Hungarian farms are lagging behind the farms in other examined countries in the case of most indicators (there are only few exceptions, with positive values). Capital intensity (M1) is lower than in the other countries which, with the poor creditability, means a barrier for any development or modernization process for the Hungarian farms. Liquidity (M20) means another problem for the Hungarian agricultural enterprises. The indicator of the total subsidies (M18) shows that subsidies in Hungary are lower than in the EU-15 (in

accordance with the Copenhagen Agreement of 2003). The only one positive sign, in case of large farms and in comparison with Poland, is a result of a different farm structure.

The second step of our calculations was to examine these indicators according to different types of farming (in accordance with TF8 grouping of FADN methodology). Horticulture and permanent crop production were excluded from this process, because of non-available data from Slovakia. Table 2 shows the direction of significant mean differences between Hungary and the other V4 countries and the EU-15 average, according to the examined types of farming.

According to the results of these models, it can be observed that in most cases there is no significant difference between the average values of indicators, which is mainly a result of a correlation between them. The adverse situation of Hungarian farms is also clearly shown in these tables by the dominance of negative signs (-). Although there are few positive differences (in M4, M10 and M18 in grazing livestock and milking farms), the clear dominance of (+) signs can be observed in M18 indicator (total subsidies) in granivores producing farms (pig and poultry). The positive differences are probably caused by the high level of EU support for modernization and animal welfare measures in the Hungarian pig and poultry production sector.

Summarizing our results, it can be stated that the subsidies financed by the CAP could slightly improve the financial situation of the agricultural enterprises, but it was not enough to increase competitiveness and efficiency of the farms. In the case of small farms, this help was enough to maintain their operation and production, but it was not enough to improve their production. This situation will probably conserve the present, disadvantageous farm structure. The results of this international comparison are more adverse for Hungary, as we lost our former advantages in comparison with the other Visegrad group countries.

The new CAP reform proposal may possibly bring a new situation for all the V4 countries, so the research should be continued in the future. The most important objective is to give detailed information to all stakeholders of the agricultural sector about the new CAP reform.

Evolution of the Common Agricultural Policy

The actuality of summarizing the evolution of the CAP is given by the 50th anniversary of the policy which was implemented in 1962. The different preferences of different stages of the CAP may be well distinguished in Table 3.

In the ‘original CAP’, from 1960s until late 1980s, different market supports were dominant. The McSharry reform (CAP 1992) introduced the direct payments in 1992, whose share became the largest in the CAP budget. Agenda 2000 established the Second Pillar, by which the sources for rural development measures were totally separated from other subsidies. The decrease of direct payments was started by the 2003 reform, in which the decoupled support was introduced [Jambor-Harvey 2010].

The different types of CAP subsidies and payments, of course, are overlapping, as in the early years most of the subsidies have not been differentiated according to types. At present, these types of support are rearranged because of modulation.

The development process of the CAP has been accelerated since Millennium. If compared with the early decades; the changes appear within the financial perspectives. The

payment system of the CAP had to undergo several changes and adjustments in the past decade for different external causes, such as the global demographic and food crisis, the changing requirements of the world market or the increasing threat of the climatic change. Of course, several internal causes derived also from the increasing burden of the Community budget, the eastern enlargement of the EU and the economic crisis [The CAP... 2010].

Table 3. The evolution of CAP payment system from 1960 until 2012

| Period | Type of support | | | | |
|--------------|--|---|-------------------------|---|--|
| | Market support | Direct support | Rural development | Other rural development | Environmental |
| Original CAP | ▪ Price subsidies ▪ Intervention ▪ Export subsidies ▪ External protection | Less favoured areas (since 1975) | | | |
| CAP 1992 | ▪ Price cuts ▪ Quantitative restrictions ▪ Intervention ▪ Export subsidies | ▪ Compensatory payments ▪ Standard payment system | Small farmers subsidies | | ▪ Extensification premium ▪ Set aside |
| Agenda 2000 | First Pillar | | Second Pillar | | |
| CAP 2003 | ▪ Price cuts ▪ Quotas and set aside ▪ Intervention ▪ Export subsidies | Cuts of compensatory payments | | Formation of Second Pillar | Agri-environmental programmes |
| Health Check | ▪ Intervention ▪ Cuts in export subsidies | Decoupling ▪ SPS ▪ SAPS | Modulation ↘ | Second Pillar ▪ Competitiveness ▪ Environmentally friendly farming ▪ Rural economy development ▪ Development of rural communities | |
| CAP 2014 | Cuts in intervention ▪ Intervention as a safety net ▪ Cut of quantitative restrictions | ▪ SPS, with payment ceiling ▪ LFA subsidies in selected regions ▪ Small farmers' scheme | | ▪ Improving competitiveness ▪ Supporting sustainable farming ▪ Balanced regional development | |

Source: own compilation [Töröné Dunay 2012A]

Cross compliance

Common Agricultural Policy after 2014

After an excessive public debate [The Common... 2010] on 12nd October 2011, the European Commission presented a set of legal proposals to make the CAP more effective, by which European agriculture may be more competitive and sustainable in the period between 2014 and 2020. It should be underlined that this was just a proposal which should be verified by the Council and the European Parliament, and that the EU budget may be modified, too. The proposals are in accordance with the previously published communication, namely, the two strong pillars remain, and the basic structure of the CAP is not radically altered, although the formal objectives now reflect the priorities of Europe 2020 much more explicitly. The First Pillar covers direct payments and market measures

providing a basic annual income support to the EU farmers and a support in case of specific market disturbances [Proposal... 2011B], while the Second Pillar covers the rural development [Proposal... 2011C]. Therein the member states draw up and co-finance multiannual programmes under a common framework, which should be harmonized at Community, national, regional and local levels.

According to the proposal, the First Pillar will contain the direct payments and market measures, where the most significant changes will concern direct payments. According to the proposal, the SPS and SAPS will be replaced by a new supporting system, the Basic Payment Scheme. The main objective of the policymakers was to discontinue the compensatory character of direct payments and to bind these payments to the production of public goods.

CAP 2014: changes in direct payments, market measures and rural development

With regard to the direct payments, some aspects were strongly emphasized by the proposal. One of these aspects is to decrease administrative burden, the second is to dissolve differences in direct payments which are neither evenly distributed by farm sizes nor by geographical location. In the proposal, three support levels were determined according to the support level of a given member state. An EU wide ‘flat rate’ (or ‘EU average’) has been determined with the same level of aid per hectare to all farmers in the EU (approximately 270 EUR/hectare); those member states with lower direct payments level will be compensated by the surplus redistributed from those members states with higher support than the EU average.

The direct payments would consist of two schemes: the Basic Payment Scheme and the simplified scheme for small farmers, therefore only a unified scheme would be in use for all the member states, in which compulsory and voluntary measures are distinguished [Proposal... 2011B]. The main elements of the scheme for direct payments are illustrated by Figure 3.

The Basic Payment Scheme may be distinguished into two parts: compulsory and voluntary measures. Compulsory measures shall be applied for all member states in the same way, while the decision of voluntary measures implementation shall be made at a member state level.

The second option will support small sized farms. All member states shall set the amount of annual payment for the small farmers as an amount not exceeding 10% of the national average payment per beneficiary. The amount of the payments shall be between EUR 500 and 1000. Those farmers who participate in this scheme shall not be beneficiaries of other schemes. The simplified small farmers’ scheme will have less administrative burden than the basic scheme and the farmers shall not be obliged to conform to cross compliance requirements.

According to the new schemes of direct payments, the payments will have not only national ceiling but also they are capped per beneficiaries, the support shall be provided only for active farmers [Proposal... 2011B]. Market measures will also be simplified, their importance is decreasing, they will serve as a ‘safety net’ for the farmers. Intervention, private storage and export refunds will remain, but they will not be financed by the First

Pillar. In case of unexpected events (e.g. market disturbances, animal health problems, or other unexpected events) additional measures shall also be introduced [Proposal... 2011A].

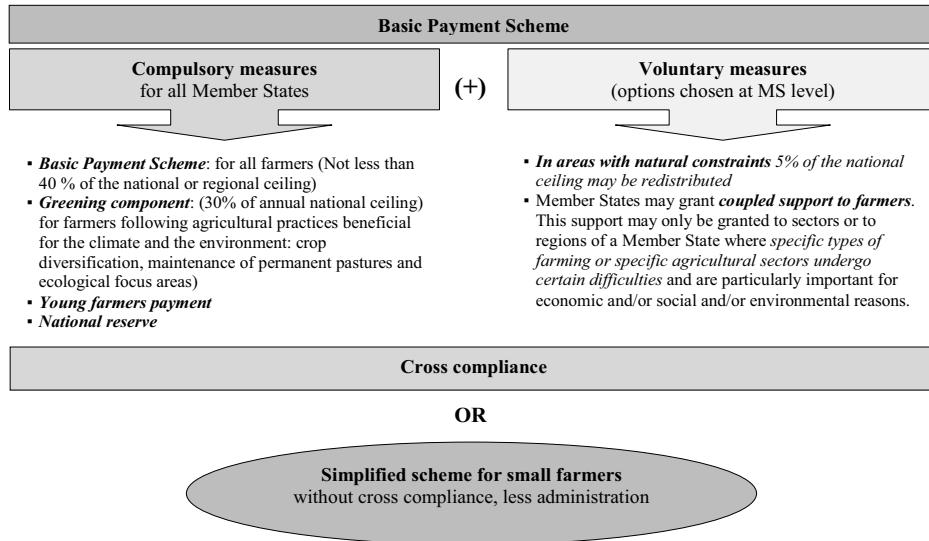


Fig. 3. Payment schemes proposed by the CAP 2014

Source: own compilation based on EC proposal [Proposal... 2011B].

The rural development policy retains the long-term strategic objectives of contributing to the competitiveness of agriculture, the sustainable management of natural resources and climate action as well as to the balanced territorial development of rural areas. In line with the Europe 2020 strategy, these broad objectives of rural development support for 2014-2020 are given more detailed expression through six EU-wide priorities. They may improve the competitiveness of agricultural enterprises, the living standards of rural population, as well as preserve environmental, traditional and landscape values of the rural areas [Proposal... 2011C].

Conclusions

The results of our research draw attention to the specific problems of agricultural enterprises in the V4 countries. The convergence process has not been finished yet, some development may be observed, but there are many problems at both farm and sectoral level. The most significant problems at farm level are the low level of own capital, credit disability and liquidity problems which characterize all the V4 countries. These issues, of course, are rooted in the general problems of the agricultural sector, such as low technical level, the problems of land ownership and food-processing industry and the general financial problems. Thus, they can be solved by comprehensive measures at governmental level and the better use of the EU support.

The new CAP reform will bring a new payment system and the proposed national ceilings will not radically reduce the payment level in these countries [Az... 2012]. Greening and capping (i.e. the maximum payment level for individuals) may cause problems mainly for the large farms. Nevertheless, it should be stated that this is just a proposal, and all the V4 countries have formulated their own proposals, which are under a very intensive consultation process at present.

References

- Az EU új Közös Agrárpolitikája 2014-2020 [The new CAP 2014-2020]. [2012]. Horváth Á. (ed.) Vidékfejlesztési Minisztérium és Magyar Agrárkamara kiadványa, [published by the Ministry of Rural Development and Hungarian Chamber of Agriculture]. Budapest, pp. 24.
- Definitions of Variables used in FADN standard results. (2007). RI/CC 882 Rev. 8.1. EC, Brussels, 12 April.
- FADN Public database. [2004-2008]. [Available at: http://ec.europa.eu/agriculture/rica/database/database_en.cfm. [Accessed: May 2011].
- Jambor A., Harvey D. [2010]: CAP Reform Options: A Challenge for Analysis & Synthesis. Centre for Rural Economy Discussion Paper Series no. 28. University of Newcastle-upon-Tyne. [Available at:] <http://www.ncl.ac.uk/cre/publish/discussionpapers/pdfs/dp28JamborHarvey.pdf>. [Accessed: 9 May 2011].
- Proposal for a regulation of the European Parliament and of the Council establishing a common organisation of the markets in agricultural products (Single CMO Regulation). [2011]. COM(2011) 626 final 2011/0281 (COD). EC, Brussels.
- Proposal for a regulation of the European Parliament and of the Council establishing rules for direct payments to farmers under support schemes within the Framework of the common agricultural policy. [2011]. COM(2011) 625 final 2011/0280 (COD). EC, Brussels
- Proposal for a regulation of the European Parliament and of the Council on support for rural development by the European Agricultural Fund for Rural Development (EAFRD). [2011]. COM(2011) 627 final 2011/0282 (COD). EC, Brussels
- The CAP towards 2020: Meeting the food, natural resources and territorial challenges of the future. [2010]. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. EC, Brussels, 18 November.
- The Common Agricultural Policy after 2013 Public Debate, Summary Report. [2010]: EC [Available at:] http://ec.europa.eu/agriculture/cap-post-2013/debate/report/summary-report_en.pdf. [Accessed: 9 May 2011].
- Töröné Dunay A. [2012A]: Az EU agrártámogatási rendszerének változásai és a csatlakozás hatása a mezőgazdasági vállalkozásokra. [*Farm Level Impacts of the EU Accession and Agricultural Policy Developments (Changes in Payment System)*] PhD dissertation. Szent István University, Gödöllő, pp. 173, (in Hungarian).
- Töröné Dunay A. [2012B]: Farm Level Impacts of the EU Accession and Agricultural Policy Developments (Changes in Payment System). Theses of PhD dissertation. Szent István University, Gödöllő, pp. 26.