Comparison of subsidies in the Visegrad Group after the EU accession

Porovnání dotací zemí Visegrádské čtyřky po vstupu do EU

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Abstract: States of the Visegrad Four have always been the area historically connected together by common roots, tradition, culture relations and similar economic development. Economies of the Visegrad Group have reached a comparable level of development. The aim of the paper is to compare the V4 states with regard to the conditions for agricultural production and to assess the impact of the Common Agricultural Policy to the economy of agricultural holdings in the V4 states according to the FADN results.

Key words: subsidies, profit/loss, labour productivity

Abstrakt: Historicky vzato byly země Visegrádské skupiny jednou oblastí, kterou vždy spojovaly společné kořeny, tradice, kulturní vazby a podobný historický ekonomický vývoj. Ekonomiky visegrádských států jsou z hlediska vyspělosti na vzájemně srovnatelné úrovni. Cílem příspěvku je porovnání V4 z hlediska podmínek zemědělského hospodaření a na základě výsledků výběrového šetření FADN posoudit vliv Společné zemědělské politiky na ekonomiku zemědělských podniků jednotlivých zemí.

Klíčová slova: dotace, výsledek hospodaření, produktivita práce

After the integration of the Visegrad Group states (V4) to the EU, priorities of their foreign policies have been extended and involved more areas. The Visegrad Group is trying to enforce the identity of Central Europe and to support regional cooperation of the states of this region.

Agriculture is a topic, which is being discussed keenly in the European Union, as it plays an important role in the majority of the New Member States (NMS). There were no significant fluctuations at the EU single market after the accession of new Member states in 2004. It is related to the fact that the majority of trade was liberalized in the period before the enlargement. The fear that European markets could be flooded with an excess of cheap food after the accession of Central and East Europe states was proven to have been mistaken. The NMS managed to adapt to the food, veterinary and phytosanitary safety regulations.

On the other hand, the EU 15 states have acquired advantages by opening access to agricultural markets in the NMS in which incomes are increasing and prices and markets with cereals, sugar beet and meat are being stabilized.

Unequal conditions for competition are the most discussed issue. The nine-year transition period to 2013 of merely gradually increasing direct payments for farmers in the NMS creates unequal conditions intensified by increasing costs due to the strict hygiene and health standards of the EU.

MATERIAL AND METHODOLOGY

Calculations used in this paper are based on the FADN survey database in 2004–2006. Comparative analyses use different methods of classification of

Supported by the Ministry of Agriculture of the Czech Republic (Project No. QG 60042).

agricultural holdings, for example determined by the type of farming according to the FADN classification based on the economic concept of standard gross margin (Divila, Sokol 1999) or by the agricultural production area, or by the legal form of business (Grznár, Szabo 2002).

This paper uses the standard FADN results. The classification is based on the common types of farming. The results present a comparison of the four most important types of farming – field crops, livestock breeding (including other ruminants and other grazing livestock fed with bulk feed), pig breeding (poultry and other granivores) and mixed plant and animal production.

The system of classification of agricultural holdings according to the type of farming is based on the economic concept of standard gross margin (SGM). The standard gross margin expresses an economic acquisition per a unit of production for each type of animal and plant production. It is calculated per 1 ha of each type of crop and per 1 head of livestock. Its value is defined as the value of standard production per 1 ha of a crop or per 1 head of livestock minus the specific (variable) costs for this production (VÚZE 2007).

Standard gross margins are specified in the EU states for each type of crop and animal according to real conditions with the regular actualization.

Economic indicators (such as the net value added per 1 annual work unit (AWU); production per 1 AWU; the EBT calculated as the difference between the total production and the total costs and the profit rate as the ratio of the EBT/assets) of farms classified according to the above mentioned system were compared. In addition to this, we compared the total volume of subsidies per 1 ha of agricultural land and the structure of subsidies.

RESULTS AND DISCUSSION

The basic economic indicators of V4 countries are presented in Table 1. According to the EUROSTAT, there were 26 400 agricultural holdings in the Czech Republic (CZ) in 2005. It means 0.4% of the EU 25 farms. An average farm area was 134 ha. Field crops (26%) were the prevailing type of production, followed by livestock breeding (19%) and mixed production (15%); see Table 2.

In Hungary (HU), there were 155 400 farms (2.4% of the EU 25) with an average area of 26 ha. The majority of farms were specialized to pig and poultry breeding (19%), followed by mixed production (17%) and mixed animal production (16%).

Regarding Poland (PL), the EUROSTAT data reported 1 082 700 farms (16.5% of the EU 25) in 2005. The average area was 12 ha. Field crops (28%) were the prevailing type of production in Poland, followed by mixed production (19%) and mixed animal production (11%).

Slovakia (SK) had 12 900 farms with an average area of 143 ha. 23% were specialized in mixed plant production, 21% in mixed plant and animal production and 21% in field crops (Council for the Rural Area 2007).

The main conditions related to the agriculture of the NMS in the EU environment are based on the Accession Treaties between the NMS and the EU, on the final version of the Common Agricultural Policy (CAP) reform adopted by the EU summit in June 2003 and on other legislative measures of the

Table 1. Basic data of the V4 states

V4	CZ	HU	PL	SK
Area (square km)	78 864	93 036	312 685	49 035
Population (number)	10 021 100	9 981 334	38 605 000	5 439 448
GDP (milliard USD)	199	163	514	87
GDP per capita (USD)	19 858	16 330	13 314	15 994
Export (milliard USD)	78	62	109	32
Import (milliard USD)	76.5	65	125	35
Share of utilised agricultural land (%)	47	65	53	46
Employment in agriculture (%)	4	7	18	5
Agricultural production (EUR/ha)	963	975	887	837
Subsidies to agriculture (EUR/ha)	190	186	131	122

Source: V4 official website, EUROSTAT 2005 data

EU. Conditions of the CAP are related to production limits, to the volume and the conditions of the direct payment distribution and to the total volume and orientation of structural supports. The better part of these conditions will be valid till the direct payment in the Czech Republic will be equal to the direct payment in the EU 15 states, in 2013 at the latest.

The most important part of the EU expenditures to agriculture is represented by direct payments paid at two levels in the NMS. The first level is the single area payment (SAPS) per 1 ha of farmed agricultural land paid entirely from the EU resources. The second part of direct payments is the national supplementary payment (Top-Up). This payment is covered from national resources in the amount of 30% of the direct payments of the EU 15 states and their administrations are decided by each member state under the condition that there will be no subsidy on the domestic Top-Up payment to which the Community did not provide direct support by the 30th April 2004.

At present, the V4 is provided with direct payments of the SAPS and SSP (separate sugar payment) and energy crops. National Top-Up payments in the Czech Republic are provided for the selected arable land crops (cereals, including corn for silage, soya, rape, sunflower, peas, bean, sweet lupine, hemp for fibre and oil flax), growing of hop, flax for fibre, potato starch and ruminant breeding.

The Top-Up in Slovakia is paid for the selected crops on arable land, hop, selected types of tobacco and livestock units (LU) (MP SR 2008). Hungary provides payments on animal production generally equal to the standard direct payments and additionally on selected crops on arable land and some special crops such as tobacco, almonds, hazel-nuts and walnuts (MARD Hungary 2008). In Poland, Top-Up refers to special crops (MRRW 2008).

In addition to direct payment, supports from the Rural Development Programme are paid to the member states. Within this support, the following payments refer directly to agriculture: compensatory payments on less favoured areas and agro-environmental measures as the entitlement payments as well as payments through the project of investment in order to improve the competitiveness of agriculture. Co-financing of projects from structural funds of the EU is conditioned by the co-financing from national resources.

The V4 states were selected from the FADN survey and their farms divided according to the type of farming as farms with the prevailing field crops, livestock and other animals fed with bulk feed breeding, pig and other granivores breeding and mixed animal and plant production.

The areas of agricultural holdings in the V4 differ significantly. The Slovak farms have the largest average area (almost 550 ha). On the contrary, the average area is the smallest in Poland (17 ha). The average area of a Czech farm is 250 ha and the average area of a farm in Hungary is 50 ha.

The greatest volume of subsidies was paid in Poland in 2006 (287 EUR per 1 ha, which meant 2.2 times more in comparison with 2004). Subsidies of 264 EUR per ha meant an increase 1.7 times in the Czech Republic. The lowest increase was observed in Hungary (subsidy rate of 222 EUR per 1 ha meant 1.2 times more in comparison with 2004). There was the lowest subsidy rate in Slovakia – 208 EUR/ha (2.1 times more in comparison with 2004); for comparison with other EU countries see Figures 1 and 2.

Table 2. Classification of agricultural holdings according to the type of farming (%)

Type of farming	CZ	HU	PL	SL
Field crops	26	15	28	21
Horticulture	2	2	2	0
Permanent cultures	13	15	6	7
Milk production	4	1	3	9
Livestock (and other animals fed with bulk feed) breeding	19	2	10	3
Pigs, poultry (and other granivores)	5	19	6	5
Mixed plant production	9	13	9	23
Mixed animal production	7	16	11	10
Mixed animal and plant production	15	17	19	21

Source: EUROSTAT

Within the V4 states, the positive indicator of earnings before taxes (EBT) without subsidies was proven in Poland only in 2004–2006. In 2006, it amounted to 273 EUR/ha; the average of the EU 25 states was 170 EUR per ha. The remaining states of the V4 recorded a loss. The greatest loss was recorded in Slovakia (380 EUR/ha), followed by the Czech Republic (152 UR/ha) and Hungary (47 EUR/ha of agricultural land). This situation reflected in the profit rate. The profit rate was the lowest in Slovakia (–18%); only Poland was able to reach a satisfactory value of 6%.

Labour productivity measured as the net value added per 1 AWU was the highest in the Czech Republic (10 992 EUR) and in Hungary (9 950 EUR) in 2006, and the lowest in Slovakia (581 EUR). Poland reached 6 019 EUR in 2006. A similar situation applied to the value of total production per 1 AWU. It was the highest in the Czech Republic (31 892 EUR) and in Hungary (27 383 EUR). This indicator was higher in Slovakia (20 899 EUR) than in Poland (13 072 EUR).

The state of the volume and structure of subsidies was comparable among the V4 states. The SAPS reached similar values in average ranging from 65 (in Slovakia) to 91 (in Hungary) EUR per 1 ha of agricultural land, which meant approximately 30% of the total subsidies. The highest total subsidies on crops were in Poland (136 EUR/ha) where no Top-Up subsidies on animals were paid in 2004–2006. The crops subsidies amounted 33 EUR/ha in Slovakia and 54 EUR/ha in the Czech Republic. In Hungary, 40 EUR/ha meant a decrease to 66% of 2004.

Subsidies on animals were not paid in Poland. These subsidies were rather low in Slovakia (4.3 EUR/ha). On the other hand, the Czech Republic had the highest subsides (27 EUR/ha) followed by Hungary (25 EUR per ha). The recalculation per livestock units reveals the highest subsidy rate on animals in Hungary (with an average of 61 EUR per 1 livestock unit) followed by

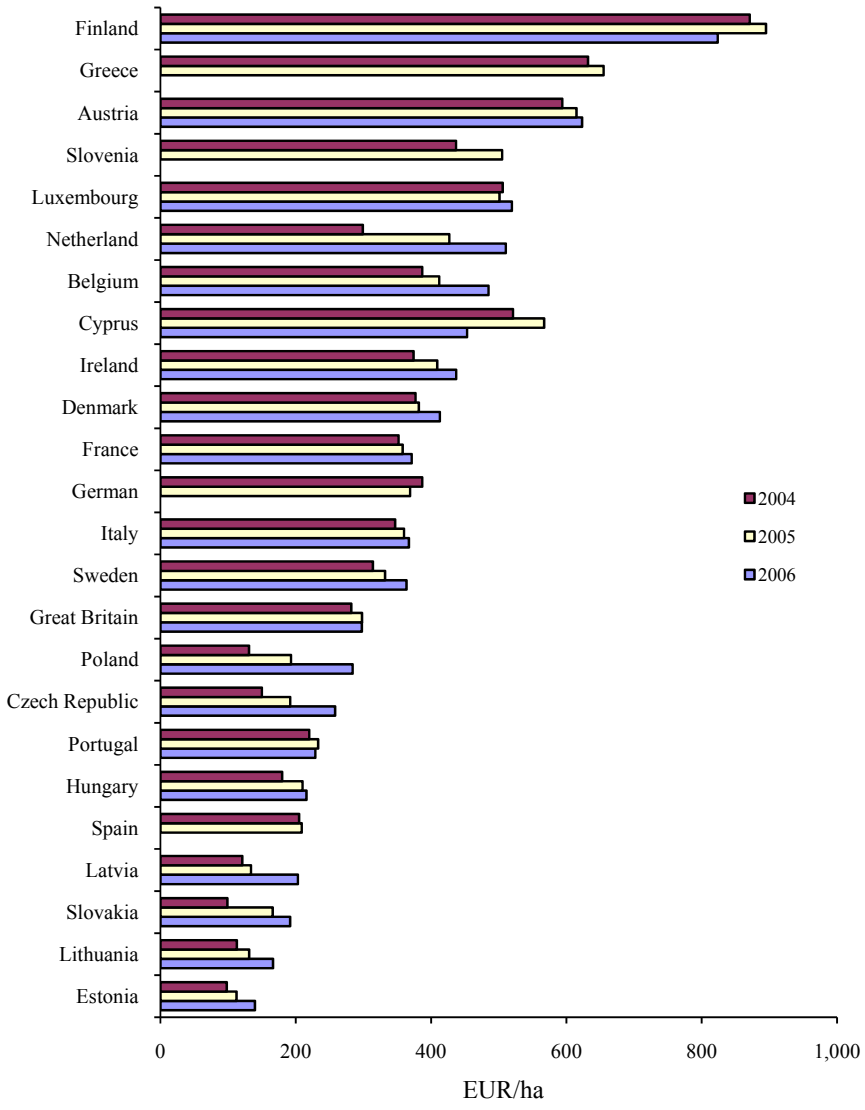

Figure 1. Subsidies in the EU states (EUR/ha of agricultural land)

Source: The Farm Accountancy Data Network

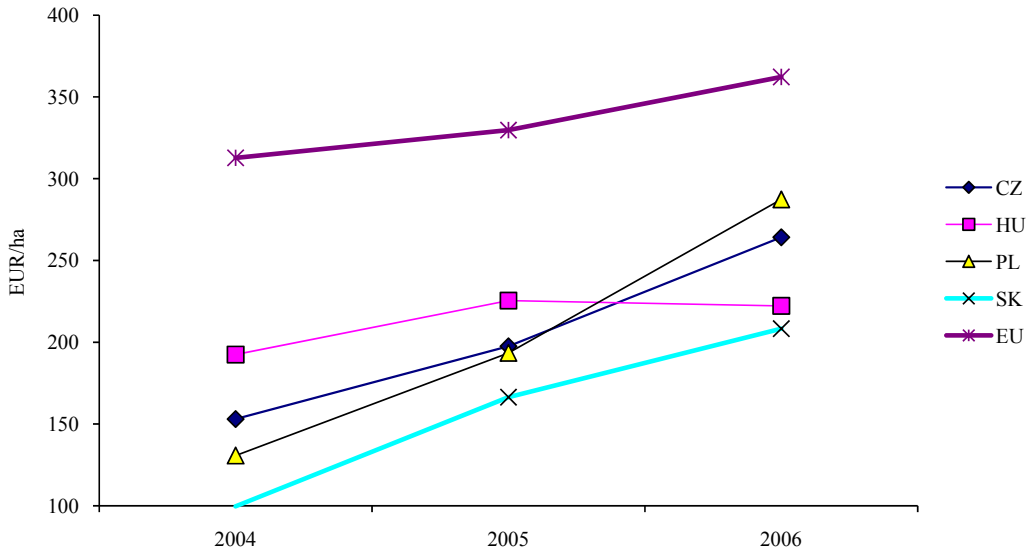

Figure 2. Subsidies in the V4 after the accession to the EU

Source: The Farm Accountancy Data Network

the Czech Republic (52 EUR/LU), and only 12 EUR per LU in Slovakia.

Subsidies to agro-environmental measures were the highest in Slovakia (33 EUR per 1 ha of agricultural land in 2006, which represents 16% of the total subsidies). The Czech Republic and Hungary reached a relatively high rate of 30, respectively 25 EUR/ha with the same share in the total subsidies in both states (11%). Agro-environmental support was rather low in Poland (4% of the total subsidies only). Basically, these subsidies were used in the Czech Republic only in 2004. The largest increase was reported in Slovakia, where these subsidies were not used at all in 2004. Compensatory payment to the LFA was the highest in Slovakia (51.4 EUR/ha, which was 25% of the total subsidies), followed by the Czech Republic (27 EUR/ha, i.e. 10%) and Poland (25 EUR/ha, i.e. 8%). The lowest rate of the

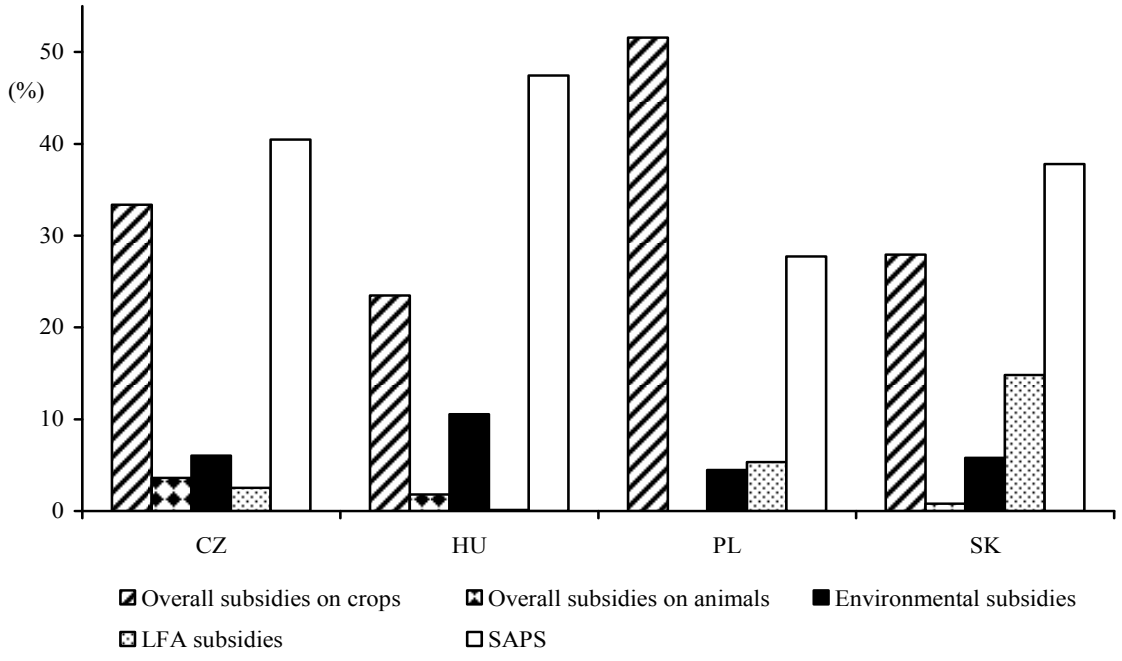

Figure 3. Share in the total subsidies in 2006 – field crops

Source: The Farm Accountancy Data Network

LFA subsidy was paid in Hungary (0.3 EUR/ha, i.e. 0.1%) in 2006.

Agricultural holdings with prevailing field crops

An average farm specialized to field crops had the area of 171.5 ha in the Czech Republic in 2006. Its loss was 86 EUR and the profit rate –3.5%. The total subsidies amounted to 217 EUR/ha, of which 40% was the share of the SAPS, 33% crop subsidies, 6% environmental subsidies and 2.5% the LFA payments (Figure 3).

In Hungary, the area of an average farm was smaller (72 ha), the loss of 53 EUR/ha with the profit rate of –3.2%. The total subsidies amounted to 193 EUR/ha, 47% of which were the SAPS, 24% subsidies on crops, 11% the environmental subsidies and 0.2% the LFA subsidies.

An average farm specialized to field crops had 33.7 ha in Poland; the profit without subsidies accounted to 135 EUR/ha in 2006. There was 4.9% of the profit rate. The total subsidies amounted to 256 EUR/ha, 28% of which were the SAPS, 52% subsidies on crops, 4.5% the environmental subsidies and 5.3 % the LFA subsidies.

An average farm specialized to field crops had the area of 298.6 ha in Slovakia; the loss numbered to 239 EUR/ha in 2006. There was –19% of the profit rate. The total subsidies amounted to 173 EUR/ha, 38% of which were the SAPS, 28% subsidies on crops, 5.8% the environmental subsidies and 14.8% the LFA subsidies.

Figure 3 reveals that there were no significant differences in the structure of the most important subsidies within farms specialized to field crops in the V4 states.

Agricultural holdings specialized on livestock breeding

An average farm specialized on livestock had an area of 214 ha in the Czech Republic in 2006. There were 227 EUR/ha of the loss and –10% of the profit rate. The total subsidies amounted to 370 EUR/ha, 24% of which were the SAPS, 2.7% subsidies on crops, 12.3% subsidies on animals, 25% the environmental subsidies and 29% the LFA subsidies (Figure 4).

In Hungary, the area of an average farm was 86.6 ha the loss amounted to 62 EUR/ha with the profit rate of –2.4%. The total subsidies amounted to 271 EUR/ha, 33.8% of which were the SAPS, 7.7% subsidies on crops, 31.6% subsidies on animals, 11.2% the environmental subsidies and 0.1% the LFA subsidies.

An average farm specialized to livestock had the area of 20 ha in Poland. It registered 351 EUR/ha of the profit and 7.6% of the profit rate in 2006, the total subsidies amounted to 311 EUR/ha, 22.8% of which were the SAPS, 46.9% subsidies on crops, 5.1% the environmental subsidies and 12% the LFA subsidies. Subsidies on animals were not paid.

An average farm specialized to livestock had the area of 666 ha in Slovakia in 2006. There were reached 397 EUR/ha of the loss and –18.5% of the profit rate in 2006. The total subsidies amounted to 268 EUR/ha,

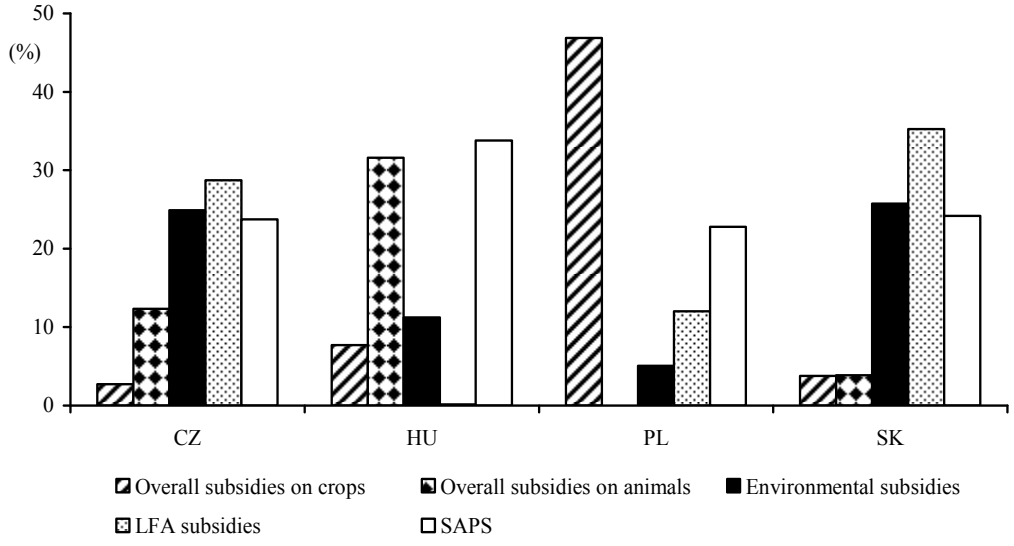

Figure 4. Share in the total subsidies in 2006 – livestock production

Source: The Farm Accountancy Data Network

24.2% of which were the SAPS, 3.8% subsidies on crops, 3.9% subsidies on animals, 25.7% the environmental subsidies and 35.2% the LFA subsidies.

Figure 4 presents the structure of the most important subsidies of the V4 states in farms specialized to livestock and other animals fed with bulk fodder. There was a similar structure of subsidies in the Czech Republic and in Slovakia with the largest share of the LFA subsidies, which means that livestock breeding was concentrated mainly to less favoured areas in these states.

Agricultural holdings specialized on pig and poultry breeding

The FADN database has no available data for this type of production in Slovakia due to a small number of respondents with this specialization.

In the Czech Republic, an average farm with the prevailing specialization to pig and poultry production had an area of 16.4 ha with the profit of 32.9 EUR per ha and the profit rate of 0.04%. The total subsidies amounted to 626 EUR/ha, 13.8% of which were the SAPS, 10.8% subsidies on crops, 0.5% subsidies on animals, 1% the environmental subsidies and 0.7% the LFA subsidies (Figure 5).

In Hungary, the area of an average farm was 10.8 ha, the loss of 571 EUR/ha with the profit rate of –3.3%. The total subsidies amounted to 1 079 EUR/ha, 8.5% of which were the SAPS, 3.7% subsidies on crops, 52.3% subsidies on animals and 1.6% the environmental subsidies. The LFA subsidies were almost equal to zero.

An average farm specialized to pig production had the area of 15 ha in Poland. There were 599 EUR/ha of profit with 8.7% of the profit rate in 2006. The total subsidies amounted to 297 EUR/ha, 23.9% of which were the SAPS, 49.6% subsidies on crops, 2.4% the environmental subsidies and 9.8% the LFA subsidies.

The structure of subsidies to farms specialized on pig and poultry production reveals the most important differences within the V4 states. Firstly, a high share of animal subsidies in Hungary means important national subsidies on animal breeding in this state. A low share of the subsidies on crops and animals in the Czech Republic is caused by a high share of subsidies on the intermediate consumption (37%) consisting of the subsidies on wages, rents, taxes and interests. The subsidy on interest compensation from the Support and Guarantee Agricultural and Forestry Fund (SGAFF) is the most usual one. Possibly, it means that there is a high share of investment and returns of the consumption tax on diesel oil.

Mixed animal and plant production

An average farm specialized on mixed production had the area of 436 ha in the Czech Republic in 2006. There were 200 EUR/ha of the loss and –6.5% of the profit rate. The total subsidies amounted to 266.5 EUR per ha, 32.9% of which were the SAPS, 19.7% subsidies on crops, 13.9% subsidies on animals,

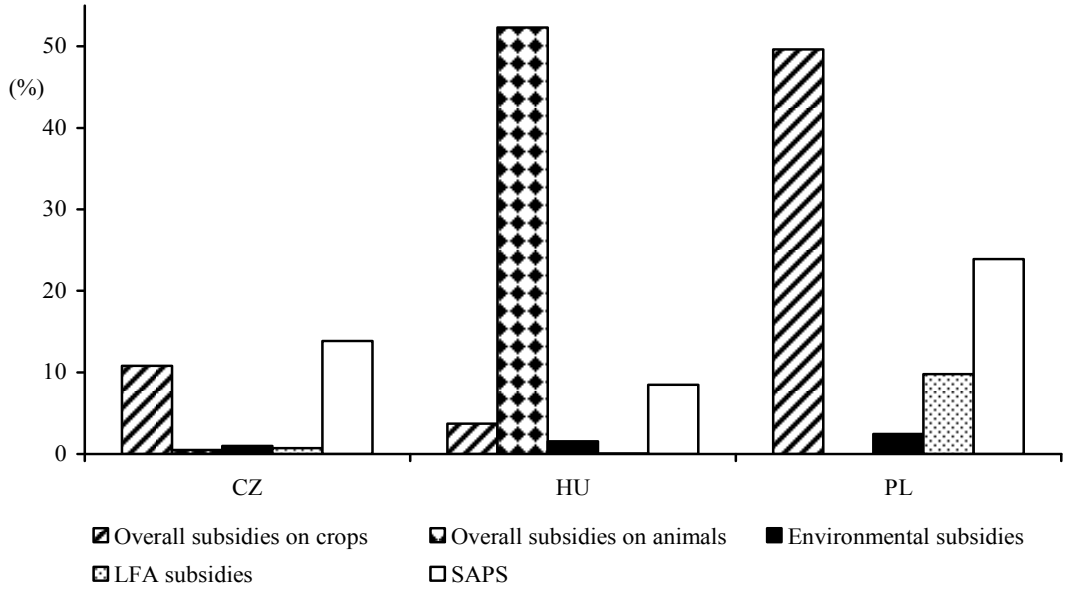

Figure 5. Share in the total subsidies in 2006 – pig and/or poultry production

Source: The Farm Accountancy Data Network

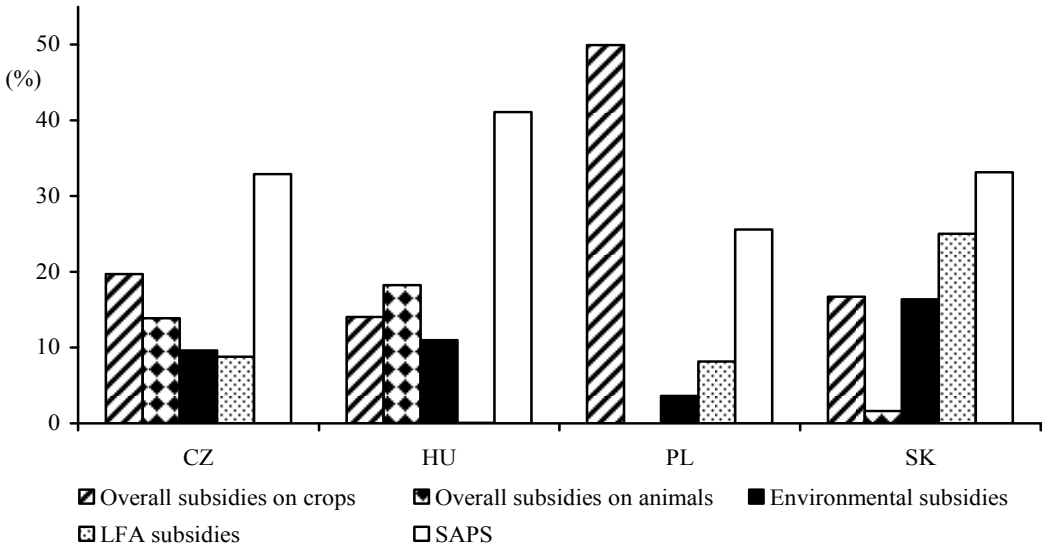

Figure 6. Share in the total subsidies in 2006 – mixed production

Source: The Farm Accountancy Data Network

9.6%the environmental subsidies and 8.8% the LFA subsidies (Figure 6).

In Hungary, the area of an average farm was 57.6 ha, the loss amounted to 66 EUR/ha with the profit rate of –3.2%. The total subsidies amounted to 224 EUR/ha, 41% of which were the SAPS, 14% subsidies on crops, 18% subsidies on animals, 11% the environmental subsidies and 0.1% the LFA subsidies.

An average farm specialized to mixed production had the area of 17 ha in Poland. There were 141 EUR/ha of profit with the profit rate of 3.9% in 2006. The total subsidies amounted to 277 EUR/ha, 25.6% of which were the SAPS, 49.9% subsidies on crops, 3.6% the environmental subsidies and 8.2% the LFA subsidies.

An average farm specialized to mixed production had the area of 1 092 ha in Slovakia in 2006. There were 427 EUR/ha of the loss and –18% of the profit rate. The total subsidies amounted to 197 EUR/ha, 33% of which were the SAPS, 16.7% subsidies on crops, 1.6% subsidies on animals, 16.4% the environmental subsidies and 25% the LFA subsidies.

Figure 6 reveals that the differences in the structure of subsidies for mixed production are not significant. In Poland, there is the largest share of subsidies paid on crops compared to other types of farming which is a result of the structure of national Top-Up payment in Poland.

Additionally, the payment structure of all types of farming reflects a low share of the LFA in Hungary and a high share of the LFA in Slovakia and an extremely low share of environmental payment in Poland.

CONCLUSION

The accession of the Visegrad Group states to the EU had fulfilled the original objectives of the mutual cooperation together with their implementation into the international unit with significantly stronger relations.

Economies of the Visegrad group states are on a comparable level of development. Regarding farming conditions, the Czech Republic, Slovakia and Poland had more than 50% of their areas classified as the less favoured area in comparison with less than 20% in Hungary.

However, there are important differences in comparison of the mountain LFAs. There were 20% of the mountain LFAs in Slovakia, 15% in the Czech Republic and 1.2% in Poland. Mountain LFAs are not delimited in Hungary.

In 2004–2006, the values of farm income were negative in Slovakia, only due to the high cost/revenue ratio. Except Poland, costs in other states of the V4 are higher than the total agricultural production. The difference was 5% in Hungary in 2006, 14% in the Czech Republic and even 56% in Slovakia. However, the total subsidies calculated per 1 ha of agricultural land were the lowest in Slovakia at the level of 72.5% in comparison with the highest level in Poland.

The highest labour productivity was recorded in the Czech Republic in 2006. Hungary reached a similar labour productivity with a slight decrease in the period under investigation as opposed to the Czech Republic. The lowest labour productivity ap-

peared in Poland in spite of the highest production per hectare.

The rate of employment in agriculture in Poland is still too high with approximately 10 AWU/100 ha in comparison to 3.5 AWU/100 ha of utilized agricultural land in other V4 states. The structure and the volume of subsidies calculated per 1 hectare of agricultural land is similar in the Czech Republic and in Hungary with the only significant difference in the LFA subsidies corresponding to the delimitation of this area.

The highest share of subsidies per 1 ha of agricultural land appeared in Poland in 2006. The structure of subsidies in Poland is different from the other states of the V4 especially due to the influence of the national Top-Up payment that is paid only on crops, therefore their share in the total subsidies is importantly higher in comparison with the rest of the V4; subsidies on animals are not paid at all and the share of subsidies on environmental measures in Poland is significantly lower.

Slovakia had the lowest total subsidies calculated per 1 ha of agricultural land in 2004–2006. Their structure is different in comparison to the Czech Republic. The share of subsidies on animals is significantly lower in Slovakia than in the Czech Republic. On the other hand, the share of subsidies on environmental measures and on the LFA is higher in Slovakia.

REFERENCES

Council for the Rural Area: Implementation of the CAP and visions of its future role across 27 EU Member States (2007). Netherlands [on-line]. Available at http://www.rlg.nl/cap [Quoted 2008-03-17].

Divila E., Sokol Z. (1999): Problémy klasifikace a řídění zemědělských podniků (Problems of agricultural enterprises classification and sorting). Zemědělská ekonomika, *45* (10): 459–466.

Grznár M., Szabo L. (2002): Niektoré faktory úspešnosti agrárnych podnikov v SR (Some factors of farm competitveness in the SR). Agricultural Economics – Czech, *48* (8): 367–371.

Minister Rolnictwa i Rozwoju Wsi [on-line]. Available at http://www.minrol.gov.pl [Quoted 2008-03-17].

Ministerstvo pôdohospodárstva Slovenskej republiky [on-line]. Available at http://www.land.gov.sk [Quoted 2008-03-17].

Ministry of Agriculture and Rural Development of Hungary [on-line]. Available at http://www.fvm.hu [Quoted 2008-03-17].

The Farm Accountancy Data Network (FADN): standard results. [on-line]. Available at http://ec.EURpa,eu/agriculture/rica/ [Quoted 2008-10-15].

Visegrad Group: the official website [on-line]. Available at http://www.visegradgroup.eu [Quoted 2008-02-28].

VÚZE (Institute of Agricultural Economics and Information): Zemědělská účetní datová síť ČR (Farm Accountancy Data Network of the Czech Republic) [on-line]. Available at http://www.vsbox.cz/fadn/ [Quoted 2007-11-21].

Arrived on 2nd February 2009

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