

Slovak agriculture heading for the EU membership

Slovenské zemědělství na cestě ke vstupu do EU

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Abstract: The paper analyses the economic and policy gap between the agriculture in Slovakia and the EU member states from the perspective of the future accession of this country to the Union. As it concludes, the deterioration of terms of trade during the transition period creates also problems for the accession negotiations, because this fact seems to legitimate the equitable implementation of the CAP in all member countries after the East-enlargement of the Union. The paper is arguing, on the basis of income simulation, that the Commission proposal on reduced direct payments for the newly admitted countries would, in case of Slovakia, generate an improvement of the sectoral income only if they are topped by rural development measures.

Key words: agricultural policy, EU enlargement, farm income, productivity, efficiency, gross margin, accession negotiation, Slovak Republic

Abstrakt: Příspěvek analyzuje ekonomické a politické rozdíly mezi zemědělstvím na Slovensku a v členských zemích EU z hlediska budoucího připojení Slovenska k EU. Ukazuje se, že zhoršení podmínek trhu v přechodném období komplikuje probíhající předvstupní vyjednávání, z čehož vyplývá oprávněný požadavek na spravedlivé uplatňování Společné zemědělské politiky ve všech členských zemích po chystaném rozšíření EU. Tento materiál dokazuje na simulaci příjmů, že Komisi navrhované omezení přímých plateb pro nově přijaté státy by v případě Slovenska přineslo růst příjmů zemědělského sektoru pouze tehdy, pokud by byly k dispozici vyšší prostředky na rozvoj venkova.

Klíčová slova: zemědělská politika; rozšíření EU; podnikový důchod, produktivita; efektivnost; příspěvek na úhradu; vyjednávání o vstupu, Slovenská republika

INTRODUCTION

Since the Helsinki summit, Slovakia has been considerably safely heading for a soon accession to the Union jointly with other seven Central-East European candidate countries. This event should become reality – if the road map is right – in 2004. The signal for the formal start of accession negotiations on Chapter 7 – Agriculture has already been given (June 2002).

The Slovak negotiating position underwent, since its initial submission (in December 2000 at Nice), a multitude of changes during the period of technological consultations. Up to May 2002, within the framework of 11 additional information papers submitted to the Commission, many original requests for derogations and transitional arrangements have been withdrawn. In the course of technological consultations, 28 requests were withdrawn from the agenda. As the discussions continued, Slovakia raised six additional negotiation requests. On the

whole, Slovakia currently upholds 21 negotiation requests ($43 - 28 + 6$) comprising only one request for a three-year transitional period until the end of 2006 for two establishments for the processing of animal products. Slovakia stated its preparedness for the full adoption of the phytosanitary and veterinary acquis by the date of accession.

What is still remaining a hot issue of the oncoming negotiations are production quotas, premia ceilings and the level of direct payments. The internal sensitivity of those issues is critical especially from the point of production and economic gaps currently in place between Slovakia and the EU-15 members. Deviations in the level of productivity, farm income and capital endowment are to a great extent linked to the process of economic and social transition. The sector is trapped in adverse terms of trade, incomplete and inefficient institutional environment and the incomplete structural change. Macroeconomic stabilisation sets limits to reinforcement of support

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policies based on public funds. Commitments within the multilateral trade agreement framework do not allow reinforcing the market price support of the CAP pattern. All these factors allows the domestic pre-accession policies only a very tight playground in terms of upgrading sectoral performance, productivity and competitiveness, all things necessary to meet the challenges of the single market. There is a fear, that production limitations imposed by the CAP could curb further development of the sector on detriment of the exploitation of its available natural resources.

In this paper, three items will be discussed: The problem of the existing gap in the economics of farming between Slovakia and EU-15 average; Differences in the character of agricultural policies; Estimation of profitability impacts of the European Commission proposal concerning implementation of reduced direct payments in new entrant countries.

THE ECONOMIC GAP

When looking at most basic indicators of sectoral accounts, we may observe notable discrepancies both in productivity of land and labour. The value of output from agricultural activities per hectare was only a little above one quarter of the EU-15 level in 1999, when converting the Slovak national currency values into Euro by the official exchange rate.

Similarly, the net value added at basic prices per hectare and annual work unit reached only about one tenth of the values displayed for the Community average. Each

labour unit or hectare produces ten times more income in the EU than in Slovakia! This comparison is highly distorted indeed and does comply with outcomes, which can be derived from the comparison of physical indicators of productivity. (See e. g. data on labour employed per hectare of UAA – Table 1))

The source of distortion is twofold:

The first one lies, no doubt, in the price gap between EU prices and market or farm gate prices of farm produce in Slovakia. The second one is represented by subsidies to production, which, following the methodology of agricultural economic account inflate the value of production (at basic prices) and, consequently, of the value added and income indicators.

For analytical purposes, the impact of the price gap may be partly eliminated by using PPP-s for conversion of values from national currencies on comparable level. As the Table 2 below shows, the productivity figures expressed in PPP-s are actually closer to the EU level.

Nevertheless, to establish an equitable price comparison is still difficult. Generally, the problem of the right assessment of the quality difference is the most frequently mentioned obstacle, but also the point of data collection (farm level, market place) may cause problems. In international comparisons we rarely find exact definitions of compared commodities.

The OECD data, which the WIFO study (Schneider 2001) displays, show a significant price gap (Table 3).

Generally speaking, especially market organisation commodities show distinctly higher prices in comparison with Slovakia. On the other hand, there is a clear tendency to narrowing the gap.

Table 1. Labour employed in Slovak agriculture (in AWU)

	1995	1996	1997	1998	1999	2000	2001
Total	167 772	158 591	154 161	137 147	120 110	109 699	99 800
Per 100 hectare UAA	6.8	6.4	6.3	5.6	4.9	4.4	4.1
Hectare per AWU	14.5	15.4	15.8	17.8	20.3	22.3	24.5

Source: Statistical Office SR (Provisional ALI calculation)

Table 2. Comparison of selected indicators (EAA, current prices) of Slovak agriculture with those of EU (1999)

Indicator	Slovakia as percentage of EU-15	
	Euro	PPP
Output of agricultural activities sector per hectare UAA	28.6	85.0
Output of agricultural activities sector per annual work unit	24.8	74.4
Gross value added at basic prices per hectare UAA	16.0	48.0
Net value added at basic prices per hectare UAA	11.8	35.4
Net value added per annual work unit	10.0	30.0

Source: Agricultural Situation in the European Union 2001 report and RIAFE calculations

This can be seen in a simply comparison between Slovakia and Austria by using three years averages 1995/1997 and 1998/2000 (Table 4).

Table 3. Slovak producer prices as a percentage of EU farm-gate prices (1999)

Commodity	Per cent of EU value
Wheat	66.9
Barley	69.0
Maize	57.6
Rape seed	82.5
Sunflower seed	76.4
Sugar beet	45.0
Pork	130.3
Poultry meat	97.7
Eggs	90.5
Beef	57.1
Milk	63.0

Source: Schneider M.: EU Erweiterung – Folgen und Strategien. WIFO Wien, 2002

Table 4. Slovak prices as percentage of Austrian prices in the years 1995–1997 and 1998–2000

Commodity	Average		Difference
	1995–1997	1998–2000	
Wheat for food	68.8	72.4	+3.6
Feed wheat	62.1	64.7	+2.6
Sugar beet	43.8	49.9	+6.1
Slaughter hogs	76.8	103.7	+26.9
Bulls for slaughter	74.4	75.0	+0.6

Source: Bericht ueber die Lage der Oesterreichischen Landwirtschaft 1997, 2000, Slovak Statistical Office

Table 5. Yields in selected commodity sub-sectors (data for 1999)

Commodity	Unit	EU-15 average	Slovakia
Wheat	t/ha	6.6	4.0
Barley	t/ha	4.5	2.9
Maize	t/ha	9.6	6.0
Sugar	t/ha	9.0	5.7
Potatoes	t/ha	34.3	14.3
Dairy cows	kg/cow/year	5 688	3 906

Source:
Statistical yearbook of the Slovak Republic 2001. SO SR, Bratislava 2002

The Agricultural Situation in the European Union 1999. Brussels, Luxembourg, 2001

The process getting prices closer is observable, but its pace is not very fast. We can hardly expect that the price gap would disappear during the few years, which remain before the date of accession. The price adjustment after the accession is the core assumption that is made in all simulations that forecast the income level of farmers after accession. But the price adjustment will probably not take place in a linear and abrupt way. Supposingly, market organisation commodities will adjust immediately, but the price evolution of a wide range of products will depend on their specific market situation, among others on the evolution of the demand creating behaviour of consumers, the extent in which producers will be able to meet increased quality requirements, on proper functioning of market institutions and so on.

As the Table 2 shows, the productivity gap in terms of output narrows significantly if using purchasing power parities for the comparison. This may legitimate the assumption, that the real falling behind of the Slovak agriculture in terms of productivity is lower than the EAA shows and its physical indicators realistically reflect its extent.

In terms of income generation, the gap remains still high even with PPP's and we shall return to this item later on.

There is no need to provide an extensive survey to bring proofs of the shortcomings of the Slovak agricultural sector in terms of physical productivity.

Table 5 may serve as illustration.

Undoubtedly, the low yields in both crop and animal production serve as the source of low factor productivity compared to the EU15 level. Relative higher factor cost per unit of produce may than be one among the reasons of the shortcomings in the production efficiency. But as we know, specific cost of factors land and labour is in candidate countries low, that means, that in economic terms it can offset the cost impacts of lower physical productivity.

A very interesting comparative view on production efficiency offers Table 6, showing gross margins for some crop products in 2001 in Germany, France, Austria and Slovakia. Sales revenue from hectare fluctuates about 60 per cent of the sales revenue per hectare in the EU countries; the variable cost accounts only for 30–40 per cent of variable costs in the compared countries. This leads to gross margins in Slovakia fluctuating from 36 to 70 per cent of margins in EU countries involved into comparison, differently by commodities. What is striking is the low value of variable costs, which may be caused by methodological reasons, but also, what is the most feasible explanation, the reduced input use in Slovak agriculture due to financial constraints to be faced by producers. What is worth while to mention is the fact, that in the comparison countries the sales revenue (without direct payments) is very close to variable costs and in individual cases (e.g. in case of barley in Austria) it does not match the sum of variable costs even.

The cost efficiency (variable costs related to gross margin) is in the majority of observed commodities com-

parable with the country of highest efficiency (France) and in all observed commodities higher than in Austria.

Table 6. Gross margins of selected crops for 2001

	Austria	France	Germany	Slovakia
Spring (malting) barley				
Price	100	117	145	94
Yield (tonnes/ha)	4.3	5.67	2.83	3.49
Sales revenue	430	663	410	328
Area payments	332	341	348	0.00
Total revenue	762	1 004	758	328
Total variable costs	446	310	428	102
Gross margin	316	694	330	226
Grain maize				
Price	108	103	105	113
Yield (tonnes/ha)	8.60	8.64	9.19	5.36
Sales revenue	929	890	965	606
Area payments	332	488	474	0.00
Total revenue	1 261	1 378	1 439	606
Total variable costs	782	766	867	169
Gross margin	479	612	572	437
Winter oilseed rape				
Price	233	235	230	203
Yield (tonnes/ha)	2.60	2.67	3.65	2.29
Sales revenue	606	627	840	465
Area payments	387	423	432	0.00
Total revenue	993	1 050	1 272	465
Total variable costs	560	306	550	192
Gross margin	433	744	722	273
Sugar beet				
Price	47	47	47	29
Yield (tonnes/ha)	49.4	60	50	40
Sales revenue	2 322	2 820	2 350	1 160
Area payments	0.00	0.00	0.00	0.00
Total revenue	2 322	2 820	2 350	1 160
Total variable costs	1 570	769	1 010	399
Gross margin	752	2 051	1 340	761

Source: Brooks G.: European Arable Crop Profit margins 2001/2002. Brookes West Jasmine House, Elham, 2002

Table 8. Terms of trade in agriculture between 1994 and 2001

	1994	1995	1996	1997	1998	1999	2000	2001
(1) Price index of agricultural commodities (y/y)	110.8	103.3	104.7	108.5	99.7	98.2	107.2	107.8
(2) Price index of farm inputs	107.6	107.9	109.4	110.6	104.1	104.1	109.1	109.3
(3) Terms of trade in primary agriculture (1)/(2)	1.030	0.957	0.957	0.981	0.958	0.943	0.983	0.986

Source: Statistical Office SR, RIAFE calculations

The figures in Table 7 can also be interpreted as indicators of the competitiveness of crops concerned.

It must be noted that the revenue per hectare involved into the calculation of gross margins includes for the member states in the comparison area payments that represent between 30 and 50 per cent of total revenues. In several observed cases would the withdrawal of direct payments result in negative gross margins.

A simple comparison of yields, returns and prices between Slovakia and France (most efficient in cropping) shows, that: In case of spring barley, Slovakia has 80 per cent of the price, 61 per cent of the yield and 32 per cent of the total revenue from crop. In case of rapeseed, wit 85 per cent of yields, 86 per cent of prices Slovakian farmers receive 44 per cent of revenue.

This leads to the conclusion that the economic gap between Slovak and the EU-15 agriculture is created first of all by policies. In this respect more distortion is generated by direct payments than by price support. The revenue deficit is responsible for the depressed level of variable input in Slovakian agriculture, which finds than its reflection in the insufficient productivity of the majority of sub-sectors. This is shown, for instance, in the consumption of fertilisers, which in Slovakia amounts to one quarter to two thirds of the level achieved in Austria and Germany, respectively.

Low margins do not match the capital investment needs either, what leads to the high depreciation of equipment. Worn out machinery is inflating the maintenance and repair cost. By 2000, up to 88% of machinery used in plant production surpassed the period of their service life (i.e. the machines were more than 8 years old) and the total wear of fixed assets climbed to 49% (Report 2001). The accumulated investment arrears due to the price disparities amounted to SKK 15 billion in 2001, as the RIAFE

Table 7. Variable cost efficiency comparison

Commodity	Austria	France	Germany	Slovakia
Malting barley	0.70	2.23	0.77	2.23
Grain maize	0.61	0.78	0.66	2.58
Winter oilseed rape	0.77	2.43	1.3	1.4
Sugar beet	0.48	2.67	1.33	1.91

Source: Brooks 2002

Note: Calculated as GM/total variable cost × 100

Table 9. Level of support as measured by PSE

	1999				2000				2001			
	% PSE	PSE/ha EUR	PSE/FTE	% MPS in total support	% PSE	PSE/ha EUR	PSE/FTE	% MPS in total support	% PSE	PSE/ha EUR	PSE/FTE	% MPS in total support
EU	39	709	17	65	34	705	16	59	35	755	17	58
Slovakia	25	149	3	42	23	149	3	13	11	69	2	*

Source: Agricultural Policies in OECD Countries. Monitoring and Evaluation. OECD 2002

Note: *In 2001 the MPS (Market price support) for Slovakia accounted for a minus value

has estimated. This “transformation debt” must also be taken into account when negotiating the scope of the CAP instruments’ implementation after Slovakia’s accession.

At the beginning of transformation, price liberalisation along with severe cuts in governmental supports started a process of permanent deterioration of terms of trade in agriculture. Against 1990, the price index of farm inputs reached to these days the value of 350, while farm output prices managed to climb only to 170. During the entire period, except the year 1994, annual indices of terms of trade have been showing negative year to year changes. In general, such price development, which occurred in all transition-economy countries, was unheard of in the EU countries in the past decade. During this period, in the EU countries, the farm input price increase was made up for about 90% of the growth of agricultural prices (European Commission 2001), while in Slovakia, this was only about 48% (Report 2001) (Table 8).

The overall sectoral response was the contraction of output. The total output of Slovak agriculture in constant prices reached in 2001 only 60 per cent of the 1990 level.

THE POLICY GAP

The policy we look at from two aspects: One is the level of support and the second the way of support. The level of producer support is in Slovakia approximately three times lower than in EU-15 – when related to production – and about five times lower, when related to agricultural area.

The Slovak support system relies predominantly on budgetary transfers. The share of market price support has been very low during all years of transition. In 2001, MPS was less than zero. In the EU-15, the dominant support is the market price support, which is paid by consumers and as such less visible to the public. The relatively high budgetary support in Slovakia is, having in mind the strained public budget, a sensitive issue. Within the current fiscal framework it has reached more or less its peak that would be very difficult to surpass in the years to come.

In 2001, fiscal transfers to agriculture and food amounted to 12.3 bill. SKK (USD 261 million) and made up for 4.9

per cent of state budget expenditure. The same year, in terms of OECD methodology, the support of the farm sector was in its entirety born by budget allocations (Table 9).

ASSESSING THE IMPACTS OF COMMISSION PROPOSALS

Slovak studies (Božík 2002) assessing future impacts of EU accession on Slovak agriculture came to similar results as studies by transnational and international organisations (Csaki, in Pouliquen 2001). In general, the income of farm sector should increase, but this growth will not have the same at individual commodities.

As DG Agriculture projected, in 2007 the income gain of Slovak agriculture would represent a 50 per cent increment of gross value added above the baseline in case of implementation of the CAP without direct payments. This increase would be about 150 percent above the baseline in case if the CAP with direct payments would become a reality. All the projections do manage in a more or less reliable way estimating changes in prices and in pay-

Table 10. Revenue on cost rate with different scenarios (per cent)

Commodity	Average		
	2000–2001 outturn*	2004–2006 EC proposal	2004–2006 full Agenda 2000
Wheat	94.9	108.9	146.7
Barley	89.9	121.5	176.6
Rapeseed	77.7	112.2	148.4
Sugar beet	120.7	141.5	132.4
Milk	96.7	121.4	127.2
Beef	66.8	126.3	147.0
Pork	103.9	91.5	99.6
Poultry meat	105.7	99.0	99.3

Source: Božík M.: The Impact of the EU Accession on the Agriculture and Food Sector of Slovakia. RIAFE study, 2002

*In case of crop products, data is biased by extremely bad yields due to exceptional draught in 2000

ments related to policies. Much less certainty is in the sphere of cost estimation. Some of the impact studies (Schneider 2002) rely on the assumption of a slow pace growth of the cost of production factors land and labour. In the same way, the consumption of variable input in value terms is expected not to grow dramatically (Schneider 2002; European Commission 2002). Other authors (Lukas 2002) express their opinion that after the accession, an increase of variable input prices and also of investment goods is to be expected. One of the items, which would be more expensive with sure, is any form of energy.

An estimation of the profitability change under the CAP conditions for a limited range of during the first three years of accession has been made in the RIAFE (Božík 2002). It implies, that the impact will not be uniform across commodities. Two scenarios have been calculated: With implementation of the EC proposal (direct payments equal 25, 30 and 35 per cent of Agenda 2000 rates) and with implementation of full direct payment rates. Four crop products and four livestock products have been examined. The rate of return (revenue on cost) increased against the outturn of the years 2000–2001 with all commodities, except of pork and poultry meat. Both commodities show a

negative change, for which the absence of support and increase of cost due to price growth of cereals are responsible (Table 10).

For crops, the average price increment as an effect of accession may be expressed by index 119 and for livestock products by index 125.

In the RIAFE, we have examined the sectoral income effects of implementation of the CAP by means of a simplified EAA model. The simulation of implementation of the EC proposal (reduced direct payments) showed an income increase against the year 2000, but an income contraction against the most recent pre-accession year. In this model, only a reduced scale of the EAAGF – Guarantee payments have been calculated (direct payments and LFA payments) and the national supplementary payments. All other EAAGF allocations from both sections (e.g. environmental payments etc.) were omitted.

This projection (Table 11) allows to conclude, that the implementation of the CAP with reduced direct payments, if the intermediate consumption and fixed capital consumption maintain the projected level, does not necessarily lead to a higher sectoral income. The income value attained under the CAP with reduced direct payments scenario is an outcome of the simulation, in which

Table 11. Estimation of accession's sectoral income impact with regard to the EC proposal on reduced direct payments (million SKK)

	Before accession (in mill. SKK)				After accession (in mill. SKK)		
	2000	2001p	2002e	2003e	2004e	2005e	2006e
Final output of agriculture	60 250	65 902	66 400	70 123	82 089	82 727	84 060
Intermediate consumption	45 627	46 732	46 233	48 657	57 663	57 197	57 386
<i>Gross value added</i>	14 623	19 170	20 167	21 467	24 426	25 530	2 674
Fixed capital consumption	7 690	8 210	8 635	8 975	9 445	9 919	10 420
<i>Net value added</i>	6 933	10 960	11 532	12 492	14 982	15 611	16 254
Compensation of employees	12 777	13 368	13 842	14 314	15 506	16 595	17 907
Other taxes on production	683	726	754	795	810	828	864
<i>Direct payments</i>	4 828	5 199	5 153	5 167	3 243	4 102	5 050
– crop production	3 182	3 123	3 094	3 113	2 761	3 297	3 838
– livestock production	1 646	2 076	2 059	2 053	482	804	1 212
National supplementary direct payments (NPS)					64	202	335
<i>Net operating surplus without NSP</i>	–1 699	2 065	2 089	2 549	1 908	2 289	2 533
<i>Net operating surplus with NSP</i>	–1 699	2 065	2 089	2 549	1 972	2 491	2 868
Interests	601	639	663	700	713	729	761
Rent	925	978	987	1036	1083	1126	1165
<i>Net entrepreneurial income without NSP</i>	–3 225	449	438	813	112	433	608
<i>Net entrepreneurial income with NSP</i>	–3 225	449	438	813	176	635	943
<i>Subsidies to income (LFA)</i>	3 364	3 220	3 220	3 220	6 436	6 405	6 390
<i>Net entrepreneurial income + LFA subsidies</i>	138	3 669	3 658	4 033	6 612	7 041	7 333
<i>Net entrepreneurial income + LFA + NSP*</i>	138	3 669	3 658	4 033	6 676	7 243	7 668

Source: Božík M.: The Impact of the EU Accession on the Agriculture and Food Sector of Slovakia. RIAFE study, 2002

Notes: NSP – national supplementary payments; *without the year 2000 disaster payments

Table 12. Comparison of the EU-15 per hectare direct payments (in Euro) with payments proposed in the Commission document from January 30th and with the currently applied product linked supports in Slovakia

Item	EU-15 year 2000	Slovakia year 2001	Commission proposal		
			2004 (25%)	2005 (30%)	2006 (35%)
Total payments	304.1 (1)	106.5 (2)	–	–	–
From that direct payments	195.7	49.0 (3)	32.8	40.6	48.5

Source: EC, MoA SR and own calculations

Notes: (1) EAGGF expenditure less rural development

(2) Including LFA and investment support

(3) All production linked supports. The amount of those, which respond to the definition of direct payments, is 25 Euro per hectare

the intermediate and fixed capital consumption volumes have been derived from their current actual values at corresponding output levels further to the FADN data taken from one representative EU-15 country (Germany).

The second reason for reduced income values under the CAP scenario is the change in production subsidies. This is because in the model, for the period before accession, all production subsidies provided by national policies have been calculated (irrespective of whether they comply with the definition of the CAP direct payments, or not). But the CAP scenario comprises only strictly this type of payments. Consequently, even with national complementary payments, in the model the sector enjoys less product oriented subsidies after accession. (A comparison of individual types of support shows Table 12).

As already mentioned, no the EAGGF Guidance supports have been calculated, nor the EAGGF accompanying measures supports with exception of LFA payments. As the above table shows, only by addition of LFA payments to income account would the sector be able to enjoy a shift towards improved income balance.

These results point to the importance of rural development and structural policy tools for the further economic sustainability of the sector after accession. This may be true not only for Slovakia, but also for other candidate countries.

CONCLUSIONS

On the eve of accession, significant gaps between the farm economy of Slovakia and that of the EU-15 sustain. They root in the differences in the performance of the general economy, considerably influencing the cost and income parameters of the sectoral economics, but also in notable deviations in policies implemented. The considerably higher rate of support provided by the Common Agricultural Policy is also responsible for the gaps in the physical productivity of production factors like labour and land. This is because higher sales revenues attained by the EU farmers plus direct supports gives them the opportunity to invest much more into variable inputs

than they counterparts in transition candidate countries may do. The income gap between the EU members and candidate countries in transition has been aggravated during the recent decade by severe deterioration of terms of trade, leading to a real devaluation of the value farm produce by about 50 per cent. During this period, the Slovak agriculture sector managed to increase its input efficiency, but could not fully offset the effects of terms of trade plummeting.

This situation imposes a certain burden on accession negotiations on Chapter 7, due to high expectations of Slovakian farmers linked to full implementation of the CAP in the country. The full implementation of the CAP instruments is understood by farmers' representations as a requirement legitimated by the principle of equity and just competition.

Our income simulation under the Commission proposal scenario point to the conclusion that the implementation of the EAGGF rural development measures will be of critical importance for the income generation of Slovak farmers after accession.

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