Economic differentiation in Slovak agriculture

Ekonomická diferenciácia v slovenskom poľnohospodárstve

Z. Chrastinová

Research Institute of Agriculture and Food Economics, Bratislava, Slovak Republic

Abstract: Results of agriculture suggest that a typical feature of this industry is economical differentiation of agricultural enterprises and product sectors. In contrast to the expectations at the time of entering the market environment, a more significant levelling of economic results has not yet taken place. Just as before 1990, natural conditions are still the crucial factor of the differentiated efficiency of agriculture and its product sectors, followed by the legal form of farming, agricultural land concentration; as well as the performance of managers, i.e. the organisation and management of enterprises. The evaluation of enterprises was performed through statistical methods (Pearson´s correlation coefficient) and various relative financial and economical coefficients.

Key words: efficiency, investment, economic results (profit/loss), Pearson's correlation coefficient

Abstrakt: Výsledky dosiahnuté v poľnohospodárstve ukazujú, že toto odvetvie je charakteristické ekonomickou diferenciáciou poľnohospodárskych podnikov a výrobkových odvetví a zatiaľ nedochádza k výraznejšiemu vyrovnávaniu výsledkov, ako sa predpokladalo pri nástupe trhového prostredia. Rozhodujúcim faktorom diferencovanej efektívnosti poľnohospodárstva a jeho výrobkových odvetví tak ako do roku 1990 aj v súčasnosti sú prírodné podmienky, menej právna forma hospodárenia, koncentrácia poľnohospodárskej pôdy a nezanedbateľný vplyv má aj práca manažérov, čiže organizácia a riadenie podnikov. Hodnotenie podnikov sa vykonalo pomocou štatistických metód (Pearsonovým korelačným koeficientom) a rôznych pomerových finančno-ekonomických ukazovateľov.

Kľúčové slová: efektívnosť, investície, výsledky hospodárenia, Pearsonov korelačný koeficient

In 2007, the RIAFE worked on the solution of the task focused on the analysis of the differentiated efficiency in agriculture. The task was targeted at the sector and product economics, as well as at the structure of businesses and the decisive institutional factor – support policy. Economic differentiation of agricultural enterprises was analyzed using several economic indicators, namely the economic prosperity expressed in the terms of economic results (profit), costs of revenues as well as natural conditions, the legal form of the business, size of the agricultural enterprise measured by the area of agricultural land and the product economics. The differentiated efficiency in agriculture has been a persistent phenomenon that depends on several objective and subjective factors applicable on agricultural enterprises. Writing of this article has been one of the requirements to complete the above task.

METHODOLOGY

The author of this article focused on the analysis of the differentiation of the economic efficiency from several aspects and made an economic analysis of the individual legal forms of businesses and different natural conditions. The key sources of information for this article were the MoA SR Information Sheets for 2004–2006. The data from the accounting and other statements were used (Profit and Loss Account, Balance Sheet, Specific Indicators, Selected Indicators) provided by approximately 1 200 agricultural enterprises owned by legal persons, with up to 19 and over 20 employees.

The economic efficiency of agriculture was investigated by using economic indicators. Mathematical and statistical methods that were used involved the correlation analysis – linear correlation using the

Pearson's correlation coefficient that targeted at the correlation between two variables. The variables were defined as the economic result in relation to production, supports, value added, income and wages. We then investigated the correlation between supports and value added, income, production and wages.

The equation

$$y_i = \beta_0 + \beta_{1xi} + \varepsilon_i$$

where:

y_i = value of dependent variable – Y (criteria), in i-th observation

x_i = value of independent variable – X (predictor) in i-th observation

β_0 = regress constant (point of intersection of regress line and x axis)

β_1 = regress coefficient (direction of regress line)

ε_i = random error of i-th observation

A correlation coefficient was computed separately for each group of enterprises and for each couple of variables – y_i and x_i: agricultural cooperatives (ACs), farming companies (FCs), enterprises in less favoured areas (LFAs), enterprises in productive areas (PROD), profitable, loss-making enterprises and enterprises in total.

The correlation coefficient represents the dependency expressed as follows:
direct correlation, if $r > 0$
indirect correlation, if $r < 0$
no correlation between indicators, if $r = 0$.

The closer this coefficient approached to 1, the stronger was the statistical dependence between the investigated variables. Positive values indicate the same direction of correlation for the variables, while the negative values suggest a reverse development of variables.

The correlation analysis was performed for agriculture as a whole, legal forms of business (ACs and FCs), successful operation of enterprises (profit/loss), enterprises in productive and less favoured areas (PROD, LFA). The index method and the knowledge-based analytical methods were used for the solution of this task.

A number of authors, namely Bielik et al. (2000) dealt with the issue of the differentiation in agricultural enterprises; and they pointed out the differentiation in performance and income of enterprises using the microeconomic analysis. Grznár and Szabo (2002) refer to the decisive factors for the success of agricultural enterprises. To that end, each subject in the market is using the profitability criteria and their prosperity is assessed by the extent of the coverage of costs incurred, the reproduction rate of production resources and the amount of personal wages. The businesses in agrarian sector show an unparalleled differentiation of production and economic results. The selected problems of capital endowment of Czech agriculture are observed by Rosochatecká et al. (2008). Other authors, Sojková et al. (2008), Střeleček et al. (2007) also deal with the economics of agricultural enterprises.

Core work

The differentiation of results by natural conditions

Slovak farmers operate in varying natural conditions that limit their production scope and intensity. The land and climate conditions are the decisive natural factors, i.e. soil, soil substrate, granularity, topography, depth, rockiness, as well as the climate and altitude. These are the factors which constitute natural conditions and the framework for a better and more intensive, or a worse and more extensive farming of agricultural land.

Natural conditions vary and in the terms of the achieved intensity, they are referred to as better productive conditions (PROD – *productive areas*) and worse natural conditions, i.e. the *less favoured areas* (LFAs). In the terms of use in agriculture, the key portion of agricultural land in Slovakia represents the land in less favoured areas, i.e. worse natural conditions. The economic performance of farmers is by and large affected by the structure of natural conditions and it is reduced in the less favoured areas with worse natural conditions.

There are major differences between most of the monitored indicators for the economic results achieved per hectare of agricultural land in the productive and less favoured areas. The highest economic performance of agriculture measured in the terms of economic results was recorded in the regions in Western Slovakia, with a higher share of productive areas, i.e. better natural conditions, and the lowest value was recorded in the regions of Central and Eastern Slovakia, with a higher share of less favoured areas – worse natural conditions. In 2006, some 68% of enterprises farmed more than 50% of agricultural land in worse natural conditions.

Compared to the average economic results achieved in agriculture in Slovakia, the economic level of agricultural enterprises farming in less favoured areas was lower by 20–35% and achieved only 30% or 50% of the results in productive areas. The contributing factors to the worse results in less favoured areas

Table 1. Economical indicators concerning differentiation of economic results of productive and less favourable areas in 2004–2006 (SKK/ha a.l.)

Indicator	Areas	2004	2005	2006	Average 2004–2006
Profit/loss	PROD	2 284	700	908	1 297
	LFA	490	81	118	230
Profit/loss excluding supports	PROD	– 2 443	–3 918	–4 606	–3 656
	LFA	–5 726	– 848	–6 969	–6 181
Common supports	PROD	4 727	4 618	5 514	4 953
	LFA	5 236	5 929	7 087	6 084
Investment supports	PROD	231	1 502	885	873
	LFA	184	914	539	546
Production	PROD	40 196	44 859	37 932	40 996
	LFA	20 041	19 664	19 139	19 615
Cost of revenues (%)	PROD	95.77	98.85	98.40	97.67
	LFA	98.39	99.75	99.63	99.26
Value added	PROD	12 686	12 648	10 712	12 015
	LFA	4 725	3 795	3 142	3 887

PROD = production areas, LFA = less favoured areas

Source: Information sheets, MoA SR, RIAFE Central Database

were all the factors which were taken into account when the respective part of land was designated as the less favoured area. In addition, the lower production potential, a shorter vegetation period and the limited commodity structure of agricultural production play a decisive role in the process. Despite the lower results achieved in 2006, over 50% of the total number of enterprises farming in these areas presented profit. The profit per hectare of agricultural land was not significant, however, and represented SKK 118, which was by 87% less than in the PROD (Table 1). There were varied results recorded in the individual districts and legal forms of business.

As regards the differences in natural conditions, the enterprises also presented different results; namely the profit in the PROD areas was 5.6 times higher than the profit of enterprises in the LFA areas. The enterprises both in the PROD and LFA areas would suffer heavy losses without supports. Even so, other indicators, such as production and value added, were 2–3 times higher than in the PROD areas. This means that the enterprises farming in the LFA achieved a lower production performance compared to the enterprises farming in the PROD areas and higher costs of revenues.

In average, the enterprises in the PROD and LFA areas recorded better economic results in 2006. This contributed to a moderate reduction of the differences between the results achieved by these 2 groups of enterprises. The profit achieved by enterprises, mainly in the PROD areas, was mostly caused by higher earnings on sales of own products and services while the share of income from supports was higher in the LFAs. The value added dropped down in both groups of enterprises and the amount of the value added was 2.8 times higher in the PROD areas than in the LFAs. At the same time, the enterprises in the LFAs needed by 55% more production per 1 SKK of the value added (LFA – SKK 3.34, PROD – SKK 2.16) compared to enterprises farming in the PROD areas which confirms a higher cost demand and a lower economic efficiency,

Almost all the indicators were converted per 1 hectare of agricultural land. The indicators were lower in the enterprises farming in the LFAs than in the PROD areas. The only exception was other revenues from

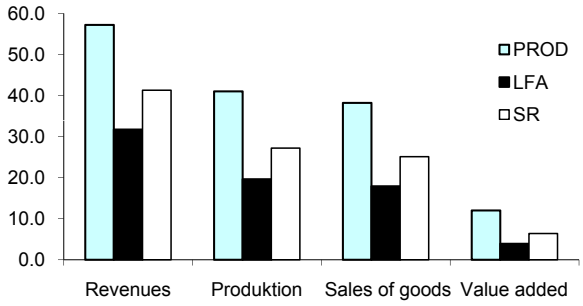

Figure 1. Economic results of legal persons in the LFA compared to the PROD and to the SR in total, 2004–2006, in thousand SKK/ha of agricultural land

Source: Information Sheets of the MA SR, Central Database of the RIAFE

Table 2. Results of economic indicators of legal persons in productive and less favourable areas in 2004–2006 (SKK/ha a.l.)

Indicator	Areas		Share (in %) of LFA in	
	PROD	LFA	SR	PROD
Revenues	57 225	31 687	76.8	55.4
Production	40 996	19 615	72.2	47.8
– revenue from sales of products	38 197	17 879	71.2	46.8
Value added	12 015	3 887	60.4	32.4
Revenue from sales of property	2 373	1 594	82.1	67.2
Costs	55 929	31 457	77.2	56.2
Production consumption	29 788	16 007	75.3	53.7
Personal costs	9 967	6 244	84.3	62.6
– wage costs	7 250	4 549	84.3	62.7
Profit/loss	1 297	230	42.8	17.7
Supports in total	5 826	6 630	101.9	113.8
– common supports	4 953	6 084	105.2	122.8
– investment supports	873	546	75.8	62.5

Source: Information Sheets of the MA SR, Central database of the RIAFE

operations that were not directly related to production. These were higher in the enterprises in the LFAs.

Over the monitored period, the volume of the total equity increased in both groups of enterprises, although it was higher by 52% in the enterprises farming in the PROD areas. However, this trend had no major impact on current assets because their cash was retained in receivables that were paid faster by the LFA enterprises; and their portion in the total volume of assets was lower by 1.3 ppt than for the enterprises in the PROD areas. The sales of production reflected in the falling volume of stocks, especially in 2006; in both groups.

In average, of the total number of agricultural enterprises in Slovakia in 2004–2006 where foreign resources exceeded their assets (80), i.e. highly indebted enterprises, almost 70% (56) were located in less favoured areas (Table 2, Figure 1).

The income of enterprises farming in the LFAs amounted to 77% of the average income in Slovakia. The income substantially increased due to the common supports which represented 19.2% of the total

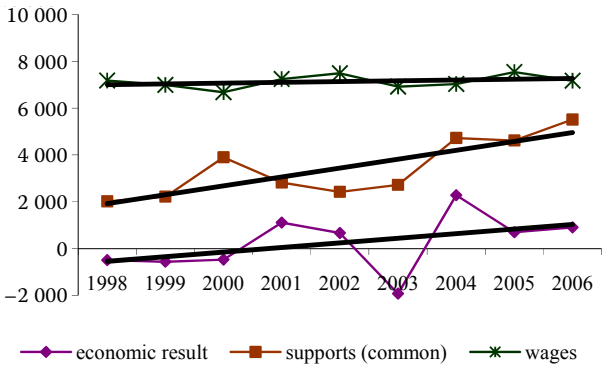

Figure 2. Development of economic indicators in the productive areas (legal persons, total)

Source: Information Sheets of the MA SR, Central Database of the RIAFE

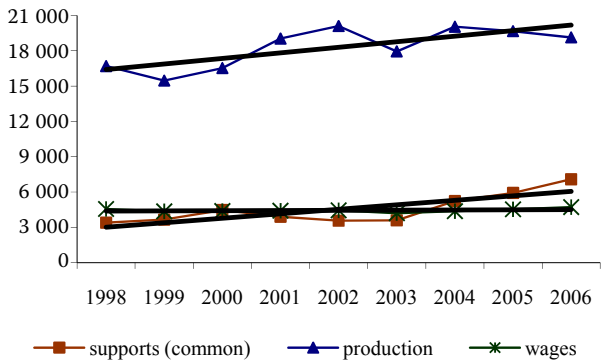

Figure 3. Development of economic indicators in the less favoured areas (legal persons, total)

Source: Information Sheets of the MA SR, Central Database of the RIAFE

Table 3. Economic results of enterprises of legal persons farming in less favourable areas in comparison with enterprises farming in PROD areas and the Slovak average, in 2004–2006 (in %)

Indicator	Areas			Difference LFA – average for the SR
	PROD	LFA	average for SR	
Share of common supports in revenues	8.7	19.2	14.0	5.2
Total liability of property	38.3	35.1	37.6	–2.5
Profit cost ratio of total capital	1.91	0.5	1.0	–0.4
Profit cost ratio	2.4	0.8	1.3	–0.5
Cost of revenues in SKK	97.7	99.3	98.7	0.6
Labour productivity from revenues. in thousand SKK	1 396	1 099	1 263	–164
Number of employees per 100 hectares of a.l.	4.1	2.9	3.3	–0.4

Source: Information Sheets of the MA SR, Central database of the RIAFE

income. The share of total supports in the income was higher by 5.2% in these areas than the average for Slovakia and was higher by 10.7% when compared to productive areas.

The lower production *figures* (by 52%) were characteristic for the enterprises in less favoured areas which indicate mostly extensive methods of farming. This was reflected in the lower share in revenues from sales of own products and services compared to the average results in the sector of agriculture and the results of enterprises in the productive areas. The lower intensity of production in the LFA enterprises corresponds with the lower amount of the *value added***,** which only achieved one third of the value added recorded by the enterprises in the productive areas.

The production of enterprises in the less favoured areas was more costly, with higher costs of revenues than the average for the Slovak agriculture, and their cost profitability was by 0.61 ppt lower than the Slovak average (Table 3, Figure 2, 3).

The achieved results suggest that the supports have largely contributed to the profitability of most enterprises in the less favoured areas. Together with the rural development aid, the supports will have a positive impact on the settlement and community life in rural areas.

The results achieved by the enterprises indicate that natural conditions are one of the important factors that affect the profit/loss in agriculture and therefore the changes in the structure of production regarding the suitability of natural conditions play an important role in increasing the ability to compete for the entrepreneurs who farm in both the less favoured and in the productive areas.

The elimination of economic losses caused by farming in the less favoured areas, with the worse soil/climate and limitations in the use of agricultural land,

Table 4. Dependency of economic indicators according to groups of enterprises, measured by Pearson's correlation coefficient

Groups of enterprises	Economic results					Common support			
	R	P	VA	CS	W	R	P	VA	W
Total agriculture	0.67	0.70	0.43	0.64	0.62	0.81	0.53	–0.31	0.54
Agricultural cooperatives	0.52	0.52	0.56	0.42	0.47	0.83	0.54	–0.21	0.75
Trade companies	0.74	0.74	0.08	0.76	–0.03	0.77	0.42	–0.36	0.10
Profit-making	0.75	0.41	–0.38	0.83	–0.17	0.66	0.13	–0.74	–0.14
Loss-making	–0.90	–0.88	–0.22	–0.75	–0.94	0.83	0.77	–0.32	0.79
PROD areas	0.54	0.58	0.53	0.54	0.42	0.75	0.42	–0.28	0.02
LFA areas	0.68	0.73	0.26	0.59	0.50	0.85	0.45	–0.57	0.64

R = Revenues; P = Production; VA = Value added; CS = Common support; W = Wages

Source: Information Sheets of the MA SR, Central database of the RIAFE

are compensated by the support extended to farmers (LFA) and the tax incentives especially in the limited farming (in protected natural regions).

The correlation between economic indicators surveyed by the Pearson's correlation coefficient in the groups of enterprises

The dependencies between the indicators in the groups of enterprises were analysed by the basic statistical methods. These included, above all, the Pearson's correlation coefficient, the level of which indicates a larger, smaller, or zero correlation between the variables investigated (Table 4).

The correlation of economic results and revenues, production, value added, support and wages

The dependency between the *economic result and revenues* achieved the highest values in profitable enterprises and trade companies. This was also confirmed by the highest coefficient of correlation between these 2 indicators (0.75). These include enterprises with a highly effective operation, a lesser debt to equity ratio, a high labour productivity, a faster period of stock turnover – sales of production and a higher total capital profitability, as well as considerable savings in the wage costs.

There is no correlation between the profit/loss and revenues in the loss-making enterprises and the development trend of these indicators is divergent (Figure 4). While the revenues show a slight increase, the economic result has decreased. Loss-making enterprises show a strong correlation between the revenues and supports. The increase in revenues correlates with the growth in supports; even though the economic result in the loss-making enterprises has dropped down against increasing revenues.

The highest direct correlation between the *economic result and production* was recorded in business companies and in the enterprises farming in the LFAs, where the production is focused on economic efficiency as shown by their debt to equity ratio and the costs of wages. In this legal form, there is also a considerable correlation between the economic result and the level of supports, mostly in the LFA enterprises; which directly affects the volume of revenues.

The correlation between *the economic result and value added* was only recorded in agricultural co-operatives, especially in the productive areas that achieved the highest level of the value added. Business companies showed a minimum level of correlation between these indicators, even though they recorded higher values of production and revenues per hectare of agricultural land. On the other hand, the indirect dependency between the economic result and the value added was achieved in the profitable and loss making enterprises.

A high dependency between *the economic result and supports* was achieved in the group of profitable enterprises (0.83), especially in business companies (0.81) (in AC 0.62). The supports represent a considerable contribution to profit in this form of business. These are enterprises which receive the direct SAPS payments and also the LFA enterprises. These are the enterprises with the fast process of business restructuring.

There was no considerable correlation recorded between the *economic results and wages* in any of the group of enterprises. The correlation coefficient achieved the maximum value of 0.50 only in the group of enterprises in the LFA areas. An indirect dependency between these indicators was recorded in the majority of enterprises, namely in business companies, profitable and loss making enterprises. These

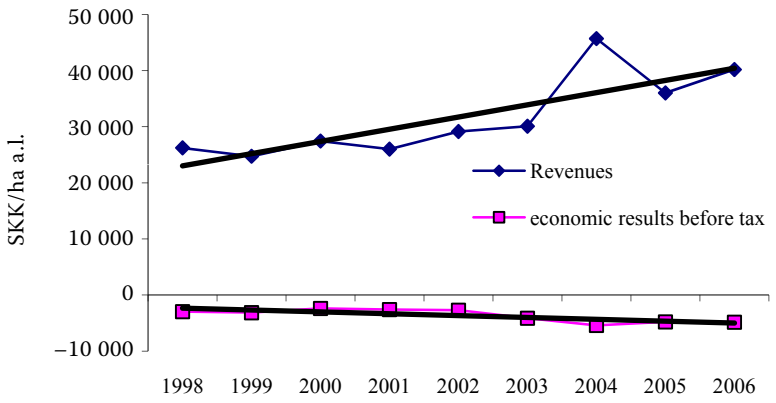

Figure 4. The development of revenues and economic results in loss-making enterprises

Source: Information Sheets of the MA SR, Central Database of the RIAFE

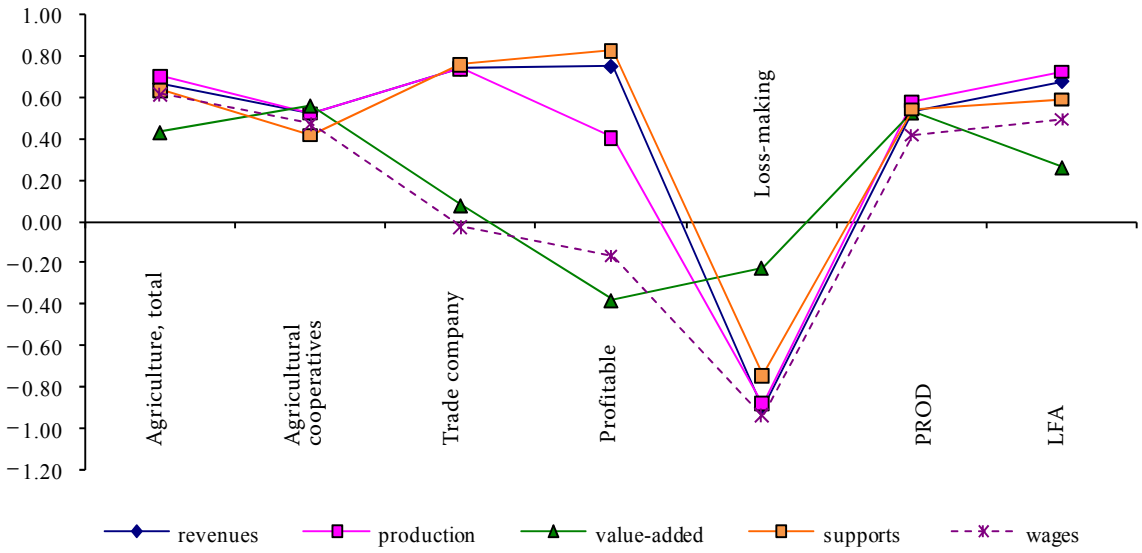

Figure 5. The coefficient of correlation between economic results and the selected indicators

Source: Information Sheets of the MA SR, Central Database of the RIAFE

trends suggest that business companies and profitable enterprises operate with a limited growth of wage costs which is also one of the factors that affect the costs of production. This shows higher savings in the labour costs than in other groups of enterprises. The profit generation in these enterprises is faster than the growth in wages because there was a considerable decline in employment and the volume of the paid wages stagnated or increased only slightly. In addition, an important contributing factor, especially in the less favoured areas, is the fact that there was no major increase in jobs in rural areas, other than in agriculture. With regard to the large offer of workforce, this situation contributes to the considerable limitation of wages. The analysed dependencies between the selected indicators are shown in Figure 5.

The correlation between the common support and revenues, production, value added and wages

The highest dependency between the *common support and revenues* was recorded in the enterprises farming in less favoured areas - LFA. These enterprises are directly dependent on subsidy supports. These are enterprises with a lesser intensity of production. The level of the correlation coefficient in this dependency is the highest (0.85) of all correlations in the analysed variables, as shown in Figure 6.

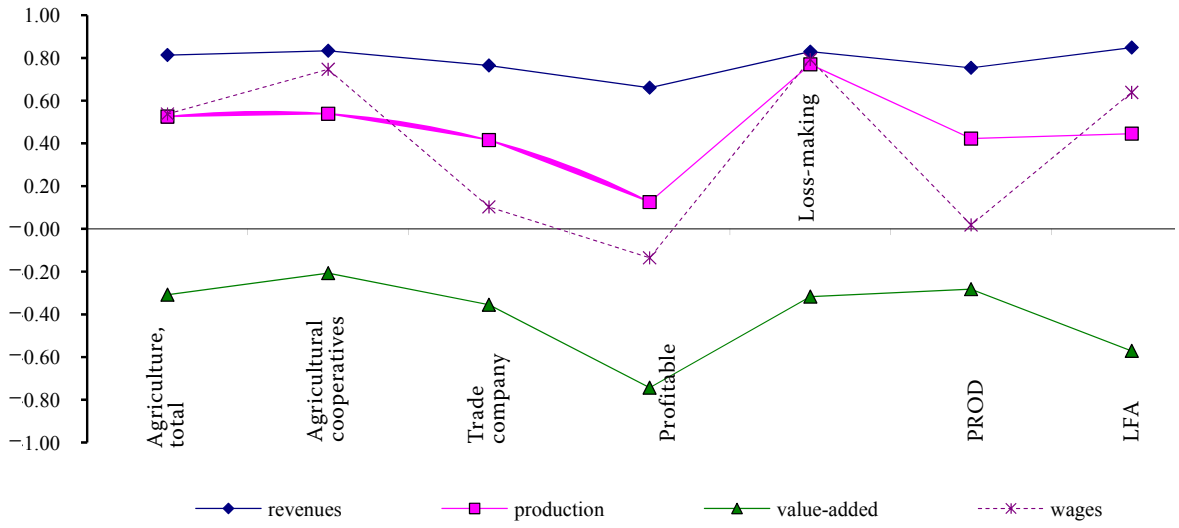

Figure 6. The coefficient of correlation between the common supports and the selected indicators

Source: Information Sheets of the MA SR, Central Database of the RIAFE

The above text suggests that the economic result and the revenues in the LFA enterprises are largely dependent on the level of the provided supports. In these areas, the support acts as the stabilising factor for revenues, regardless of the volume of the achieved production. This was caused by the fact that the subsidy support was not linked to production and its aim is to rather maintain the good condition of agricultural land, maintaining rural countryside, and sustainable farming systems with respect to the protection of environment and the settlement of rural areas.

The second highest level of the correlation coefficient (0.79) was achieved between *the supports and wages* in the loss-making enterprises. Wages in these enterprises are directly related to the volume of supports. This applies more in the case of the loss making agricultural cooperatives (0.80) and less in the case of the loss making business companies. It is through the supports targeted at the loss making enterprises that the level of wages and production is maintained, as shown by the high correlation between the *supports and production*. These are the loss-making enterprises that are able to survive due to supports.

The lowest correlation between supports and production was recorded in the group of profitable enterprises. These are enterprises with a sound management, with a quick process of business restructuring, a high efficiency of operation, and a sufficient valuation of supports, mainly in the renewal of the fixed capital.

The indirect dependency between the *support and value added* was recorded in all groups of enterprises to which especially the system of supports decoupled from the volume of production contributes (Figure 7–10).

The development trends for economic indicators in 2004–2006 confirm, with lesser regional differences:

– the increase in supports and economic result,
– the decline of production at fixed prices (increase in current prices),

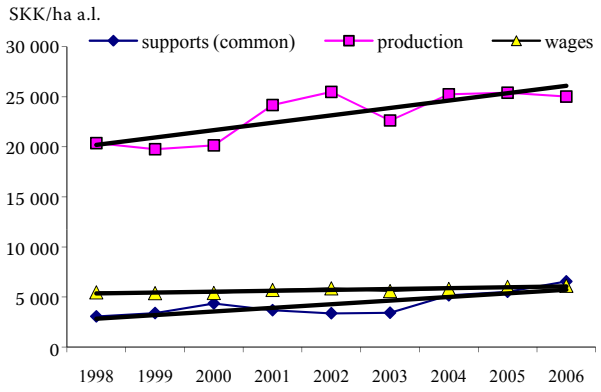

Figure 7. Development of economic indicators –Agricultural cooperatives

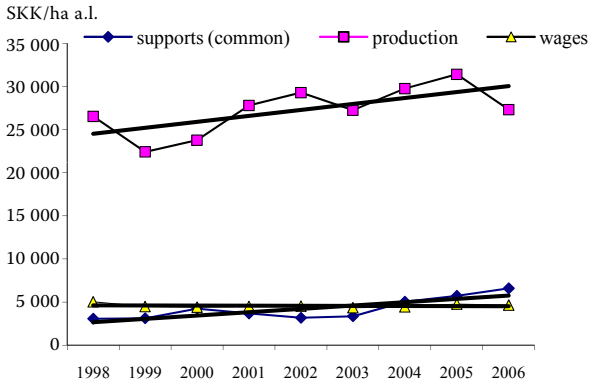

Figure 8. Development of economic indicators – Business companies

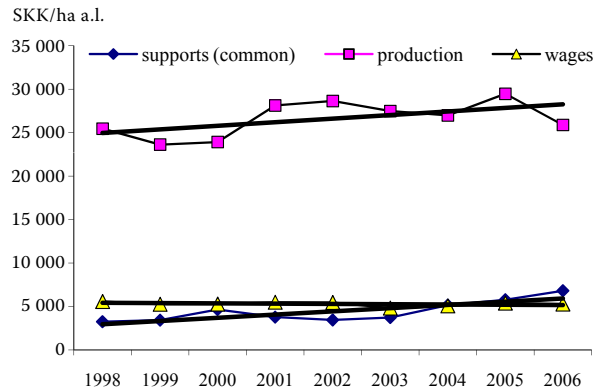

Figure 9. Development of economic indicators – Profitable agricultural enterprises

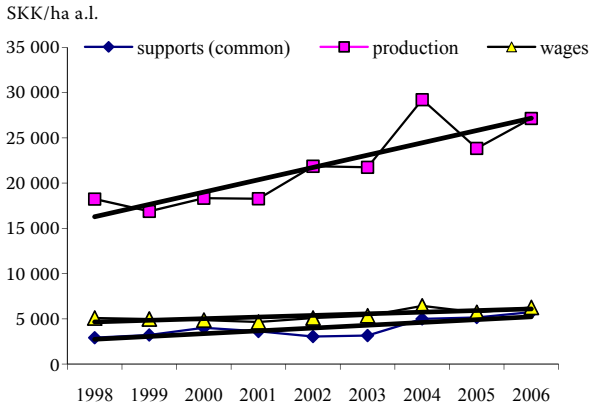

Figure 10. Development of economic indicators – Loss-making agricultural enterprises

Source: Information Sheets of the MA SR, Central Database of the RIAFE

– the stagnation or even moderate decline in value added,
– the moderate increase or stagnation of wages,
– the growth of labour productivity on revenues (decline on value added),
– the decline in the number of employees.

Development trends for the selected indicators by groups of enterprises.

CONCLUSION

The results achieved in agriculture indicate that even if the above trends apply, the characteristic feature of this region is the economic differentiation among agricultural enterprises and product oriented industries and no major convergence or balancing of results took place. The decisive factors in the differentiated efficiency of agriculture and its product branches include natural conditions, followed by the legal form of the organisation, the concentration of agricultural land and a considerable effect was produced by the management, i.e. the organisation and management of enterprises.

The differentiated efficiency of agriculture was confirmed by the level of the achieved economic results in different natural conditions, both in the productive and less favoured areas with the extreme variations in most of the monitored indicators. Compared to the average results in the agricultural sector, the economic results achieved by agricultural enterprises farming in the less favoured areas were lower by 20–35%, and in some indicators they achieved only 30 to 50% of values reached in the productive areas. Even despite the lower results achieved, most of the enterprises farming in these areas registered profit in 2006. Approximately 68% of the enterprises farmed in the less favoured areas, at more than 50% of the total agricultural land.

The highest economic performance of agriculture measured in the terms of profit/loss was recorded in the regions of Western Slovakia; with a higher proportion of the productive areas, and the lowest performance was recorded in the regions of Central and Eastern Slovakia; with a higher proportion of less favoured areas – worse natural conditions.

The differentiation in economic efficiency has continued to remain stable, even between the individual legal forms of farming. The growing profit trend was affected by the changes in the structure of the forms of organisation. Within the group of legal persons, business companies recorded better economic results than agricultural cooperatives.

The results of statistical dependencies expressed by the correlation coefficient computed from the correlation between various indicators, economic results and the current support in the groups of enterprises show that the highest dependency was recorded between the economic results and revenues in the group of profitable enterprises and in business companies. The highest direct correlation between the economic result and production was recorded in business companies and in the enterprises farming in the LFAs. The correlation between the economic results and value added was only recorded in agricultural cooperatives, especially in the productive areas that achieved the highest level of value added. A high degree of correlation was also recorded between the supports and revenues, especially in the LFAs.

The differentiated efficiency is a complex and a lingering issue which may not be completely addressed in the long run. We will continue to witness the differentiation between economic results in the production areas which will be compensated by the policy of support.

The human factor will continue to have a considerable effect on the results achieved by the agricultural enterprises; namely the approach of enterprise managers and their operation in the market business environment, the use of the available material and financial resources, anticipation of price development in agricultural products and inputs, as well as addressing the issue of marketing. Other factors causing differentiation in the achieved results could be compensated by the individual approach of the enterprise managers, with respect to the restructuring and diversification of production and the regional domestic consumption. The associated production will have a considerable impact, mainly in the enterprises farming in less favoured areas, and its effect will compensate the lower efficiency of agricultural production. This may include the focus of enterprises on growing the non-traditional commodities (fast growing trees, etc.).

The dual nature of natural conditions and the differentiation of economic results has split Slovakia into 2 areas and creates the potential for the focus of agricultural production in future on the *intensive and extensive type of operation.* The intensive type of agricultural production will prevail in better natural conditions and will be used also in the mountain areas with a higher portion of arable land. This form of operation will continue to require considerable intensification inputs. In other areas of Slovakia with several natural disadvantages and a higher share of permanent grasslands and a lower share of arable land, the nature of production will be the extensive one, with more cost-saving measures and measures to protect the environment.

REFERENCES

Bielik P., Gurčík Ľ., Gajdoš I. (2000): Faktory výkonnosti a dôchodkovosti poľnohospodárskych podnikov v Slovenskej republike (Performance and income factors of agricultural enterprises in the Slovak Republic). SPU, Nitra, pp. 29–34; ISSN 1335-2571.

Grznár M., Szabo Ľ. (2002): Niektoré faktory úspešnosti poľnohospodárskych podnikov SR (Some success factors of agricultural enterprises in the Slovak Republic). Agricultural Economics – Czech, *48* (8): 367–371.

Rosochatecká E., Tomšík K., Žídková D. (2008): Select problems of capital endowment of Czech agriculture. Agricultural Economics – Czech, *54* (3):108–116.

Sojková Z., Kropková Z., Benda V. (2008): Slovak agricultural farms in different regions – comparison of efficiency. Agricultural Economics – Czech, *54* (4): 158–165.

Správa o poľnohospodárstve a potravinárstve v Slovenskej republike 2007. Zelená správa (Report on agriculture and food industry in the Slovak Republic, 2007. Green Report.) RIAFE, Bratislava.

Střeleček F., Lososová J. Zdeněk R. (2005): Economic results of agricultural enterprises in 2005. Agricultural Economics – Czech, *53* (5): 201–216.

Arrived 10th June 2008

Contact address:

Zuzana Chrastinová, Research Institute of Agriculture and Food Economics, Trenčianska 55, 824 80 Bratislava, Slovak Republic
e-mail: zuzana.chrastinova@vuepp.sk