

# Natural, production and economic conditions individual farms and enterprises of restructuring in the Slovak Republic

*Prírodné, produkčné a ekonomické podmienky reštrukturalizácie individuálnych fariem a poľnohospodárskych podnikov v Slovenskej republike*

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**Abstract:** In the framework of Slovakia preparation for entering the European Union, there was done a Phare-ACE survey in years 1999–2000. The name of this survey was “Micro-economic analysis of farming households restructuring in pre-accession period to the EU”. This survey was done in two regions of Slovakia, characterized by different natural conditions, production and economic conditions. This project was aiming not only at private farmers but also at other legal entities producing agricultural products. The first monitored group consisted of 412 private farmers, farming in average 43.2 ha of agricultural land. The second group consisted of 150 businesses, having 1,866 ha of agricultural land in average.

**Key words:** restructuring, individual farm, enterprises, natural conditions, production conditions, economic conditions

**Abstrakt:** V rámci prípravy Slovenskej republiky na implementáciu štrukturálnej politiky EÚ a rozvoja vidieka bol v rokoch 1999–2001 realizovaný program Phare ACE „Mikroekonomická analýza reštrukturalizácie vidieckých domácností v predvstupovom období do EÚ“. Výskum sa uskutočnil súbežne v dvoch územno-správnych regiónoch Slovenska, diferencovaných rozdielnymi prírodnými, produkčnými a ekonomickými podmienkami a z hľadiska organizačno-právnej formy podnikania na pôde. Prvou skupinou bol súbor 412 súkromne hospodáriacich roľníkov podnikajúcich na priemernej výmere 43,2 ha poľnohospodárskej pôdy. Druhú skupinu tvorilo 150 poľnohospodárskych podnikov hospodáriacich na priemernej výmere 1 866 ha p. pôdy.

**Kľúčové slová:** reštrukturalizácia, súkromne hospodáriaci roľníci, poľnohospodársky podnik, prírodné, produkčné, ekonomické podmienky

Slovak agriculture restructuring did not achieve success in putting pressure on private farmers. Most agricultural land is still cultivated by the transformed cooperative farms and their portion on agricultural production is even higher. Agricultural production is capital intensive in Slovakia. Share of agriculture in the total employment decreased (from 11% to 5.6%) and thus agriculture is no more a social net. Restructuring of agriculture led to increase of labour productivity, especially in bigger enterprises.

What are the main reasons that private farmers are not the most important legal entity acting in the Slovak agriculture?

High transaction costs were one of the reasons why transition to private farming was not successful. Land ownership is atomised. Ownership rights are uncertain due to the 50-year lack of private ownership. There are also obstacles in capital markets for farmers to get credit. All these factors are causing increase of the starting transaction costs for private farming (Mathijs and Swinnen 1998).

Production parameters of plant production in Slovak agriculture varied from 41.7% (potatoes) up to 70.5% (wheat) of the average per hectare yields in the Europe-

an Union in the examined period. Strong differences were also in the parameters of animal production. Negative economic trend in Slovak agriculture (a loss of 2 billion Slovak crowns) was followed by lower investments, lower intensity investments into land, technologies, etc. The tendency to reduce agricultural employment is present in the share of unemployed with previous job in agriculture. In the analysed year, there were in average 5 to 6 workers per 100 ha of agricultural land. The loss is bigger in the Nitra region, reaching in average 1,212 SK per ha of land. In the Žilina region, the average loss is 143 SK per ha of agricultural land. The proportion of businesses in loss is higher in the Nitra region than in the Žilina region (17.5% and 8.2%). Labour productivity measured by added value per one worker was 170 thousand SK in the Nitra region, 85 thousand SK in the Žilina region. Average salary per worker was 105 thousand SK yearly in the Nitra region, 96 thousand SK yearly in the Žilina region.

Private farmers in average achieved profit, 800 SK per ha of agricultural land, after deducting their income. Better results in comparison to other types of businesses were achieved thanks to better natural conditions, orientation at plant production (70% of incomes), and also thanks to the higher personal involvement and lower

capital and credit intensity. Incomes without subsidies were in 70–80% produced from sale of own products and services.

The sum of subsidies per ha reached 2,300 SK, what is slightly more than 10% of their per hectare incomes.

## CHARACTERISTICS OF THE NITRA REGION

### Location

The Nitra region is located in the South- West of Slovakia. It is on the border with Hungary. This region also has an important geopolitical position, it is a part of Váh–Danube–Ipel' Euroregion. The aim of this Euroregion is to support collaboration between the bordering areas, communication between people and to connect them by preservation of regional particularity.

The Nitra region also has a favourable position with regard to transport. Important transport paths crossed it already in past. To the oldest trade routes, there belonged the Amber route, connecting lands lying on the Danube River with the Baltic Sea, already in the pre-Roman times. Another was the so-called Czech route, leading through the Carpathians and Moravia.

### Soil conditions

Soil in the region is mostly fertile or very fertile and varies from light to heavy soil. There are black soils, brown soils, sand soils and loam too. The average official price of agricultural land is 68,639 SK/ha, 71,151 SK/ha of arable land, 30,715 SK/ha of pastures and meadows.

### Population

The Nitra region has 13.3% (716,560) of Slovakia's citizens. Population density is 113 people per square kilometre, what is also the Slovak average. Population density varies from district to district, the lowest is in the Levice district (78 residents/km<sup>2</sup>), the highest is in the Nitra region (187 residents/km<sup>2</sup>). The Nitra region shows a population decrease, reaching 2.11% in the year 1998. There were 138,331 (i.e. 19.3%) residents in pre-economically active age and 140,723 (i.e. 19.63%) residents in post-economically active age. The unemployment rate was 14.4%, which is lower than the Slovak average.

### Agriculture

The Nitra region is characterized by intensive agricultural production, it belongs to the grain areas of Slovakia. The overall acreage of agricultural land is 469,910 ha, i.e. 74% of the region surface area. Most of it (94%) is arable land. Agriculture production is allocated mainly in maize-beet production area. Woods are on 10% of the surface area.

49% of agricultural land was cultivated by cooperatives (136 coops), 22% was cultivated by limited liability com-

panies (135 companies). Joint-stock companies cultivated 4% of land there were 28 of them. Private farmers cultivated 15% of agricultural land, and there were 1,900 of them.

Agriculture is mostly plant production oriented, represented by cereals (wheat, barley, maize). Most favourable conditions are in the Southern districts (Nové Zámky, Komárno, Levice). Technical plants are presented by sugar beet, oil seeds (sunflower, rape seed). There is a significant vegetable production. The Nitra region is also known for wine production, with two major wine production areas.

Animal production is beef, swine and poultry oriented. There were 99,500 heads of cattle, out of it 40,100 heads of cows, producing 4,900 litres per cow a year. There were 380,000 heads of hogs with the average increment of 0.526 kg per day. There were 3,130 thousand heads of poultry, with the average lay of 230 eggs. Fish production and horse breeding are well developed and have some impact on agricultural production.

## CHARACTERISTICS OF THE ŽILINA REGION

### Location

The Žilina region is located in the Northwest Slovakia. It borders with the Czech Republic to the Northwest and Poland to the North. The mountains of West Tatras, Beskydy, and Javorníky surround the region.

The region has a great positional potential from interior and as well as international perspective, especially with regard to the EU integration. The international cross-border cooperation could supply the future answer to some economic and social questions.

### Soil conditions

Soil quality is very variable in the Žilina region, depending on locality. The average official price of agricultural land is 13,178 SK/ha, 23,934 SK/ha of arable land, 9,314 SK/ha of pastures and meadows.

### Population

The Žilina region has 12.8% (691,201) of Slovakia citizens. The population density is 102 inhabitants per square kilometre. It is very variable due to the differences of relief. Population is concentrated into basins, mountainous regions are less populated. The density varies from 53 to 192 inhabitants/km<sup>2</sup>. There were 329,865 (i.e. 48%) inhabitants in economically active age. The unemployment rate was 14% in average, in some locations about 20%.

### Agriculture

There are less favourable conditions for agriculture in this region. The hilly relief, rainfall, snow-fall, and quali-

Table 1. Structure of sample according to legal entities

Legal entity	Number of subjects	Share on number of sample (%)	Acreage of agricultural land (ha)	Average acreage per subject	Share on acreage of sample (%)
Cooperative farms	120	21.35	231 436.80	1 928.64	66.81
Business companies	30	5.34	48 578.30	1 619.28	14.02
– lim. liability	29	5.16	48 577.30	1 675.08	14.02
– joint stock	1	0.18	1.00	1.00	0.00
Enterprises total	150				
Private farmers	412	73.31	17 807.40	43.22	5.14
Sample total	562	100	346 400.80	616.37	100.00

Source: own calculations based on Phare-ACE P97-8158-R survey

ty of soil determine the role of agriculture in this region. The total acreage of agricultural land is 249,800 ha, what is 36.8% of region total surface area. Out of agricultural land, most is formed by pastures and meadows (68.6%), 26.4% represent arable land.

Agricultural production of the region is in the potato, potato-oats and mountainous production area. Plant production is mainly oriented to potato production. In the year 1999, 26.4% of Slovakia's potatoes were produced in this region (on 7,220 ha), more than in any other region. In some areas there are conditions for rye and barley cultivation, but in the total cereal production (3.6%), this region is in the last place among the Slovak regions.

In animal production, beef cattle breeding is predominant. In 1999, there were 94,000 heads of cattle (13.6% of Slovakia), out of it 39,765 cows. The average milk yield was 3,282 litres per cow a year. There were 85,444 heads of hogs (6.1% in Slovakia). There were 1,246,000 heads of poultry. Sheep production is also relevant in this region, 72,711 heads (21.1% of the total in Slovakia). Fish production is rising at present.

Complementary to agricultural production is agrotourism, but the lack of investment is holding back its development.

The analysed sample (Table 1) consisted from 562 subjects, out of it 412 private farmers, selected by random sampling methodology from two different production areas (Bielik et al. 2002). First is the area (the Nitra region) of South-West Slovakia, representing with its climate and soil quality the most productive agricultural part of Slovakia. The second area is, from the point of agricultural production, marginal, localized in the North-West Slovakia (the Žilina region). The proportions of the analysed sample are as follows: 328 private farmers in the Nitra region, 85 private farmers in the Žilina region. In the group of agricultural enterprises, the survey was done on 88 businesses in the Nitra region, and 62 businesses in the Žilina region.

If we compare the data for Slovakia as a whole, we would find out that the average acreage of private farms (43.22 ha of agricultural land) in our sample is 4 times larger than the Slovak average for private farms. We can note that only part of the registered private farmers are actively farming.

Table 2. Sample distribution according to acreage of arable and agricultural land

Size group (ha)	Agricultural land <sup>1</sup>	Share in sample (%) <sup>2</sup>	Arable land <sup>1</sup>	Share in sample (%) <sup>2</sup>
0	37	8.98	40	9.71
0–2	83	20.15	104	25.24
2–5	62	15.05	49	11.89
5–10	45	10.92	39	9.47
10–25	64	15.53	72	17.48
25–100	83	20.15	70	16.99
100–500	33	8.01	34	8.25
500 and more	5	1.21	4	0.97
Total	412	100.00	412	100.00
Average acreage <sup>3</sup> (ha)	43.22	–	40.42	–

1) number of private farmers

2) out of total number of private farmers in sample

3) per farmer in sample

Source: own calculations based on Phare-ACE P97-8158-R survey

Structuring of individual farmers into groups according to acreage of agricultural and arable land is in the Table 2. As could be seen in the table, most numerous is the group of farmers farming on up to 2 ha of agricultural land and between 25 and 100 ha of agricultural land (20.15% each). If we take into consideration only arable land, the largest group is up to 2 ha (25% of the sample).

## ECONOMIC CONDITIONS OF AGRICULTURAL BUSINESSES AND PRIVATE FARMERS IN SLOVAKIA

1. Agricultural subsidies were focused on two fields:  
– Support of land cultivation in disadvantaged regions, represented by worse natural conditions. These were dispensed per hectare of agricultural land in dependence on business land price categorization. Requirements were the minimal concentration of cattle, sheep, goats

and horses or minimal annual increase of average animal numbers. The subsidies were differentiated according to the type of land and land price category (1 to 15). For farming in the mountainous conditions, subsidies range from 485 to 1,850 SK per ha of arable land, 950–3,700 per ha of pastures and meadows, and from 517 to 3,614 per ha of other land. The total amount of subsidies for disadvantaged regions was, in the monitored period, 3,358 mil. SK.

- Support of entrepreneur activities done through individual subsidy titles:
  - a) Subsidies for plant production differentiated from 300 to 1,155 SK per ha of agricultural land according to land price category.
  - b) Subsidies for animal production development in the amount of 1,403 mil. SK.
  - c) Subsidies for investments in the amount of 527 mil. SK. These were aimed at technology investments, construction, vineyards renewal, and energetic management rationalization.
- 2. Taxes were hindering businesses and farmers. Direct taxes formed an important part of costs, especially land tax. This is because land tax is obligatory, no matter what is the income or financial situation of the entrepreneur. This tax represented 277 SK per ha, in average. Tax charge in worse conditions was 3–4 times lower than in better conditions. Income tax was bound to businesses and farmers ending with profit. There were 40% of businesses and 70% of farmers paying this tax.
- 3. Credits were hard to obtain not only because of their price, but also because banks were not willing to give credit to agricultural sectors. Banks were not differentiating between businesses farming in good or bad conditions. The interest rate of the Slovak National Bank was 8.8% in the followed period, while the average commercial interest rate of credits in agriculture was 16.5%.

## REFERENCES

- Bielik P. et al. (2002): Microeconomics analysis of households restructuring in the pre-accession to the EU. *Agric. Econ.*, 48, (2).
- Buday Š. et al. (2000): *Cena poľnohospodárskej pôdy*. Crocus, 208 s.; ISBN 80-88992-09-5.
- Dvořák M. (2001): Ausgewählte Fragen zur Festsetzung des Geschäftswertes in der Slowakischen Republik. In: *MER Journal for Management and Development*, (8–9), Maribor; ISBN 1408-3-9343.
- Gozora V. (1996): *Podnikový manažment*. SPU Nitra, 191 s.; ISBN 80-7137-341-9.
- Kuzma F. (1992): Slovenské poľnohospodárstvo v podmienkach trhovej ekonomiky. In: *Agrárni perspektivy*, ČZU Praha, s. 156–162.
- Mathijs E., Swinnen J. (2001): Production organization and efficiency during transition: an empirical analysis of East German agricultural. *The Review of Economics and Statistics*, February, 83 (1): 100–107.
- Macours, Swinnen J. (2000): Impact of initial conditions and reform policies on agricultural performance Central and Eastern Europe, the former Soviet Union, and East Asia. *American Journal Agricultural Economics*, 82, (5): 1149–1155.
- Podolák A., Zentková I. (1996): Tendencie reštrukturalizácie výroby v transformačnom procese poľnohospodárstva. In: *Hospodárska dynamika a reštrukturalizace v ČR*. MZLU Brno, s. 104–106.
- Szabo L. (2000): Transformačný proces a reprodukcia fixného kapitálu v poľnohospodárstve SR. In: *Ekonomické problémy krajín strednej Európy a Európska únia*. Zborník z medzinárodnej vedeckej konferencie. FPM Bratislava, 5 s.

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