

# Slovak agricultural markets and farm income after the EU accession

## *Agrárny trh a príjmy poľnohospodárskych podnikov po vstupe Slovenska do EÚ*

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**Abstract:** The paper is focusing on the analysis of some aspects of changes in the economic performance of the farm sector in Slovakia during the first period after the accession to the European Union, as measured by the Economic Account of Agriculture. Authors find that the growth of agricultural goods output was the main element of the improved income generation within the sector during the first year of the EU membership. This was induced by the growth of physical crop output and new subsidies to products. Price alignment played only a minor role in the income growth within the sector. Price increases were limited to some few livestock products. The scope and range of the horizontal price transmissions might have also been influenced by the constraints on the domestic market demand, insufficient functioning of the market support institutions and shortages of marketing infrastructure.

**Key words:** EU accession, agriculture, price, output, income, subsidy

**Abstrakt:** Príspevok analyzuje niektoré aspekty zmien v ekonomike poľnohospodárstva na Slovensku v období po vstupe do Európskej únie podľa údajov ekonomického poľnohospodárskeho účtu. Podľa jeho výsledkov rast tvorby dôchodku v prvom roku členstva v Únii bol generovaný najmä zvýšenou poľnohospodárskou produkciou. Jej rast bol spôsobený vyššou naturálnou produkciou a novými subvenciami na výrobky. Cenové prispôsobovanie hladine cien v EÚ zohrávalo pri raste dôchodku len malú úlohu. Zvýšenie cien sa prejavilo len u obmedzeného počtu živočíšnych výrobkov. Horizontálna transmisia cien mohla byť brzdená dopytovým obmedzením na domácom trhu, nedostatkami v činnosti inštitúcií podpory trhu a chýbajúcou trhovou infraštruktúrou.

**Kľúčové slová:** Európska únia, vstup, poľnohospodárstvo, cena, produkcia, príjem, subvencia

During the years before the accession, many authors dealt with projections of the accession impacts on agriculture of the EU candidate countries. Future changes in production, supply, consumption, farm gate and consumer prices and also farm income had been assessed. On Slovak agriculture, authors in their accession scenarios worked with the assumption of price adjustments, which should have taken place early after the accession.

Wheat, barley and maize prices were expected to rise against the non-accession scenario by 27%, 5% and 9% respectively, rapeseed by 53%, and sunflower by 60%. On the other hand, potato prices were to decrease (–20%). Also significant increases in sheep, beef and chicken prices were projected. The only price of livestock product, which had to decline, was the price of pork (–24%) (Ciaian et al. 2005). There

had been a broad consensus among the economists about the future price adjustments.

The average wheat price in the years 2004–2006 was expected to be higher against the years 2000–2001 by 23.6%, the barley price higher by 15.1, rapeseed by 28.5%, sugar beet by 189.2, milk by 51.1, beef by 59.2%. On the other hand, pork price should become lower by 2.3% (index 97.7) and poultry meat price should diminish to 98.3%. Crop products in average had to increase to 119 per cent, livestock products to 125 and farm commodities in average to 123% of pre-accession level, or in comparison to non-accession scenario (Blaas, Božik 2002).

Consumer prices of food were expected to rise to 122.3% in 2004 against 2001 (Blaas, Božik 2002), mostly as a consequence of the projected growth of producer prices.

The farm sector income (net entrepreneurial income) was expected to grow significantly, mainly due to the implementation of direct payments. According to projections by the Research Institute of Agricultural and Food Economics in Bratislava (Božík, Izakovič 2004), the average annual farm sector income ought to change from a loss worth 3.6 billion SKK during the period from 2001 to 2003 to a profit amounting 2.4 billion SKK in the years 2004–2006. These projections have been confirmed by the actual statistical figures later (Chrastinová 2005). The income of farms (based on farm accounts data) considerably increased in 2004. The aggregate profit of the whole sector reached SKK 1.5 billion.

All those predictions had been based on the assumption that after the accession a fast prices adjustment will take place bringing agricultural prices closer to the average EU15 level. The same assumption was made for food consumer prices.

In this paper, we would like to analyse the real changes in farm economy as reflected by statistics. It is obvious that due to the short time distance from the point of accession, it is difficult to come up with the convincing quantitative evidence of the accession impacts on agricultural sector. That is why our findings have to be considered as indications of certain moves within farm economy rather than as ultimate judgements.

## MATERIAL AND METHODOLOGY

The paper is focusing on the analysis of changes on agricultural markets and of the evolution of farm sector's economic performance. As market indicators, farm gate prices were chosen, as collected and published by statistical services. Monthly nominal farm gate prices and price indices of the selected commodities (wheat for food, malting barley, corn, potatoes, milk, beef and pork) from the year 2000 to 2005 were used. The data on components of the sectoral performance were taken from the Economic Accounts of Agriculture (EAA) for the year 2003 (the last year before accession) and 2004 (the year of accession). Also the first estimation of the country's EAA for 2005 has been involved into inter-annual comparison. The data on livestock and crop farm output, output of agricultural industries, intermediate consumption and also the data on several income indicators were compared along time.

Obviously, such a simple methodological approach, based on simple comparison of the sector level data can only estimate the responsibility of the individual factors for the changes observed. As known, weather conditions in 2003 and 2004 substantially deviated from each other, led to a high variation of physical volume of production during the biannual period. Our

Table 1. Economic Account of Agriculture in the years 2003–2005 (mil. SKK)

	2003	2004	2004/2005	2005*	2005/2004
Crop output	26 127.40	38 191.70	146.2	32 097.30	84.0
Animal output	33 138.70	30 573.20	92.3	28 071.40	91.8
Agricultural services	2 644.40	2 415.00	91.3	2 500.00	103.5
Inseparable non-agric. activities	5 347.50	3 500.00	65.5	5 252.00	150.1
Output of the agricultural 'industry'	67 258.00	74 680.00	111.0	68 151.30	91.3
Intermediate consumption	50 571.40	51 596.90	102.0	68 151.30	132.1
Gross value added at basic prices	16 686.70	23 083.10	138.3	19 671.70	85.2
Fixed capital consumption	7 158.10	7 068.00	98.7	6 750.00	95.5
Net value added at basic prices	9 528.60	16 015.10	168.1	12 921.70	80.7
Compensation of employees	13 756.00	13 018.00	94.6	13 000.00	99.9
Other taxes on production	846	1 244.00	147.0	1 100.00	88.4
Other subsidies on production	5 580.50	2 583.00	46.3	3 087.00	119.5
Net operating surplus	507.1	4 356.10	859.0	1 909.30	43.8
Rents paid	993.0	1 050.00	105.7	1 100.00	104.8
Interest paid	715.0	589	82.4	450	76.4
Entrepreneurial income	-1 200.9	2 711.10	325.7	359.3	13.3

Source: Economic Accounts of Agriculture Slovak Republic. Statistical Office of SR, 2004

\*First estimate by Research Institute of Agricultural and Food Economics

approach is not sufficient for the exact distinguishing among weather and other factors' impact on the aggregate sector outcomes. Nevertheless, the suggestion may be accepted that the institutional change, represented by the implementation of the CAP, evidently affected the ultimate economic performance of the farm sector in the year of accession.

## FINDINGS AND DISCUSSION

### Farm sector economic performance in the light of the Economic Account of Agriculture

At first glance, the accession year was a good year for agriculture in Slovakia. The total output was higher by 10 per cent from the year before, intermediate consumption grew only moderately, and the entrepreneurial income was more than three times higher than the year before. Three components coincided in this evolution: the change in physical output, the price change and the implementation of the CAP support system (Table 1).

In the first year of accession, agricultural output at basic prices strongly rose (index 116). In 2004, crop output grew to 146.2 per cent against 2003, but not the animal output, which fell to 92.2 per cent of the 2003 level. But the annual change of crop output valued at farm gate prices was modest. It increased only to 124.5 per cent, reflecting the fact that prices had fallen to 98.8 per cent of the previous year's level. The output soared exclusively thanks to the good harvest.

The livestock production followed a longer-term trend of decline also in 2004. The volume of production

reached 86 per cent of the 2003 level, but the value of production at producer prices sank only to 95.3 per cent. Valued at basic prices, the animal output decline was stronger (falling to 92.3 per cent of 2003 level).

As it can be taken from Table 1, the main reason for significant improvement of income indicators was the increment of agricultural goods output, valued at basic prices. The value of crop output was strongly inflated by the CAP direct payments first time in 2004. The effect of subsidies was slightly damped down by a price fall, caused by the rise of physical supply of plant products in the entire Central European region in the same year and by the stronger market competition which was fuelled by the disappearance of border measures from the date of accession. As Figure 1 and Table 2 show, the value of crop production had grown approximately equally under the influence of physical production growth and of the change in the support system.

The situation developed in another way of livestock production. The fall of production value at basic prices was mainly due to a significant reduction of subsidies on products but also due to lower physical

Table 2. Subsidies to products (mil. SKK)

	2003	2004	*2005
Crop products	870.2	6 752.2	5 678
Livestock products	1 310.2	225.1	230.1
Agriculture total	2 180.4	6 977.3	5 908.2

Source: Economic Accounts of Agriculture, Statistical Office SR, 2004

\* Estimate of the RIAFE

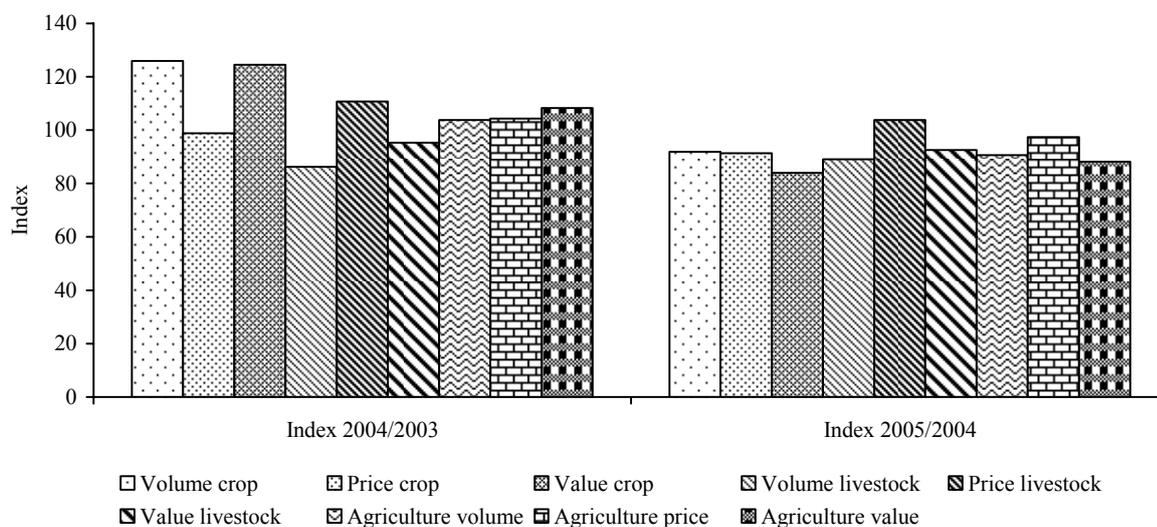


Figure 1. Indices of year to year changes of output (at producer prices) and prices

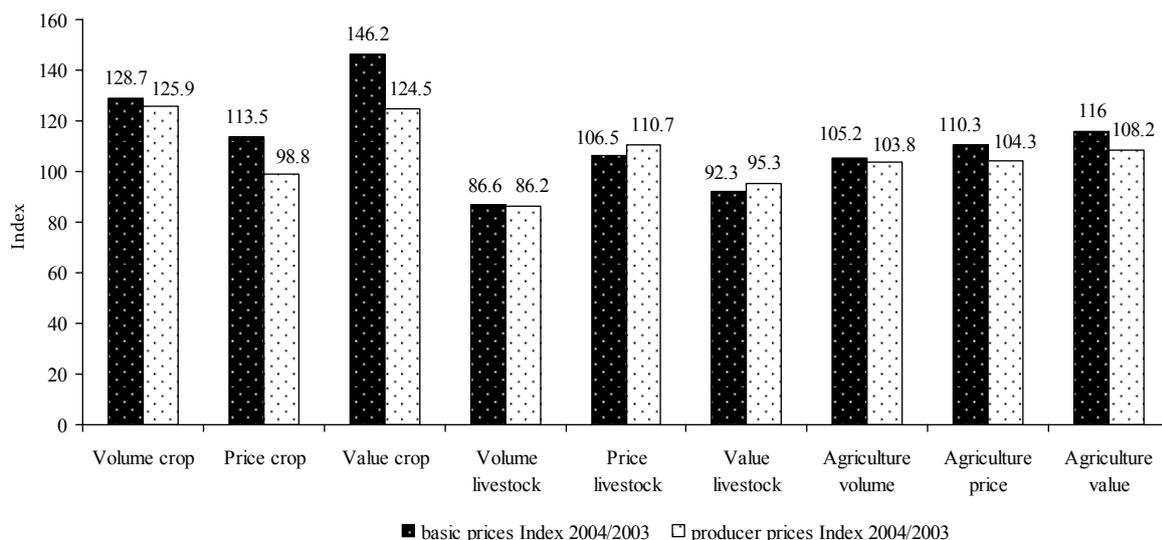


Figure 2. Output at producer and at basic prices (change 2004/2003)

Source: Economic Account of Agriculture. Statistical Office of SR, Bratislava 2004

output. The increase of producer prices in the year of accession (110.7 per cent) did not compensate the dramatic fall of subsidies (Figure 2, Table 2).

In 2005, as Figure 1 suggests, the economic performance of the sector has been influenced by a reduced physical output against the previous year and a certain slowing down of the subsidy effect, which was very strong in the year before. The crop price fall, which had started in 2004, continued. Also in the case of livestock products, price trends launched in 2004 were extending for a longer period: as Figure 1 indicates, a 3.8 per cent producer price growth has been estimated for 2005.

There is some indication of the continuation of reducing intermediate consumption, which was observed in 2004, also in the following year.

### Price adjustment

The above subchapter indicates that the price development has been an important component of changes in farm economy after the accession. The empirical evidence which can be drawn from the observable time period is showing that not all assumptions taken before the accession have proved to be sustainable.

Price related assumptions in the pre-accession period had been based on the assessment of the institutional factors, such as the CAP market price support and its tools, especially intervention buying, institutional prices etc. and on the expectations concerning enhancement of the horizontal price the transmissions due to transition from protected to free markets.

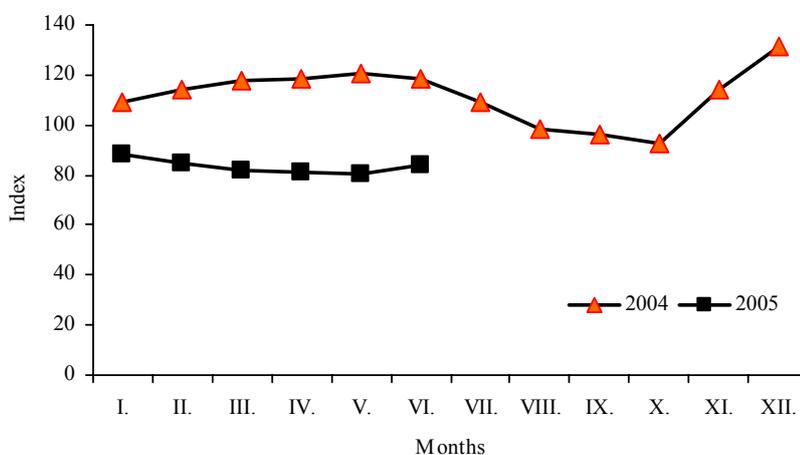


Figure 3. Average monthly y/y producer price indices of crop products (without vegetables)

Source: Price Indices for Agricultural Products. Statistical Office of SR

Mean monthly year-to-year indices of crop products' farm-gate prices registered in 2004 and during the first half of 2005 show that the seasonal influence on price levels was very strong, reflecting the shortage of supply before the harvest 2004 (due to poor yields in 2003) and the relative abundance of supply after it. This influence was stronger than the effect of intervention purchases which formally started in November 2004, but in a quite inefficient way (Figure 3).

The same indices for livestock products show a significant recovery of prices during the first months of 2005 (Figure 4).

The commodity-by-commodity analysis reveals significant differences in price responses to the change of market situation after the date of accession. As

already mentioned, in case of crop products the over-supplied market dampened down the effect of market support institutions. Only in case of sugar beet has the common market organization affected the price level in line with the expected. The farm gate price for sugar beet nearby doubled in the autumn 2004 in comparison with the previous year (Figure 5). In nominal terms, the price per tonne accounted for 1 724 SKK in December 2004, while in December 2003 were paid to farmers only 1 018 SKK in average.

Other crop commodities (feed wheat, corn maize, malting barley, potatoes) were priced rather lower during the recent period when compared with the situation during the years before.

Among animal products, cow milk and beef have registered observable price increments, especially

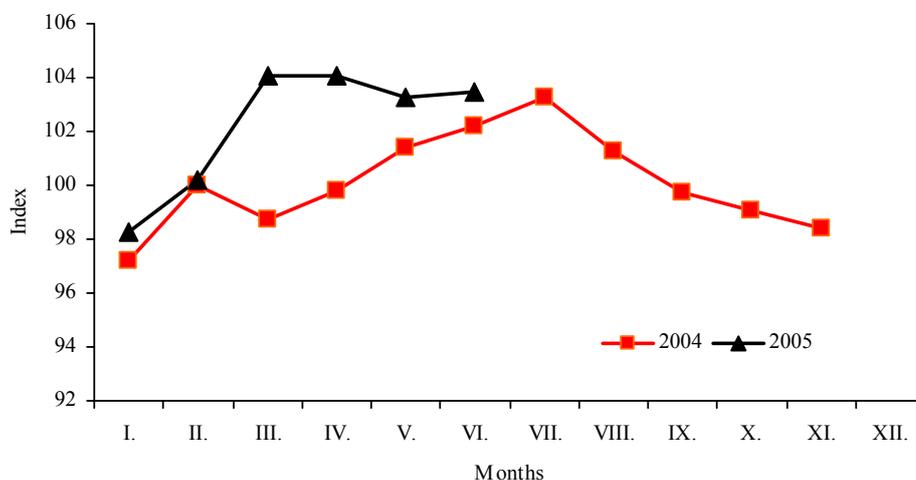


Figure 4. Average monthly y/y indices of livestock producer prices

Source: Price Indices for Agricultural Products. Statistical Office of SR

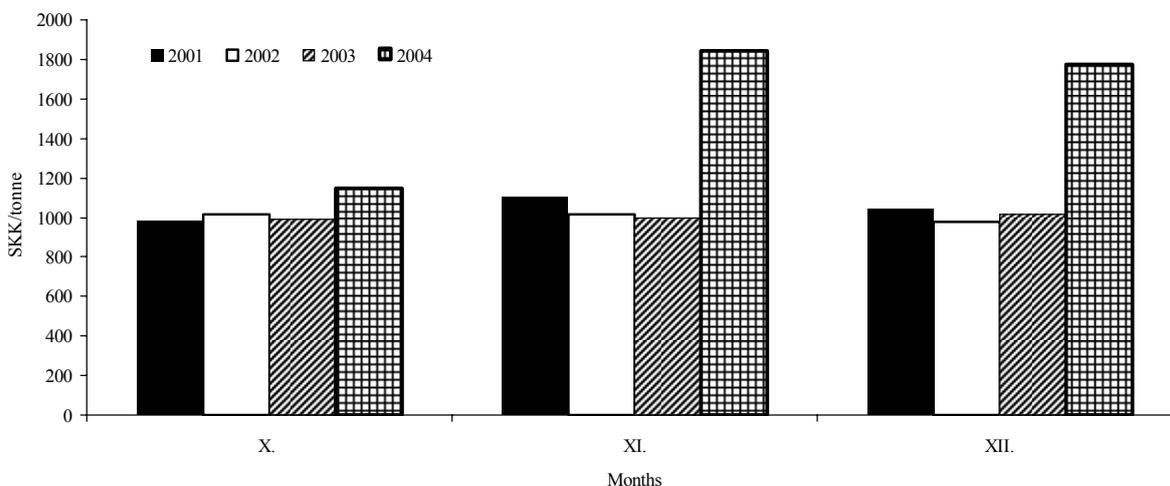


Figure 5. Sugar beet farm gate prices in SK/tonne (October–December)

Source: Price Indices for Agricultural Products. Statistical Office of SR

during the first half of 2005. Both commodities benefited from opening the markets. Exports of beef cattle, milk and dairy products have grown since the date of accession.

Nevertheless, price increments of animal products have been less dramatic than in some neighbouring countries. According to the official Polish sources (the Ministry of Agriculture and Rural Development), beef cattle procurement prices in December 2004 were by 38 per cent higher than in December 2003, milk prices by 21 per cent and pork prices by 43 per cent (Plewa 2005). Slovak figures look more than modest in comparison. For the same period, the price increment at farm level for beef cattle represented 3.9 per cent, for milk 1.9 and for hogs 2.6 per cent.

## CONCLUSION

The state of agriculture sector in Slovakia has been evolving after the accession of the country to the European Union under the impact of three main acting forces. First, the implementation of the Common Agricultural Policy domestic support policies, which acted towards the enhancement of farm income, second the change of the market environment and the exposure to higher competition due to the free market within the Community borders and third, the natural production conditions which have been showing unusual year-to-year fluctuations.

The Economic Account of Agriculture, as a comprehensive tool to evaluate and measure the economic

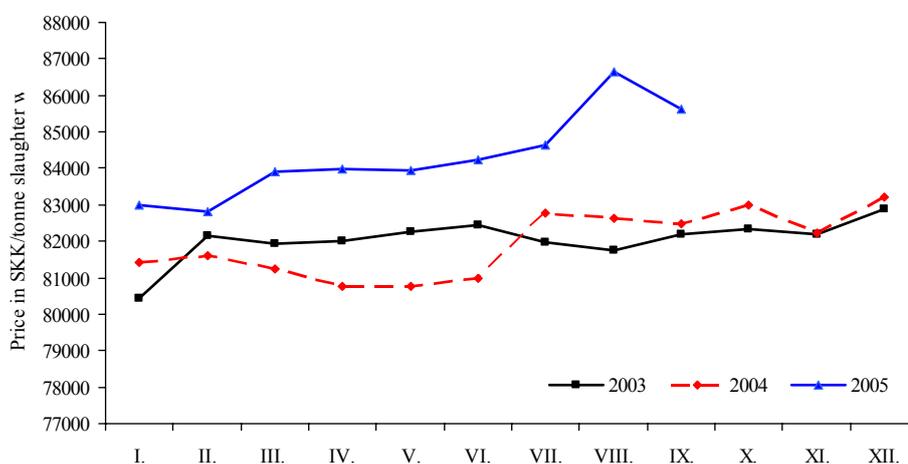


Figure 6. Slaughter bulls grade U carcass weight producer prices in SKK/tonne

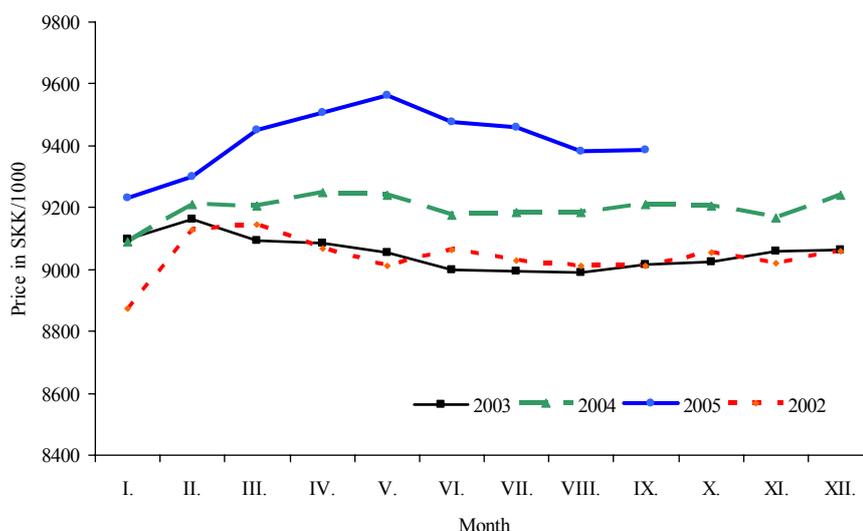


Figure 7. Farm gate price of milk in SKK per 1 000 liter, grade I  
Source: Price Indices for Agricultural Products. Statistical Office of SR

performance of the agricultural sector proved to be a reliable instrument for assessing the individual components of changes which had the sector cope with in the period after the accession to the European Union (i.e. after 1. May 2004).

Agricultural income, which improved significantly in the first year of accession, has been inflated mainly due to the increase of agricultural goods output which attained 116 per cent of the previous year. This was achieved in a great deal by the increased subsidies on products, with a rather modest effect of market price growth and increments of the physical output of cropping. The price-generated contribution to the higher income was limited to livestock products, which sector, on the other hand, did cut its the physical output. On the part of crop production, the physical output increment was the second acting factor contributing to income growth. Only the sugar sub-sector was able fully reflect and utilise the institutional framework of the respective common market organisation. In general, during the first period after the accession, the market support institutions started to work in a very protracted manner. Many of the CMO did not start acting at all, like the fruit and vegetables market organisation.

The second year after accession, for which only first estimates are at hand, shows a set-back of income indicators. With roughly unchanged public support and lower physical output and stagnating prices, a year-to-year deterioration of the sector's performance is to be expected.

The core issue is that the expected push to farm economy in the form of market price recovery is not taking place. Only a limited number of commodities (milk, beef, sugar beet) have shown some signs of the price alignment to the EU 15 price level. Projections made before accession worked with the assumption of price increases ranking five and twenty per cent just from the beginning of membership.

Several reasons may exist for that.

First, a serious reason may be the domestic demand constraint, which results from the weak purchasing power of the population. In the retail sector, there is a severe competition between multinational retailers who use low food prices as their main marketing tool. Retail prices are then transmitted to other segments of the food chain.

Second, the link to international trading and marketing networks seems to be still a weakness of the domestic food sector. Access to international markets has to be improved.

Third, competition on the market of farm goods is probably far from being perfect. Practically, very few transactions are conducted through commodity exchanges, futures contracts are still not common, producer organizations are missing.

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