INSTITUTE OF AGRICULTURAL AND FOOD ECONOMICS
NATIONAL RESEARCH INSTITUTE

State of the Polish food economy sector after Poland's EU accession

Report 4

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MULTI-ANNUAL PROGRAMME 2005-2009

THE ECONOMIC AND SOCIAL CONDITIONS OF THE DEVELOPMENT OF THE POLISH FOOD ECONOMY FOLLOWING POLAND`S ACCESSION TO THE EUROPEAN UNION

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Warsaw 2008

The study was part of the research project:

The Polish food sector in the initial years of EU membership
(„Polski sektor żywnościowy w pierwszych latach członkostwa")

within the framework of the task:

Review of the condition of the Polish food economy sector after Poland's EU accession)
(„Ocena stanu polskich gospodarki żywnościowej po wejściu Polski do UE")

The purpose of this study is to evaluate the condition of the Polish food economy sector in the fourth year after joining the European Union, and in particular the influence of this event on demand for products of agriculture and food industry, agricultural prices and food prices, production of agriculture and food industry, structural transformations of food industry, as well as on the economic situation of both sectors.

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Contents

Introduction

It's been 3.5 years since Poland joined the European Union. It is a long enough period for integration effects to show up, including also the resulting benefits which occurred in our entire economy and in the agricultural and food sector. It's been a time in which various phases of periodical and situation-related changes in production and supply of agriculture have taken place. The progressing integration with food economy of the EU reveals to a greater and greater extent, the influence of globalisation and phenomena occurring in the world market on our agriculture, market and processing.

The presented paper is another report evaluating the condition of the Polish food economy sector after Poland's accession to the EU. It evaluates the changes which have taken place in the past four years as well as the condition of the agricultural sector in the fourth year after joining the EU. The report consists of four chapters, namely:

- chapter I describes and evaluates macroeconomic and market background of food producers, and in particular, the processes of economic development in Poland and their influence on domestic demand and on development of prices in the agri-food market,
- chapter II analyses the demand for products of agriculture and food industry, which is affected by constantly and rapidly growing export, improved alimentation and structural changes in supply for people,
- chapter III describes production results of agriculture and food industry, evaluates the dynamics of their changes and identifies changes in production structures of agriculture and processing,
- chapter IV estimates and evaluates the economic condition of main divisions of food economy, mainly on the basis of the analysis of cash revenue and production expenditures of agriculture, as well as the results and financial condition of agricultural enterprises and food industry.

These analyses are complemented by the ending containing main findings and conclusions. It points indirectly to the chances and threats of further development of the agricultural sector in Poland.

The results of the analyses confirm the findings and evaluations presented in previous reports, adding new phenomena, which occurred after joining the EU. Such findings include the following evaluations:

1. Polish food economy is still a beneficiary of Poland's accession to the European Union. The resulting benefits even grew in the third and fourth year after joining the European structures. This cumulation of benefits results from both external and internal factors.

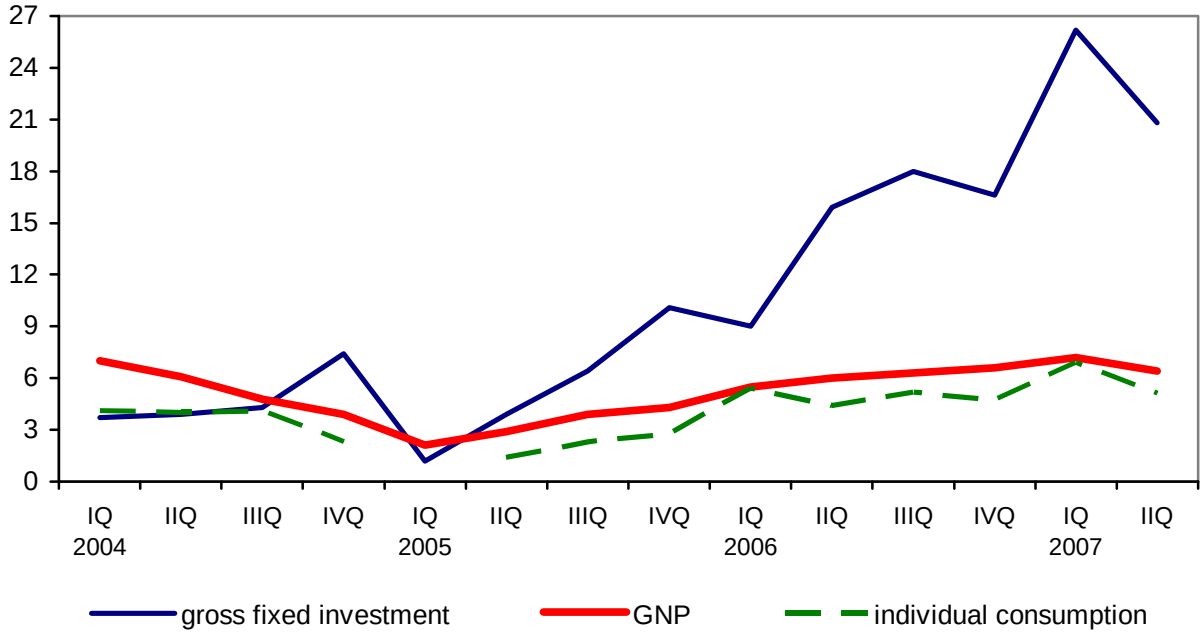
2. Food economy takes advantage of the effects of accelerating the economic development. This develops the domestic food market, while the progressing integration with vast European economy mitigates the consequences of distortions which evoke unexpected reductions of yields (of cereals in 2006, and of fruit in 2007), or periodic changes in agricultural production.
3. Opening of Polish economy for the European market, and indirectly also greater connection with the world market, increase the benefits (and threats) for food economy due to growing domestic demand in rapidly developing countries. Our farmers and producers can take advantage of the economic development of these countries and the growing prices in the agri-food markets.
4. The agricultural sector is being threatened to a larger and larger extent on one hand by the process of strengthening of the national currency and rapidly growing wages and salaries, and on the other hand, restrictions, which are created by the quotation system of milk, sugar, starch and isoglucose production, are becoming more and more burdensome. These phenomena prevent production of these food economy divisions from growing and reduce our price-cost advantages over producers from other countries (the EU and non-EU ones).

I. Macroeconomic and market background of food economy development

I.1. State of macroeconomic background of agriculture in the period of integrating with the European Union

Poland's accession to the EU improved the situation of Polish economy (figure I.1). Already the year preceding the accession saw recovery stimulated by expected rises of prices.

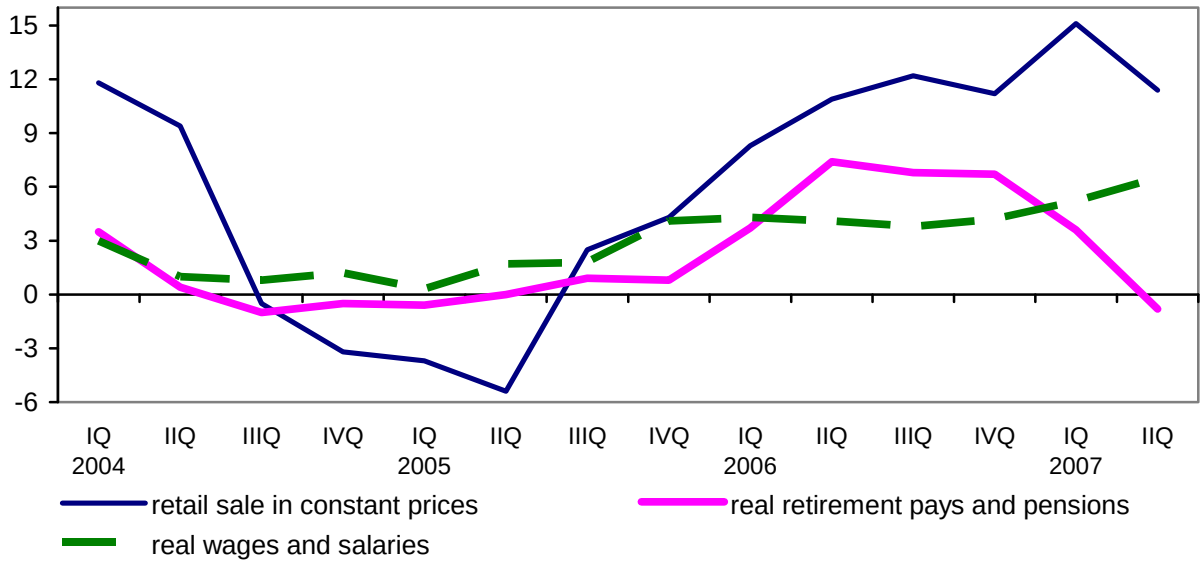
Figure I.1. GNP growth rate and individual consumption
(in % as compared to the corresponding period of the previous year)



Source: Central Statistical Office (CSO) Statistical Bulletin 2004, No. 5; 2005, No. 5; 2006, No. 9; 2007, No. 9.

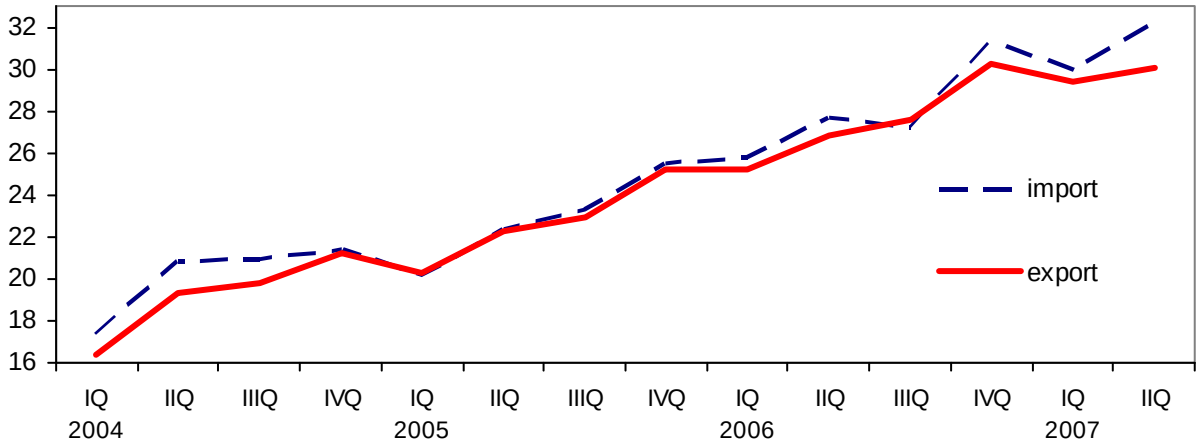
In the first months after joining the EU, the high 5% pace of GNP growth rate continued, accompanied by a decreased growth rate of domestic consumption demand. In that period the year-on-year increase in real wages and salaries was only approx. 1%, with a decline in real retirement pays and pensions (to –0.5%) and retail sale (to approx. –3%), as well as poorer dynamics of investment (approx. 4%). Economic development in the first months following the accession mainly resulted from rapidly growing export (figure I.3), because the post-accession decrease in domestic demand lasted until mid-2005.

Figure I.2. Growth rate of real wages and salaries, retirement pays and pensions and retail sale



Source: CSO Statistical Bulletin 2004, No. 5; 2005, No. 5 and 2006, No. 9.

Figure I.3. Value of export and import of goods and services (in billion EUR)



Source: CSO Statistical Bulletin 2004, No. 5; 2005, No. 5; 2006, No. 9; 2007, No. 9.

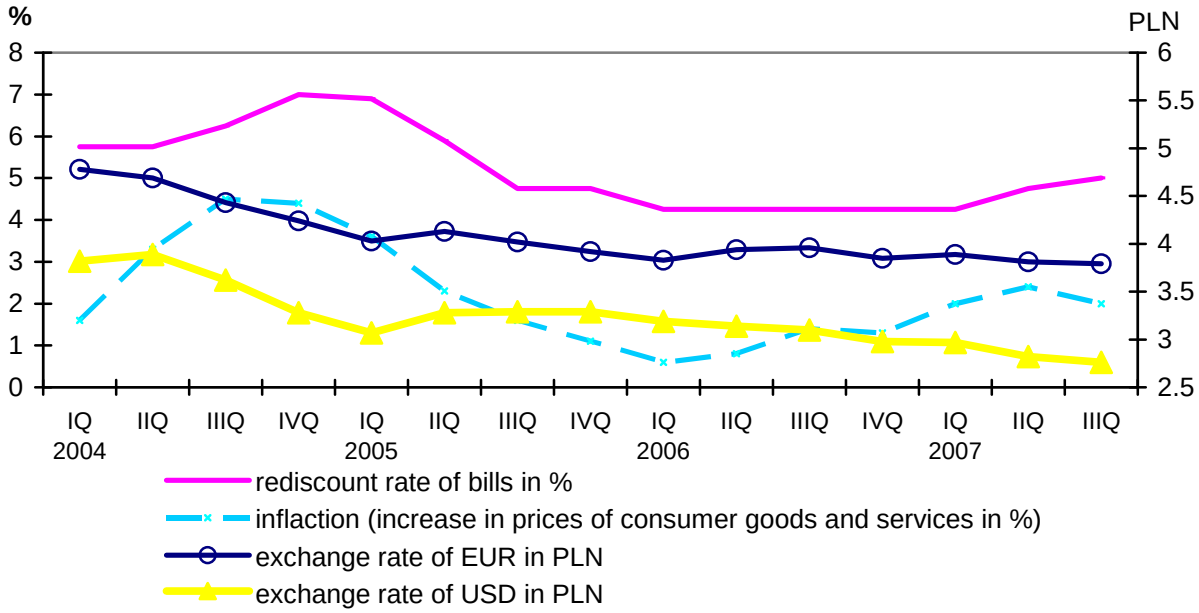
Another post-accession economic recovery has been observed since mid-2005. The increase in GNP is high again, which grew from 2.5% in the first half of 2005 to 4% in the third and fourth quarter of 2005, 5.5% in 2006 and 6.5% in 2007. This recovery has a more stable basis because:

- the high pace of export development continues (approx. 20% yearly),
- economic growth improves the income situation of people, because real wages and salaries increase by over 5% yearly, and retail sale – by over 10%,
- since mid-2005, rapid investment acceleration has occurred; fixed investment has grown by approx. 15-25% yearly.

The stable basis for the current economic recovery is being created not only by the growing export but also high dynamics of domestic demand, both consumption and capital demand.

Integration with the EU speeded up the dynamics of economic development in the country and improved the income situation of people, as well as it stabilises the Polish economy and makes it independent of current political decisions. In fact, the entry into the EU did create an inflation impulse, but it was a temporary phenomenon because in mid-2005, the inflation rate declined to 1.6%, and in the first half of 2006 – under 1% yearly (figure I.4). In that period Poland belonged to the EU countries with the lowest inflation. The fall of inflation under 1% yearly made it possible to decrease the basic interest rate and rediscount rate of bills from 7% in the second half of 2004 to 4.25% in 2006 and 5% in the third quarter of 2007. For one year inflation has been growing again (to 2.5-3% in the second half of 2007), yet its level is still relatively low.

Figure I.4. Inflation, interest rates, and exchange rates



Source: CSO Statistical Bulletin 2004, No. 5; 2005, No. 5; 2006, No. 9; 2007, No. 9.

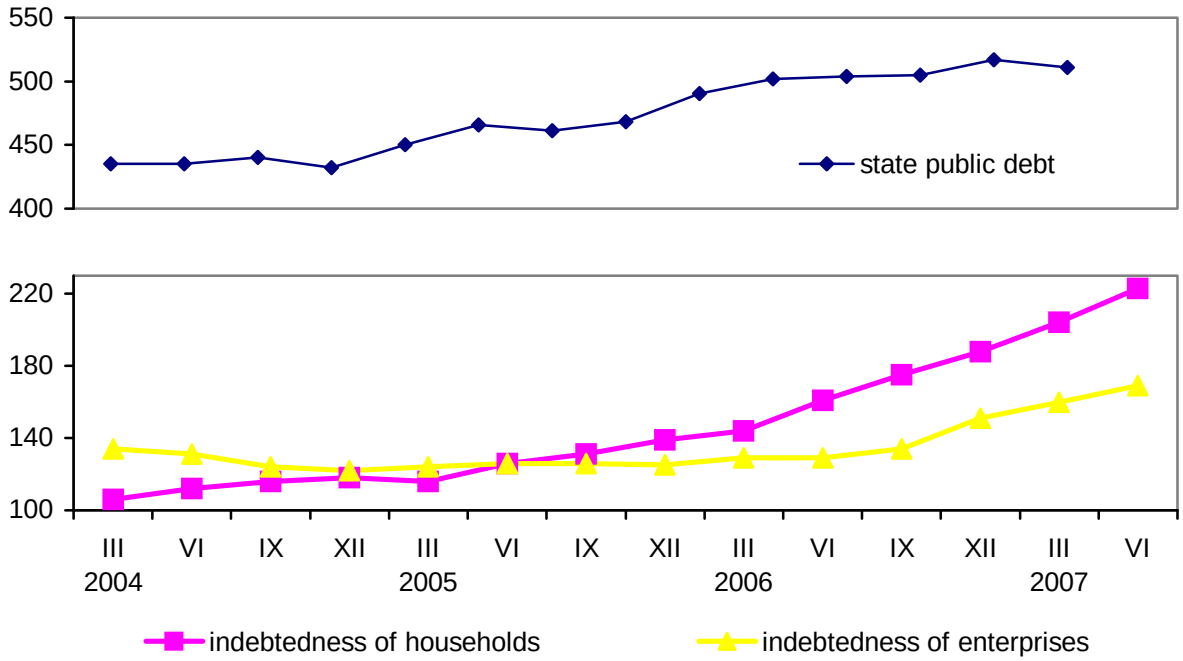
The stabilisation of Polish economy is also reflected by constant strengthening of the Polish national currency. In the period preceding the accession to the EU, indeed the exchange rate of EUR increased from PLN 3.70 in 2002 to over PLN 4.50 in mid-2004, but later it kept falling to approx. PLN 4 as early as in the first months of 2005 and to PLN 3.70 at the end of 2007. The entry into the EU accelerated the appreciation of PLN in relation to the US dollar; its exchange rate decreased from approx. PLN 4 in 2001-2003 to PLN 2.50 in the third quarter of 2007.

The economic balance in Poland is improved by two phenomena, namely:

- decreasing the unemployment rate from 20% in 2002-2003 to 11.5% in the third quarter of 2007,
- decreasing the central budget deficit from approx. PLN 40 billion yearly in 2002-2004 to PLN 25 billion in 2006, and in the third quarter of 2007, the budget revenues were even higher than expenditures.

In the recent years, the risk of financial crisis has been reduced. Despite the lack of reforms of public finance, the state indebtedness is under 50% of GNP, although its amount is still growing and already exceeds PLN 500 billion (figure I.5). Also indebtedness of households and enterprises is increasing, but the relation of this indebtedness to income (of companies and people) is still very low.

Figure I.5. Indebtedness of Polish economy (in billion PLN)



Source: CSO Statistical Bulletin 2004, No. 5; 2005, No. 5; 2006, No. 9; 2007, No. 9.

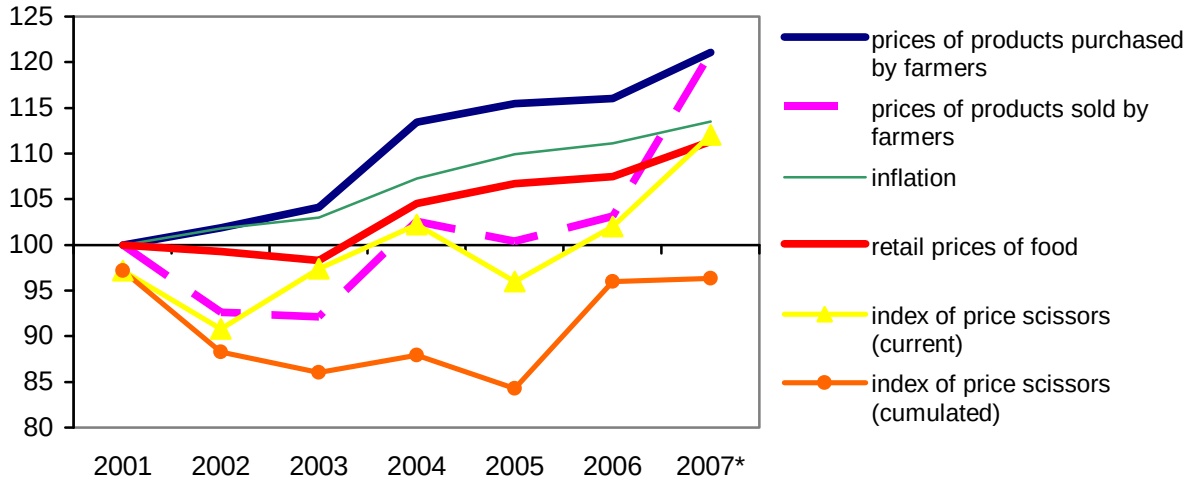
The condition of the Polish economy and its financial situation is to a large extent affected by transfers of resources from the EU, mainly for the Polish agriculture and financing infrastructure investments. After Poland's accession to the EU, also foreign direct investments have increased, and short-term investments and income transfers from labour migration are still considerable. These are additional sources of financing the Polish economy with a surplus, compensating the effects of the negative balance of foreign trade, the amount of which also continued to decline.

I.2. Price development in the agricultural and food sector

I.2.1. Price development tendencies

One of the main features of food economy development was a relative decrease in prices of agricultural and food products. This phenomenon is not new, as it has occurred not only in the current decade, but also took place in the previous one. The price curve shows that prices of agricultural products declined the fastest, and retail prices of food dropped more slowly. The dynamics indicators of these prices were significantly lower than inflation (figure I.6). At the same time, prices of production means for agriculture (prices of purchased goods) increased faster than inflation, and even faster than the price dynamics of products sold by agriculture. This made the price gap wider for the disadvantage of agricultural producers. This phenomenon was slowed down only after Poland entered the EU.

Figure I.6. Prices in the agri-food market (2001 = 100)



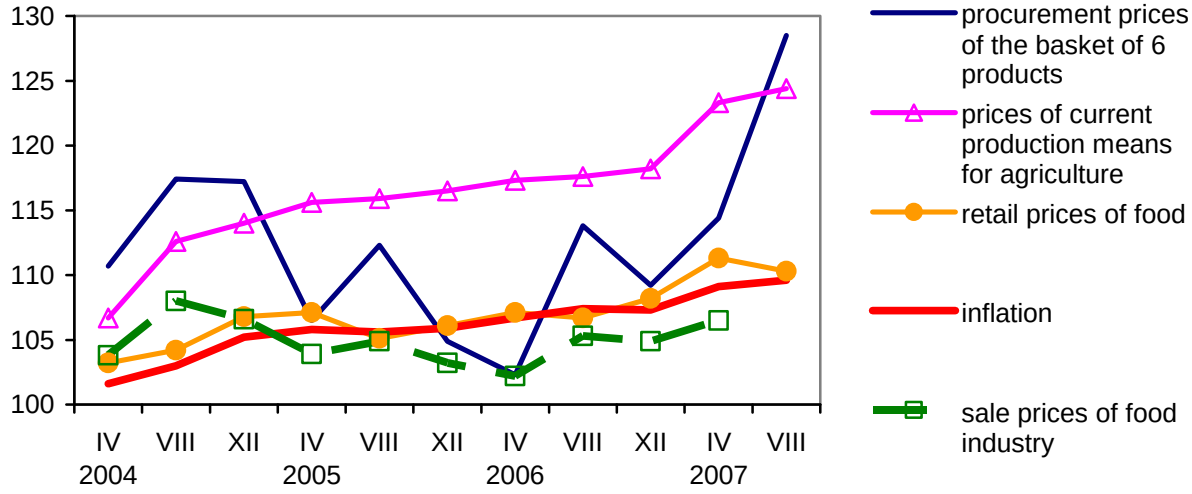
* own estimate

Source: Own calculations on the basis of the CSO data.

In the current decade, the distortions of the aforementioned tendencies of relative decreases in prices of agricultural and food products have occurred twice (cf. figures I.6 and I.7). Such distortion emerged for the first time in the first months after Poland's accession to the EU, when procurement prices of main products increased by as much as approx. 17%, producer prices of food by approx. 8%, and retail prices of food and beverages by approx. 6-7%. Later, until the first months of 2007, prices were by approx. 7-10% higher than at the end of 2003. A post-accession increase in prices of products in the food sector was of a temporary nature. After joining the EU, prices of production means for agriculture grew significantly, in particular fertilisers and machinery, but this tendency

was slowed down in the second and third year after the entry into the EU. At the end of 2006, prices of production means for agriculture were by 17-18% higher than before joining the EU, and the price gap deteriorated in that period by approx. 5-10 percentage points.

Figure I.7. Prices in the agri-food market after Poland's accession to the EU (XII 2003 = 100)



Source: Own calculations on the basis of the CSO data.

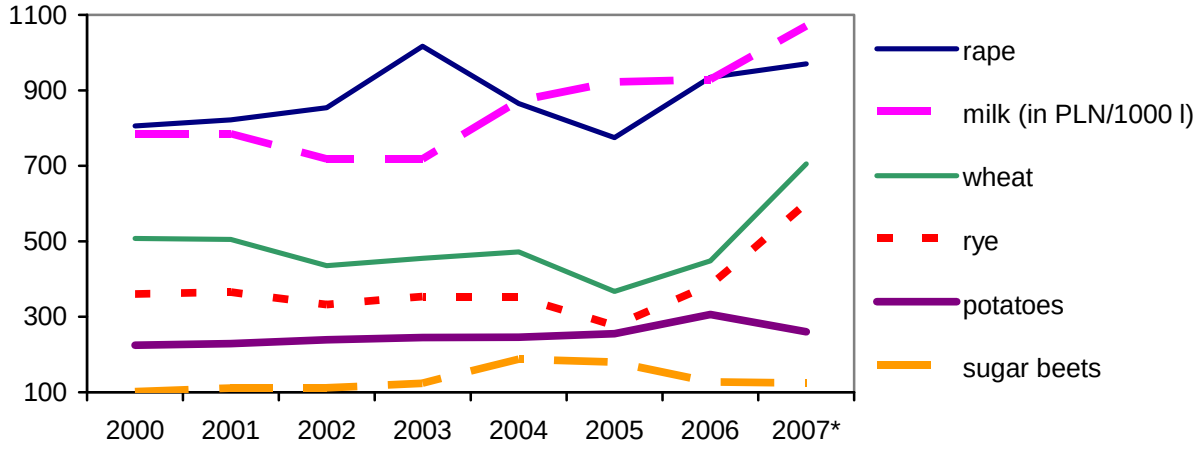
Another great distortion of the price decreasing process of products in the food sector occurred in 2007, which was caused by the situation in the world markets of food leading to a great increase in the world prices of cereals, sugar and fats as well as dairy products. This state contributed to the fact that despite great domestic production, average prices of agricultural products in 2007 will be by approx. 15-17% higher than in the previous year, and the increase in food prices will be approx. 3.5-5% – for retail prices or approx. 5-7% – for sale prices of processing. Prices in the third quarter of 2007 are higher than in the corresponding period of the previous year: procurement prices of six main products – by 19%, retail prices of food – by 5.1%, and producer prices of food – by 5%. In the current year, also prices of production means for agriculture grew (by approx. 6%), but this increase was a few times lower than the increase in prices of agricultural products. This made the curves of both of those prices come closer, and the cumulated price gap came close to, or even exceeded 100%.

Summing up, it is possible to state that in the fourth year after Poland's accession to the EU, the price decreasing process of food and agricultural products finished, and their present relative level is higher than before joining the EU or at the beginning of the current decade. This state is evoked by the situation in the European and world market rather than by a change in the state of the domestic market.

I.2.2. Procurement prices of agricultural products

In the first part of the current decade, prices of cereals showed a significant falling tendency, and prices of poultry and pigs showed a slight falling tendency. Growing tendencies, with great fluctuations, applied to prices of milk, rape, sugar beets, potatoes and cattle for slaughter. A change of the price tendency in the market of cereals occurred before the reaping time of 2006, after which procurement prices of cereals have shown a growing tendency up till now (figures I.8 and I.9).

Figure I.8. Procurement prices of main agricultural products
(annual average, in PLN/tonne)



* IAFE-NRI estimate

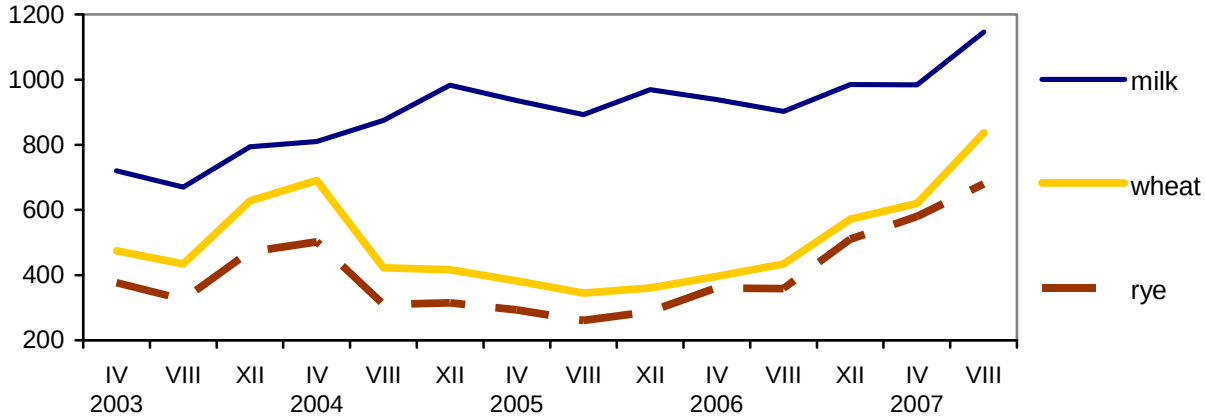
Source: CSO data.

The average price of wheat in 2005 was less than 370 PLN/tonne and was by approx. 27% lower than in 2000. At that time, the price of rye dropped to approx. 280 PLN/tonne, i.e. by 23%. A great fall in both kinds of cereals – by over 20% occurred after the reaping time in 2004. It resulted from the change in the intervention system in the market of cereals, as well as the record harvest in Poland which in 2004 amounted to almost 30 million tonnes.

A falling price tendency in the market of cereals was slowed down in mid-2005. Procurement prices of cereals started to grow and this tendency speeded up in mid-2007. The average procurement price of wheat in 2007 will exceed PLN 700, and that of rye – 600 PLN/tonne. The increase in prices was affected by the following factors:

- low harvest of cereals in 2006 (less than 22 million tonnes),
- lower harvest of cereals in most countries of the EU in 2007, although in Poland it is by 1/4 higher than in 2006,
- high production of pigs and poultry for slaughter (in total 3.3 million tonnes of HCW – Hot Carcass Weight), which are fed with over 65% of cereals produced in the country.

Figure I.9. Procurement prices of cereals and milk in 2003-2007 (in PLN/tonne)



Source: CSO data.

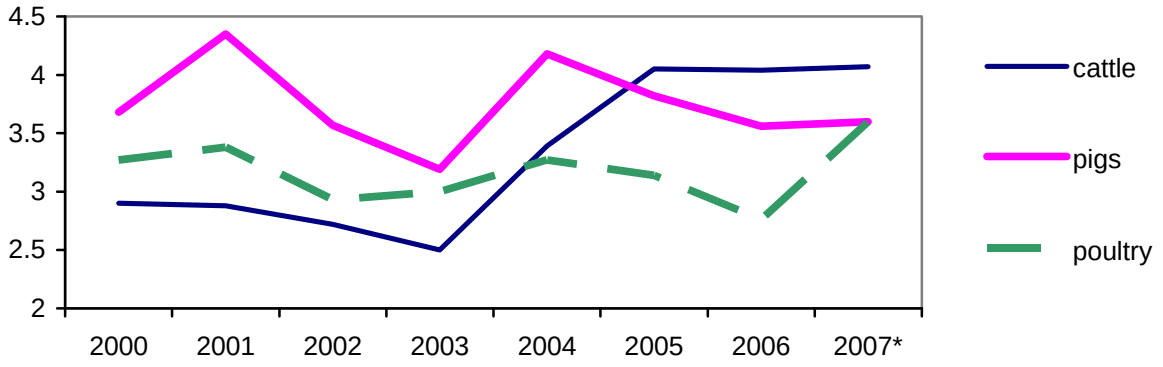
The average procurement price of milk will be close to 1.15 PLN/litre and will be higher by 25% than in 2006, and by 70% than in the third quarter of 2003. The strong increasing tendency which occurred also in the first year after joining the EU returned (figures I.8 and I.9). A great growth in prices of milk in the current year results from increased demand in the domestic market, and above all in foreign markets. A barrier to satisfying the growing demand are limits in milk production.

Procurement prices of pigs and poultry for slaughter after Poland's accession to the EU maintained at a relatively low level. In 2004-2007, prices of pigs ranged between 3.3-4.2 PLN/kg in the subsequent phases of the pig cycle, which with low prices of cereals guaranteed profitability of production of pigs (figures I.10 and I.11). This state did not change until a great increase in prices of cereals in 2007, which deteriorated the relation of prices of pigs for slaughter to prices of rye to a very low level of 5.5 : 1, while for the first previous years, it was at least 8 : 1. A further increase in prices of cereals deteriorates the profitability of breeding pigs even more and will contribute to lowering of production next year, which will lead to a growth in procurement prices. Generally, prices of pigs in Poland are by approx. 10% lower than the average price in the EU-25.

Poland's accession to the EU resulted in a rapid increase in prices of cattle for slaughter – by over 60%, from 2.5 PLN/kg in 2003 to approx. 4.0 PLN/kg, caused by increased export of Polish beef for the extended EU market. In the following years, they stabilised at the level of approx. 4 PLN/kg (figures I.10 and I.11).

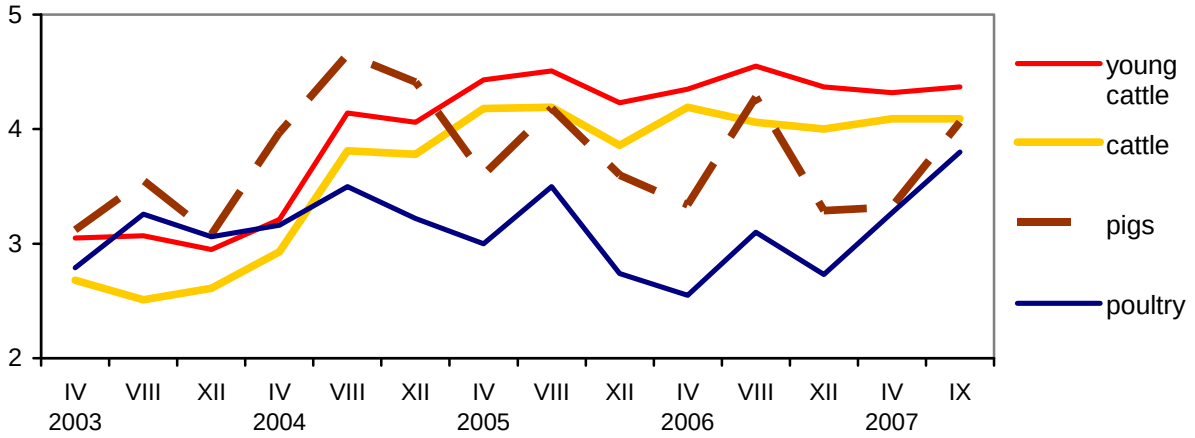
After the fall in prices of poultry for slaughter in 2006 by approx. 12% as compared to 2005, in 2007 its price started to grow. The procurement price of poultry in 2007 will amount to approx. 3.6 PLN/kg and will be by 1/4 higher than in 2006 (figures I.10 and I.11).

Figure I.10. Procurement prices of animals for slaughter
(in PLN/kg, annual average)



* IAFE-NRI estimate
Source: CSO data.

Figure I.11. Procurement prices of animals for slaughter
(in PLN/kg of live weigh)



Source: CSO data.

From among other agricultural products in 2007, procurement prices of rape will grow to approx. 970 PLN/tonne, i.e. by approx. 5%, as compared to 2006. In the previous years rape prices underwent great fluctuations, reaching 20%. Prices of sugar beets will be slightly lower than last year, and will amount to 120-125 PLN/tonne. This is a level by 1/3 lower than in 2004-2005. Also prices of potatoes will be lower by 15% and will amount to approx. 260 PLN/tonne, with much better quality. In the current decade, prices of potatoes have been rather stable. A larger increase in prices (by approx. 20%) was observed only in 2006, which was caused by lower harvest of potatoes (approx. 9 mln tonnes).

The year 2007 is characterised by very high prices of fruit, which more than doubled as compared to 2006 and to the average level in 2003-2005, whereas prices of vegetables, after good harvest in 2007, are slightly lower than the average of the previous years.

I.2.3. Prices of production means for agriculture

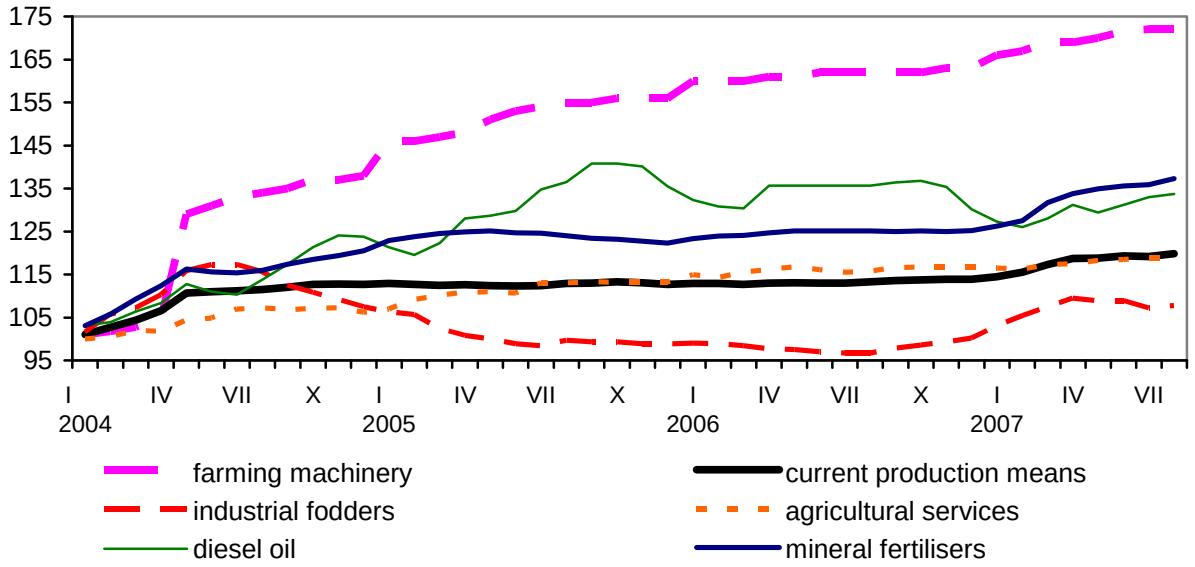
In 2007, in the fourth year after Poland's accession to the EU, the dynamics of increasing prices of production means for agriculture speeded up. In that period they rose by 6.8% on average, with inflation of 1.6%. A slightly higher was an average increase in prices of mineral fertilisers and industrial fodders (table I.1). Prices of agricultural services grew the least. At the end of 2007, prices of production means were by 32% higher than in December 2003.

Table I.1. Changes in prices of production means in 2004-2007 (in %)

Specification	I-VI 2004	VII-XII 2004	I-XII 2005	I-XII 2006	I-VIII 2007
Production means – in total	16.1	2.3	1.0	2.8	6.8
Current production means	11.0	1.5	0.0	1.1	5.2
Mineral fertilisers	15.6	4.2	1.5	2.4	9.7
Farming machinery	30.5	5.8	13.0	4.6	5.4
Industrial fodders	17.3	-8.4	-8.0	1.3	7.6
Diesel oil	11.0	11.5	9.5	-3.9	2.7
Agricultural services	4.9	1.2	6.7	3.0	1.8

Source: Own calculations on the basis of the CSO data.

Figure I.12. Price indices of production means for agriculture (XII 2003 = 100)

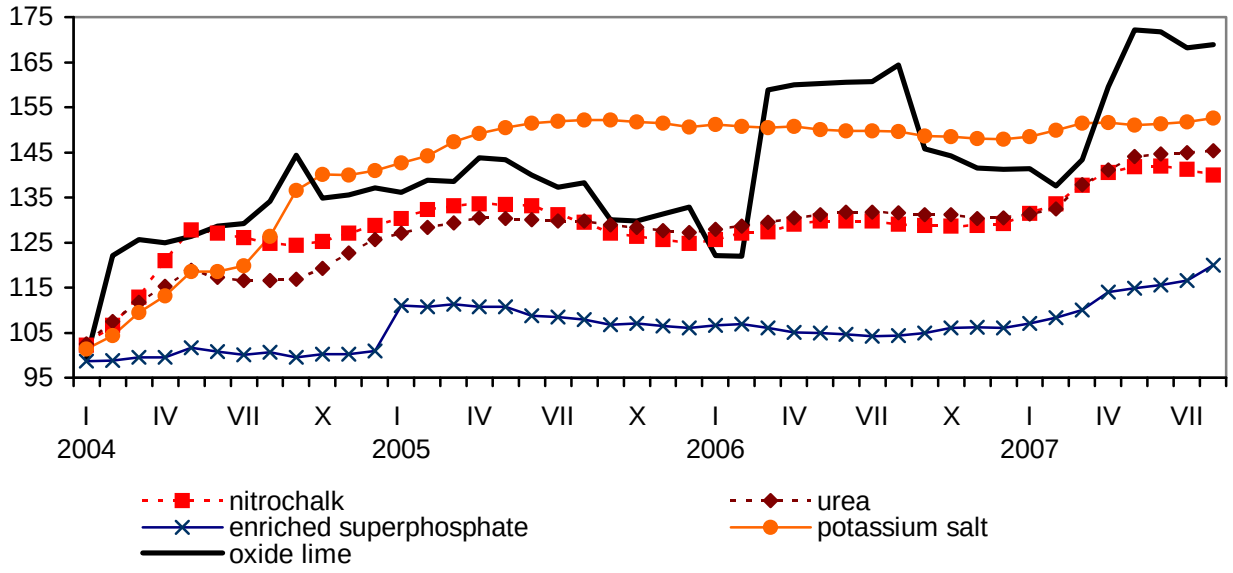


Source: Own calculations on the basis of unpublished CSO data.

In 2006, the increase in prices of mineral fertilisers was of a moderate character, but in 2007 there was a significant acceleration of their dynamics (figure I.13). In the previous year, prices of mineral fertilisers grew by 2.4% on average, while within eight months of 2007 – by 9.7%. The increase in prices of

calcium fertilisers was particularly high (by 19.6%), which will contribute to deepening the regress in soil liming in Poland. Prices of phosphorous fertilisers rose by 14%, and those of nitrogenous fertilisers – by 9.4%. Also prices of multi-component fertilisers grew considerably (an increase by 9.5%). The increase in prices of potassium fertilisers was the lowest (by 3.2%). At the end of 2007, prices of mineral fertilisers were higher than in December 2003 by slightly over 37%.

Figure I.13. Dynamics of retail prices of mineral fertilisers
(XII 2003 = 100)



Source: Own calculations on the basis of unpublished CSO data.

Table I.2. Changes in prices of mineral fertilisers in 2004-2007
(in %)

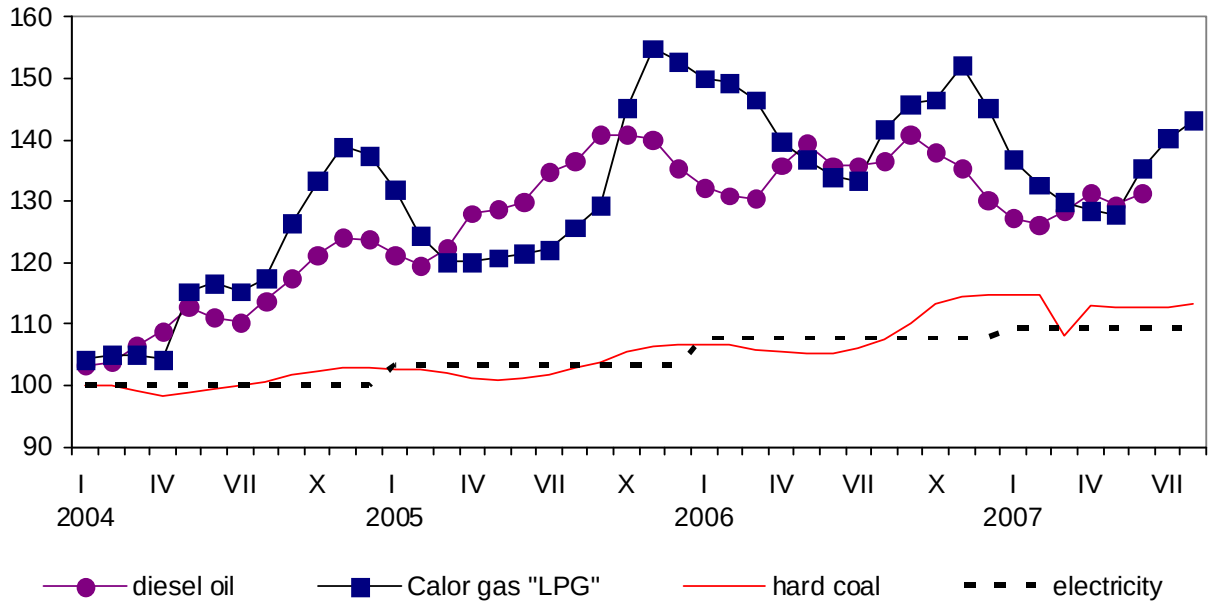
Specification	I-VI 2004	VII-XII 2004	I-XII 2005	I-XII 2006	I-VIII 2007
Nitrochalk	27.1	1.3	-3.3	3.5	8.2
Urea	17.2	7.2	1.3	2.5	11.5
Potassium salt	18.6	18.8	6.8	-1.8	3.2
Granulated enriched superphosphate	0.8	0.1	5.2	0.0	13.1
Oxide lime	28.6	6.6	-3.1	6.3	19.6

Source: Own calculations on the basis of unpublished CSO data.

Prices of liquid fuels, and in particular prices of diesel oil are very important for agriculture. After a temporary fall in prices of diesel oil, in 2007 they increased by 2.7% due to growing prices in the international fuel markets.

At the end of 2007, prices of diesel oil were by almost 34% higher than at the beginning of 2004. In the group of liquid oils, also the price of fuel oil showed a continuous growth, at the level of approx. 54% higher than at the end of 2003. In 2007, the price of electricity was stable (an increase by 1.6%), but with a periodical fall in prices of hard coal, coke and liquid gas.

Figure I.14. Dynamics of retail prices of fuels and electricity
(XII 2003 = 100)



Source: Own calculations on the basis of unpublished CSO data.

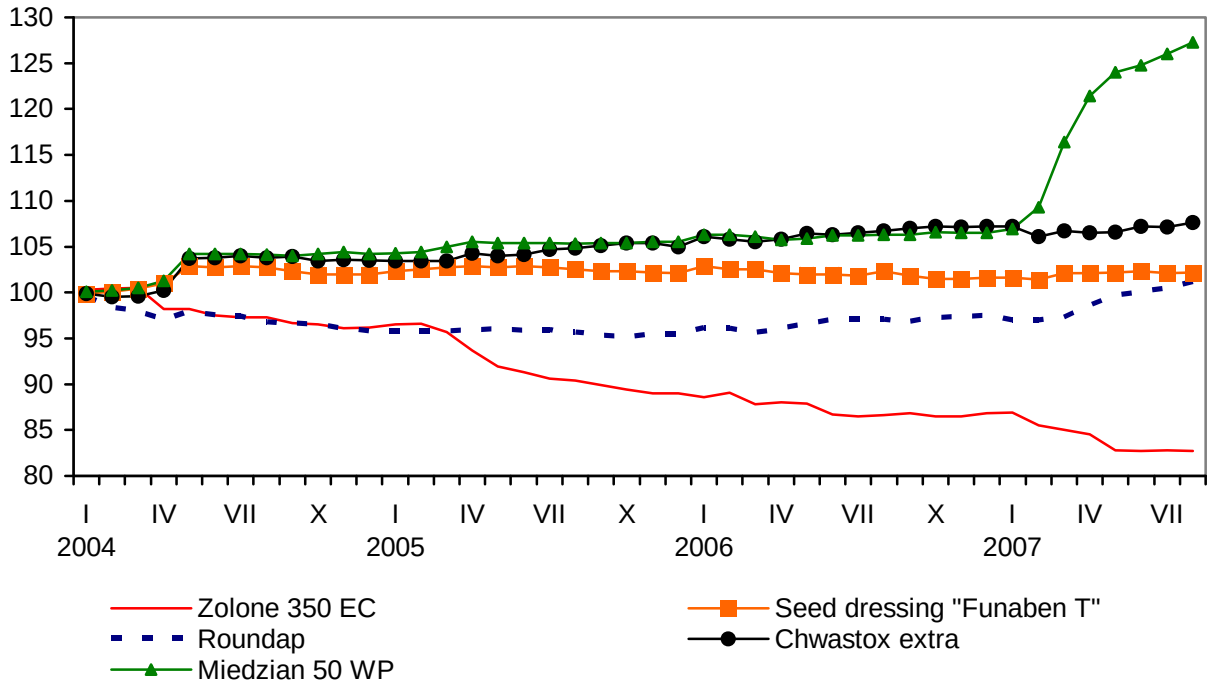
Table I.3. Changes in retail prices of energy carriers in 2004-2007
(in %)

Specification	I-VI 2004	VII-XII 2004	I-XII 2005	I-XII 2006	I-VIII 2007
Diesel oil	11.0	11.5	9.5	-3.9	2.7
Hard coal	-0.7	3.5	3.8	7.6	-1.4
Calor gas “LPG”	16.7	17.8	11.1	-5.0	-1.4
Electricity	0.0	0.0	3.4	4.3	1.6

Source: Own calculations on the basis of the CSO data.

Prices of plant protection chemicals grew insignificantly (by 0.8%) in 2006, mainly due to a growth in prices of herbicides. In the period of eight months of 2007, prices of these chemicals increased by 1.3%. Prices of fungicidal preparations rose the most – by 4.4%, with stabilised prices of herbicides and a slight fall in prices of insecticides.

Figure I.15. Price dynamics of retail prices of plant protection chemicals (XII 2003 = 100)



Source: Own calculations on the basis of unpublished CSO data.

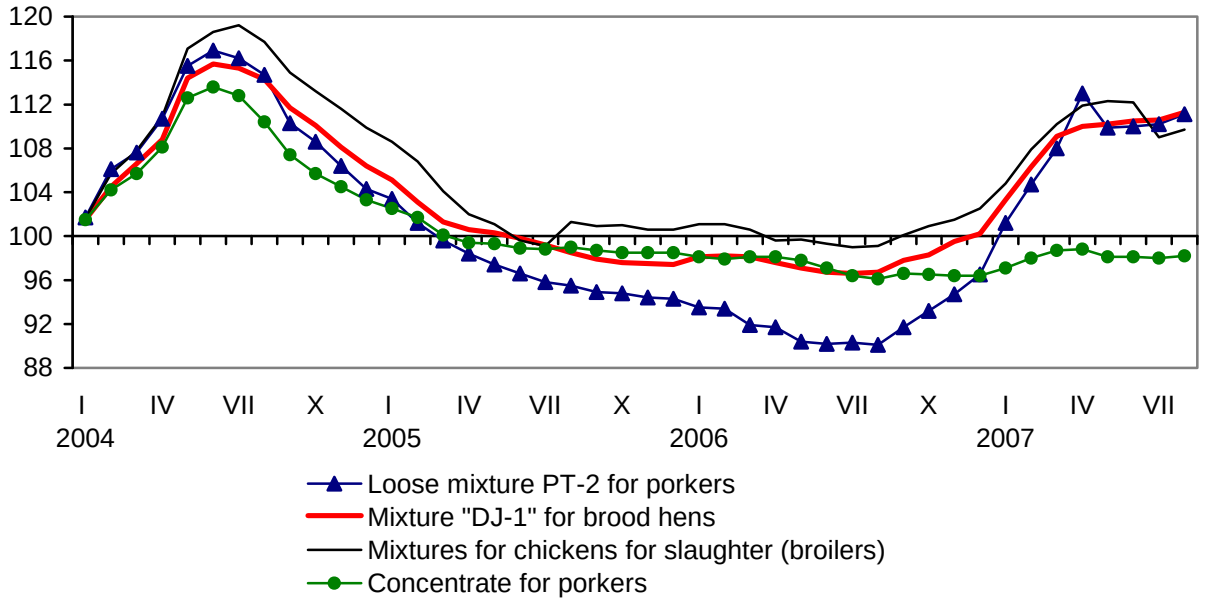
Table I.4. Changes in retail prices of plant protection chemicals in 2004-2007 (in %)

Specification	I-VI 2004	VII-XII 2004	I-XII 2005	I-XII 2006	I-VIII 2007
Zolone 350 EC	-2.5	-1.3	-7.5	-2.5	-4.8
Seed dressing “Funaben T”	2.7	-0.7	0.1	-0.5	0.6
Roundap	-2.4	-1.9	-0.3	2.1	3.7
Chwastox extra	3.8	-0.3	1.4	2.1	0.3
Miedzian 50 WP	4.2	0.0	1.5	1.0	19.5

Source: Own calculations on the basis of the CSO data.

Since mid-2006, after two years of the falling tendency, prices of industrial fodders have increased. Their growth was particularly high in 2007 (by 7.6%). At the end of 2007, prices returned to the level of December 2004 and were by 11.5% higher than in the corresponding period of the preceding year. The growth in prices of industrial fodders has not been so far as significant as in the case of fodder cereals and high-protein resources.

Figure I.16. Retail price dynamics of industrial fodders
(XII 2003 = 100)



Source: Own calculations on the basis of unpublished CSO data.

Table I.5. Changes in retail prices of industrial fodders in 2004-2007
(in %)

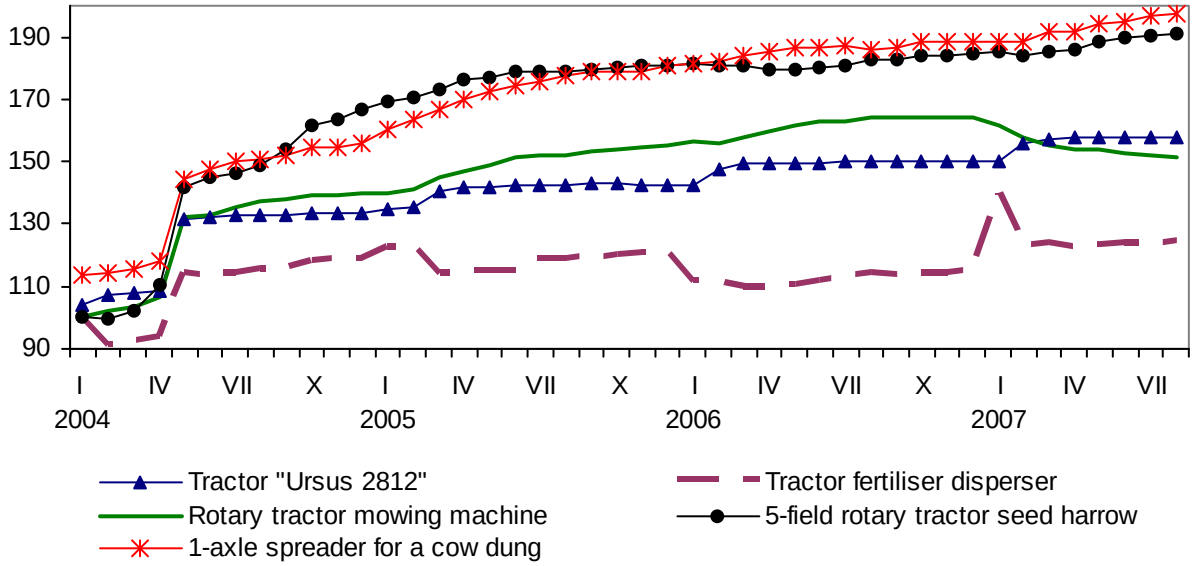
Specification	I-VII 2004	VIII-XII 2004	I-XII 2005	I-XII 2006	I-VIII 2007
Loose mixture PT-2 for porkers	16.2	-10.3	-9.6	2.3	15.1
Mixture ”DJ-1” for brood hen	15.3	-7.7	-8.5	2.9	11.0
Mixture for chickens for slaughter (broilers)	19.2	-7.8	-8.5	1.9	7.0
Concentrate for porkers	12.8	-8.5	-4.7	-2.1	1.9

Source: Own calculations on the basis of the CSO data.

In the market of agricultural services, prices show a constant slow increase. From December 2003 to August 2007, the services were more expensive by 19%, in the period of the past twelve months the prices have increased by 2.6%, while in eight months of 2007 – by 1.8%. The growth in prices of field services was the greatest, by 7.5%, with a lower increase in prices of services connected with animal production, i.e. insemination services by 3.1% and veterinary services by 1.8%, whereas prices of banking services dropped by 1.5%.

Prices of farming machinery show a much more moderate increase. At the end of 2007, average prices of machinery were by approx. 6% higher than last year, but by as much as 70% higher than in December 2003.

Figure I.17. Retail price dynamics of farming machinery (XII 2003 = 100)



Source: Own calculations on the basis of unpublished CSO data.

Table I.6. Changes in retail prices of farming machinery in 2004-2007 (in %)

Specification	I-VI 2004	VII-XII 2004	I-XII 2005	I-XII 2006	I-VIII 2007
Tractor : ”Ursus 2812”	32.3	1.0	6.6	5.2	5.3
Tractor fertiliser disperser	13.5	4.5	2.5	-5.5	8.6
1-axle spreader for a cow dung	47.6	5.5	16.1	4.1	4.9
Rotary tractor mowing machine	32.7	5.2	11.2	5.8	-7.7
5-field tractor crop harrow	44.7	15.0	8.5	2.1	3.6
Suspended cereal sowing machine	41.4	7.6	11.0	4.0	8.0

Source: Own calculations on the basis of the CSO data.

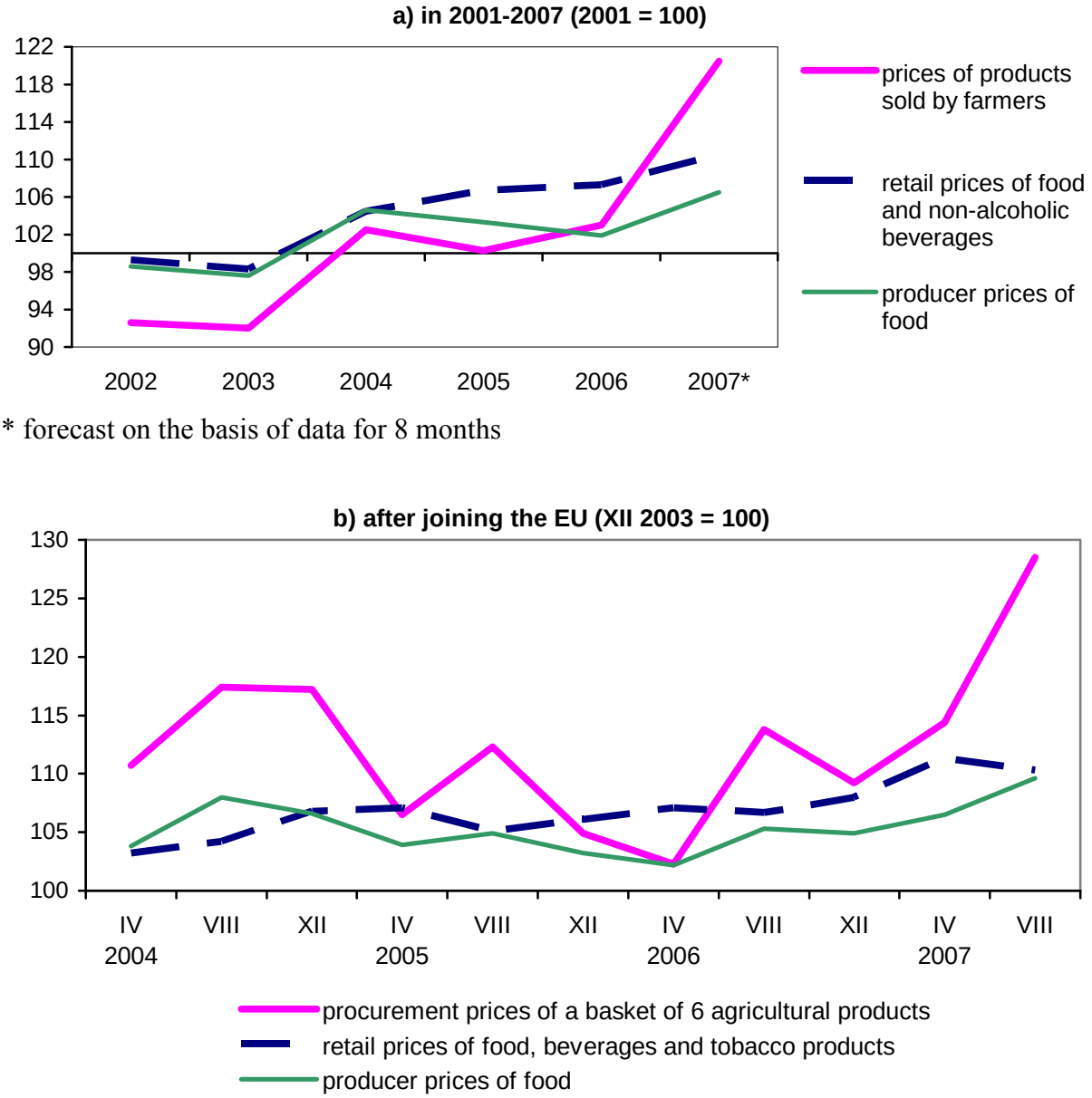
In the recent months the increase in prices of farming machinery has been accompanied by a growth in prices of agricultural products. This will result in a temporary improvement of price relation between farming mechanisation means and agricultural products, which may improve investment capacity of farmers and evoke increased restitution demand.

I.2.4. Producer prices of food

Producer sale prices of food have been more stabilised than prices paid to farmers. Most often indices of prices at the processing level have been lower by a few percentage points than retail price indices of food. In 2007, the relative

level of producer prices of food is by 6.5% higher than in 2001, and by approx. 9.5% higher than the level of December 2003, while prices paid to farmers are higher by approx. 20 and 28%, respectively, and retail prices of food – by approx. 10.5% (figure I.18). These difference confirm the thesis that the activities of agricultural and food processing were and are a factor stabilising the agri-food market. Lower increases in prices of processing products than agricultural and retail prices created market conditions that forced improvement of processing effectiveness.

Figure I.18. Comparison of indices of producer prices to procurement prices and retail prices of foodstuffs

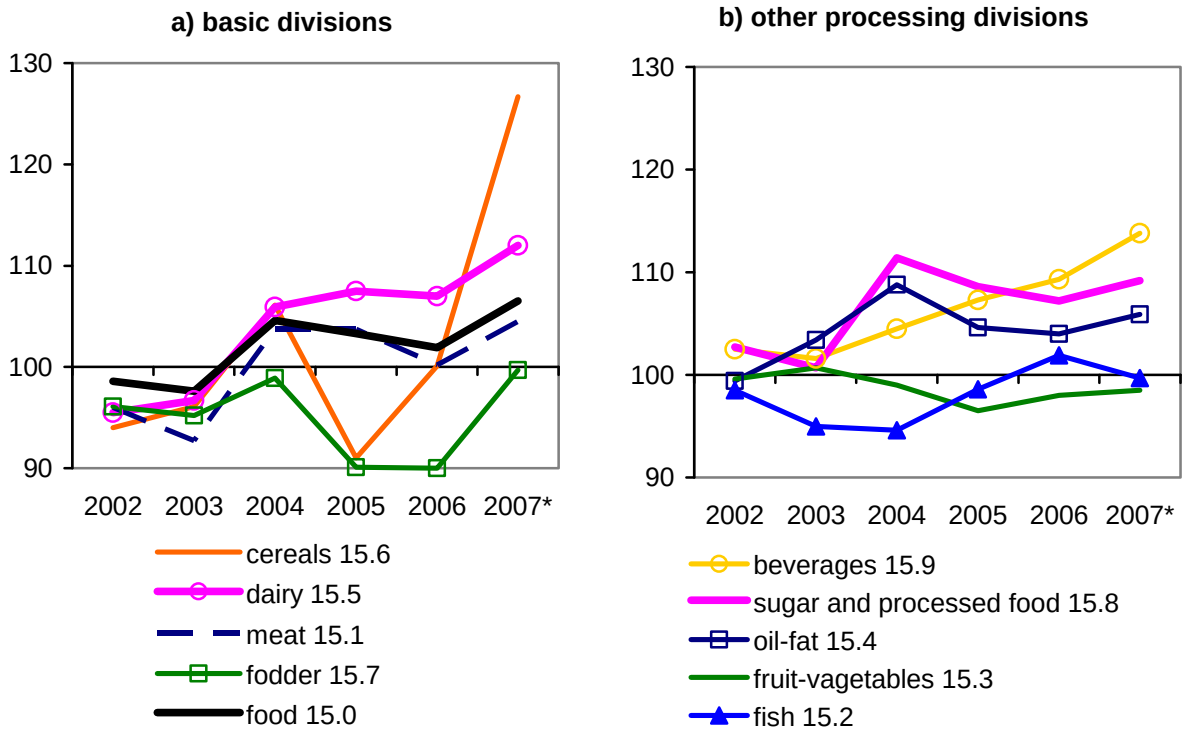


* forecast on the basis of data for 8 months

Source: Own calculations on the basis of the CSO data.

The comparison of indices of sale prices in main divisions of food industry (figures I.19 and I.20) reflects, above all, their considerable diversification. In the years preceding the entry of Poland into the EU, a relative decrease in prices of processing products was a common phenomenon. In that period such a phenomenon was particularly visible in the dairy, meat, fish and fodder sectors. In 2001-2003, an increase in prices occurred only in the case of beverages, fat and other food sectors. After joining the EU, a growing tendency of prices emerged, though with various degrees of intensification, of meat processing and dairy products, and last year, also in the sector of processing of cereals and starch. The growing tendency of sale prices of beverages was constant, whereas prices of other food (highly processed) after great increases, in particular, of sugar prices directly after the entry into the EU, later they were quite stable. Throughout the current decade, sale prices in the sectors of fruit and vegetable processing as well as potatoes, oil, fodder and fish have been quite stable and low. These are sectors in which prices of processing products were decreasing relatively.

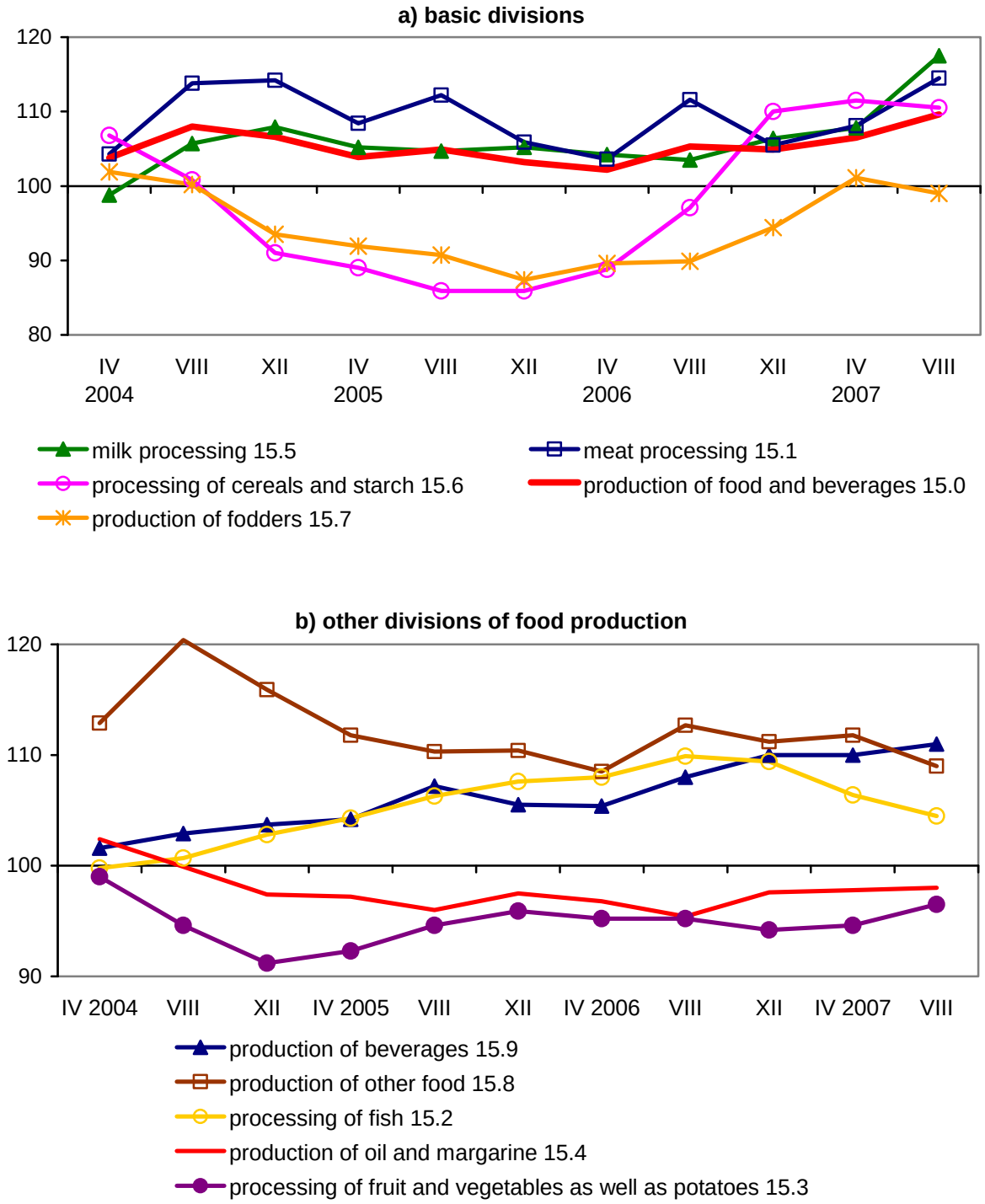
Figure I.19. Price dynamics of sold production of food industry (2001 = 100)



* estimate

Source: Own calculations on the basis of the CSO data.

Figure I.20. Price dynamics of food industry after joining the EU
(XII 2003 = 100)



Source: Own calculations on the basis of the CSO data.

Assessing the development dynamics of sale prices at the processing level, one must indicate that the factor differentiating indices of these prices are such features of demand as sensitivity to changes in income. The comparison of the changes in prices of particular sectors clearly indicates also that there was an increase in prices in divisions which are characterised by income flexibility of

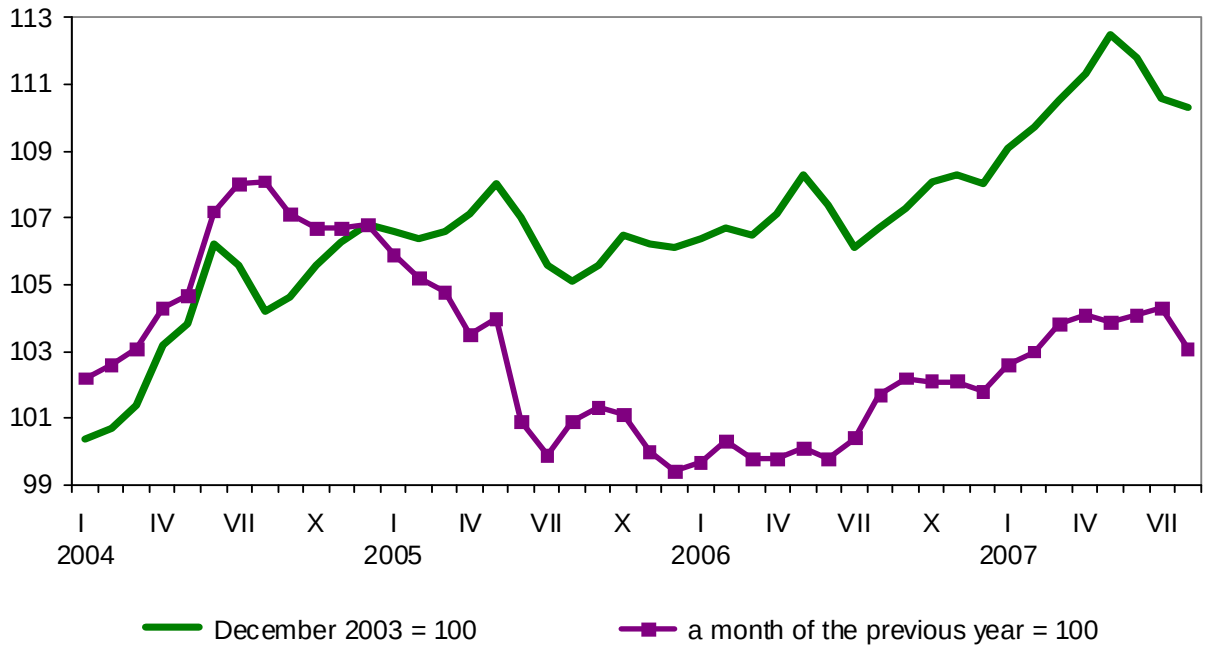
demand that is greater than average. The analyses show that it is easier to overcome the barrier of demand and increase prices in those segments of the market the development of which is connected with the growth of the domestic sale market. These features in the recent years apply to, above all, the market of beverages and highly processed food, as well as the meat and dairy market. Also the fish as well as fruit and vegetables sectors have a great development potential.

I.2.5. Retail prices of food and beverages

Integration with the EU evoked a rapid increase in prices of food, in particular in the 1st half of 2004, but this was a temporary phenomenon, because in 2005, prices started to decline. After over one year of a falling tendency, in mid-2006 prices of food and non-alcoholic beverages started to rise, and in 2007 the dynamics of their increase was greater. In August 2007, prices of food and beverages were by 10% higher than in December 2003. The increases of prices are caused by a few phenomena, among others:

- recovery of domestic demand,
- supply restrictions, resulting from the low harvest in 2006, periodical fall in production of pigs which started at the end of 2007, as well as the low harvest of fruit in 2007 and a rapid increase in agricultural prices in the world.

Figure I.21. Retail price dynamics of food, beverages and tobacco products



Source: CSO data.

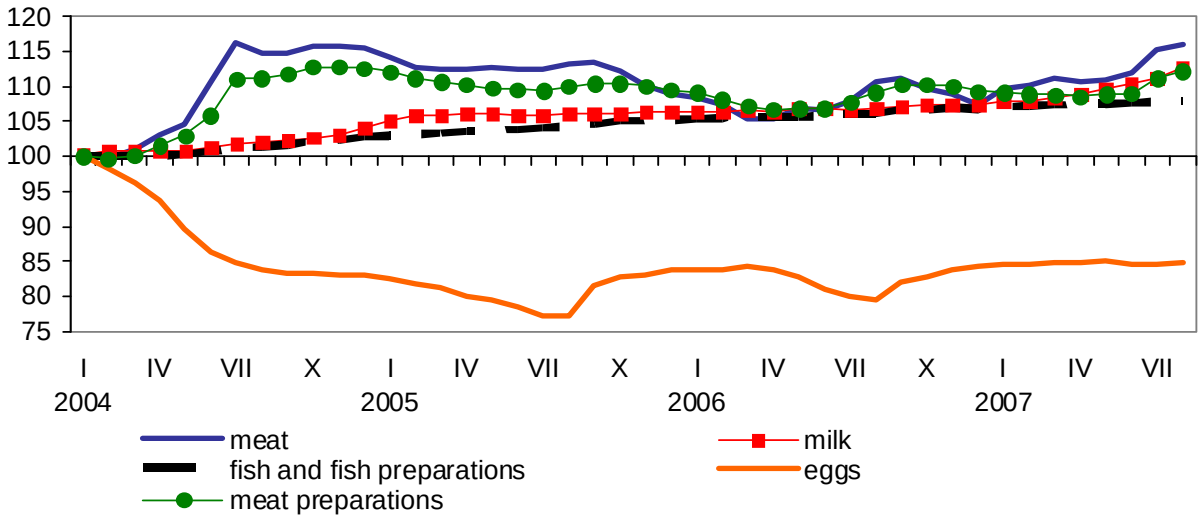
Table I.7. Changes in retail prices of food and beverages in 2004-2007 (in %)

Specification	I-VII 2004	VIII-XII 2004	I-XII 2005	I-XII 2006	I-VIII 2007
Food, beverages and tobacco products	5.6	1.2	-0.7	1.8	2.1
Cereal preparations	5.2	0.6	-0.8	4.9	2.9
of which: bread	4.7	0.1	-0.5	6.4	2.3
mill preparations	9.0	-1.6	-5.0	10.0	8.9
Meat and meat preparations	16.4	-0.7	-5.8	-1.3	7.8
of which: pork	20.2	0.0	-8.4	-0.4	3.6
beef	38.5	0.9	4.0	4.0	1.6
poultry	23.8	-8.6	-15.6	-7.6	35.2
meat preparations	11.1	1.4	-2.8	-0.2	2.7
Fish and fish preparations	1.1	1.7	2.3	1.5	1.0
Milk and cheese	2.3	3.0	-0.4	0.7	3.5
of which: cheese	2.7	3.6	-1.9	-0.2	3.7
Eggs	-15.2	-2.2	1.0	0.4	0.7
Butter	10.9	2.5	-4.4	-1.5	5.9
Vegetable fats	2.2	-0.1	-1.5	0.9	2.7
Lard and pork fat	15.0	22.3	-16.0	-7.0	-0.4
Sugar	71.8	-2.7	-12.0	6.0	-7.0
Confectionary and honey	3.8	1.9	1.5	0.5	1.0
Sauces and spices	1.2	1.0	1.2	1.3	3.0
Non-alcoholic beverages	1.6	0.5	0.7	1.6	3.1
Alcoholic beverages	-0.5	-0.3	0.1	0.6	0.8
Tobacco products	5.7	1.7	7.2	3.6	9.5

Source: CSO data and IAFE-NRI calculations.

In the group of protein products, prices of meat grew the most (figure I.22). In 2007, after two years of a fall, there was an increase in retail prices of meat and its preparations. Within eight months of 2007, prices in this group of food rose on average by 7.8%. The increase in prices of poultry was particularly high (by 35.2%). Also pork was more expensive by 3.6%, and the preparations by 2.7%. In this group, prices of beef increased the least (by 1.6%). At the end of 2007, prices of beef are higher than in December 2003 by approx. 54%, those of poultry – by approx. 20%, those of pork and preparations by approx. 12-14%. Changes in prices of other protein products were different. Prices of fish and fish preparations showed a constant slow increase. Prices of dairy products were rising moderately in 2006, while in 2007 there was a significant acceleration of their dynamics due to the growth in prices of resources. They are by 9.4% higher than at the end of 2003. Prices of milk and ripening cheese rose the most. Also an increase in prices of sour cream, sweet cream and cottage cheese was considerable.

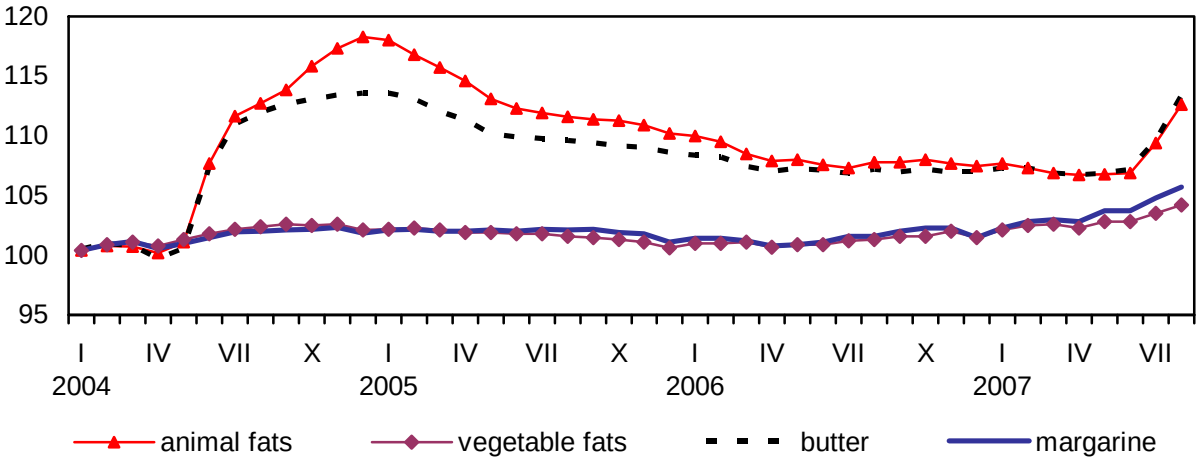
Figure I.22. Retail price dynamics of protein products
(XII 2003 = 100)



Source: CSO data and own calculations.

2006 is another year when prices of edible fats decreased, but to a much lesser degree than last year (figure I.23). Prices of animal fats declined by 2.5%, with a slight growth in prices of vegetable fats by 0.9%. In the group of animal fats, prices of lard and pork fat dropped the most, by 7.0%, and prices of butter decreased by 1.5%. Since the first quarter of 2007 prices of vegetable fats have continued to grow slowly (by 2.7%), but with a significant increase in prices of animal fats by 4.8%, including in particular butter, by 5.9% (table I.7). At the end of 2007 prices of animal fats are higher than in December 2003 by 12.6%, including butter, by approx. 13%, other animal fats – by 9.5%, and vegetable fats – only by 4.2%.

Figure I.23. Retail price dynamics of fats
(XII 2003 = 100)



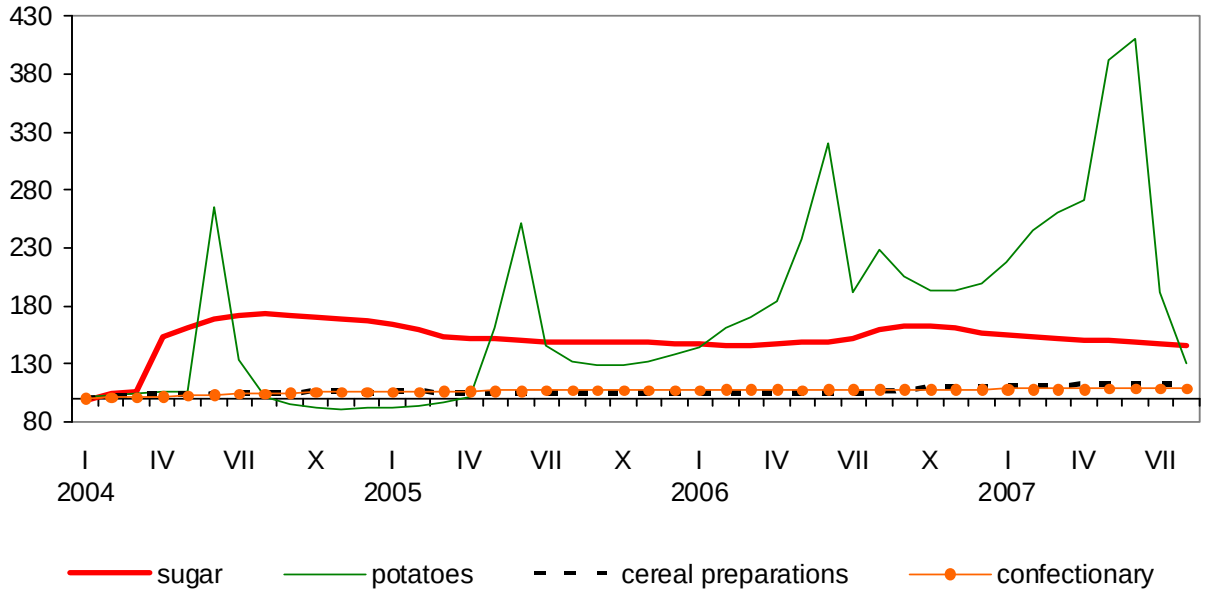
Source: CSO data and own calculations.

In 2006, in the group of carbohydrate products, the increase in prices of potatoes was particularly high due to low harvest. They were by approx. 45% higher than last year. In August 2007 prices of potatoes started to decline.

Changes in prices in the market of cereal preparations were considerable. After two years of stabilised prices of cereal preparations, in 2006 they increased significantly by 4.9%, with a 0.8% fall one year earlier. The greatest growth was in prices of mill preparations by 10%, which resulted in a high increase in prices of bread by 6.4%. In the following months of 2007, the tendency – due to high prices of resources – continued. In the group of cereal products prices of mill preparations grew the most, by 8.9%, and bread by 2.3% (table I.7). In the third quarter of 2007, prices of cereal preparations were by 13.3% higher than at the end of 2003.

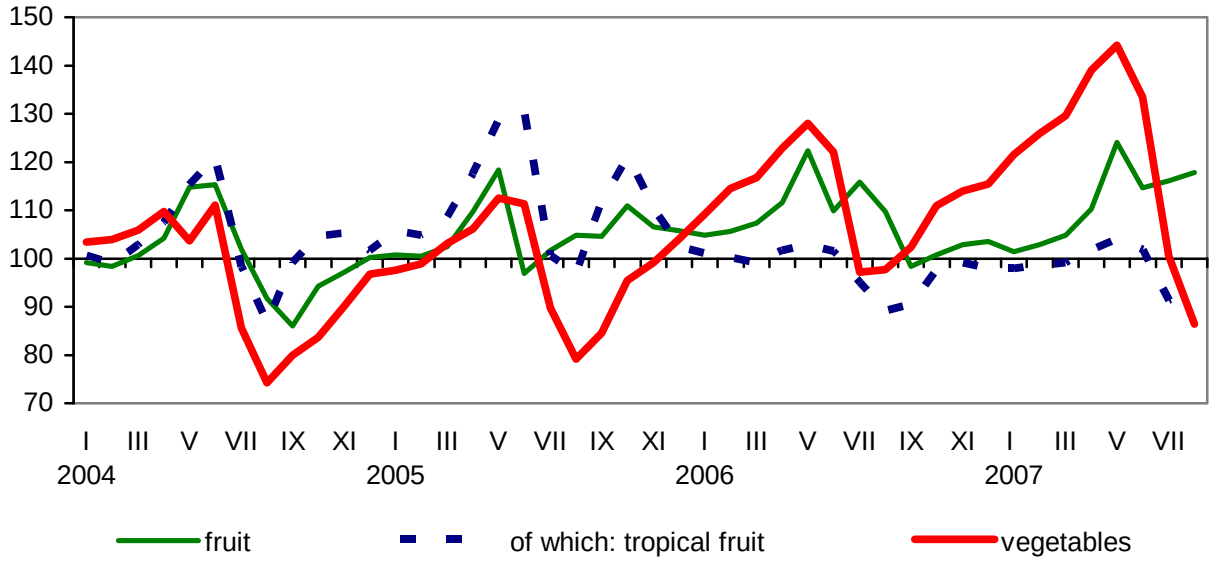
After the great decline in 2005 (by 12%), in 2006 retail prices of sugar rose by 6% (figure I.24). In 2007, prices of sugar showed a decrease and were by 7% lower than in December 2006. Prices of sugar are however by 45% higher than in December 2003. Prices of confectionary and honey are growing systematically, but the increases are of a rather moderate character. In the first quarter of 2007, prices rose only by 0.9%, and currently they are by approx. 9% higher than in December 2003.

Figure I.24. Retail price dynamics of carbohydrate products
(XII 2003 = 100)



Source: CSO and own calculations.

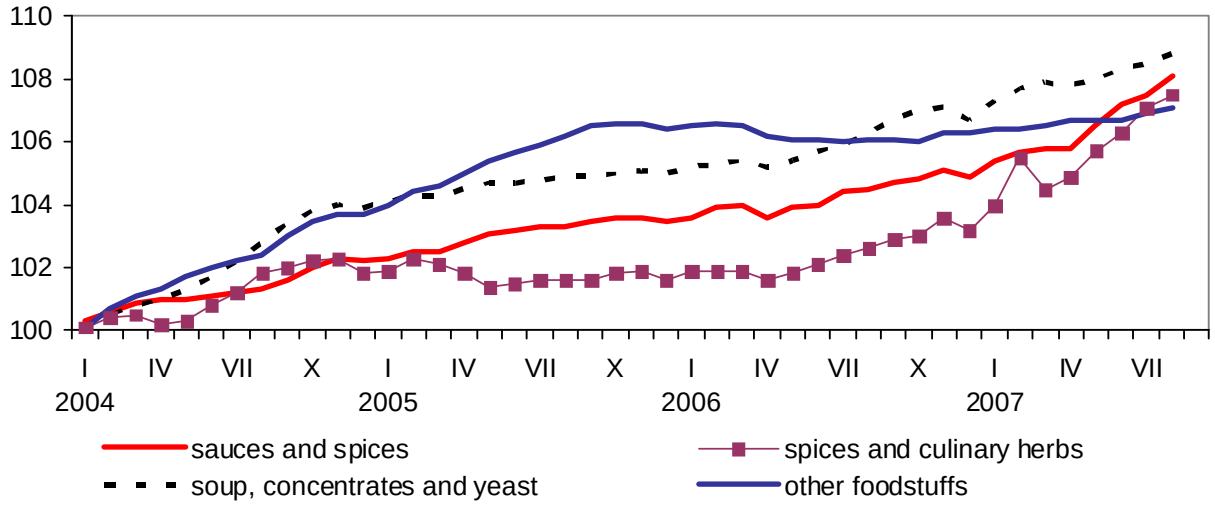
Figure I.25. Retail price dynamics of products containing vitamins
(XII 2003 = 100)



Source: CSO and own calculations.

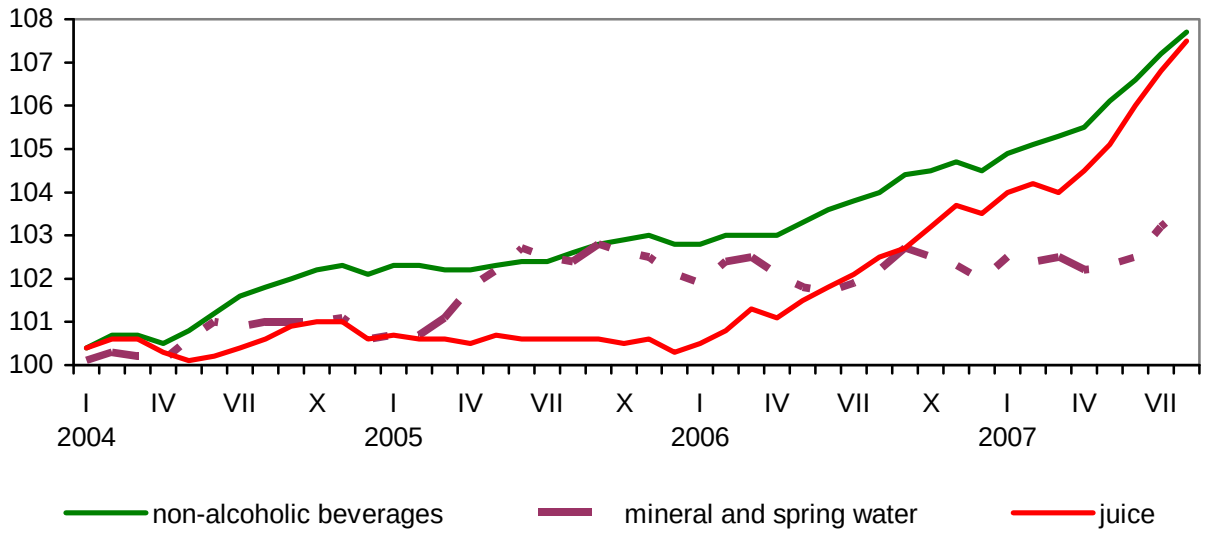
Prices of fruit and vegetables were not very stable. A considerable fall in harvest of fruit made prices of fruit maintain at a very high level. In 2007, prices of domestic fruit will be similar to those of tropical fruit (figure I.25). Within eight months of 2007, prices of fruit rose by 13.8% on average, and those of vegetables dropped by 25.0%. Prices of tropical fruit declined by 5.6%. In the third quarter of 2007, prices of fruit were higher than in December 2003 by 17.8%, and those of vegetables were lower by 13.6%.

Figure I.26. Retail price dynamics of other food products (XII 2003 = 100)



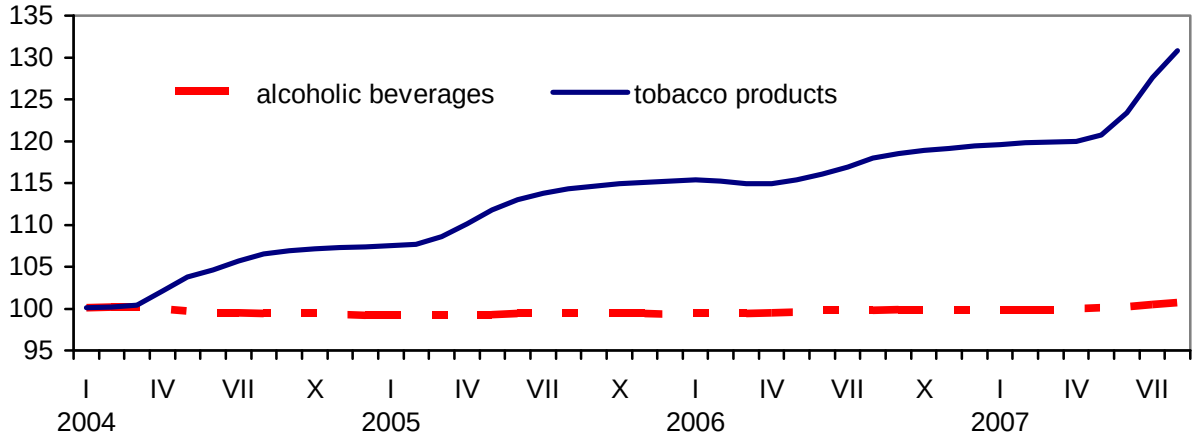
Source: CSO and own calculations.

Figure I.27. Retail price dynamics of non-alcoholic beverages
(XII 2003 = 100)



Source: CSO and own calculations.

Figure I.28. Retail price dynamics of alcoholic beverages and tobacco products
(XII 2003 = 100)



Source: CSO and own calculations.

The increase in prices of other foodstuffs and non-alcoholic beverages was systematic (figures I.26 and I.27). In 2006, prices of non-alcoholic beverages rose by 1.6% on average, and those of sauces and spices – by 1.3% (table I.7). In the following months there was a further slow increase. In August 2007, prices of non-alcoholic beverages were by 7.7% higher than in December 2003. Prices of tobacco products were rising month by month, and those of alcoholic beverages were stable (figure I.28). At the end of 2007, prices of tobacco products are higher than in December 2003 by approx. 31%, and those of alcoholic beverages only by 0.7%.

I.3. Financial support for agriculture, rural areas and food industry

Joining the EU activated additional streams of financial supply of the entire economy. Agriculture under the Common Agricultural Policy received support for income in the form of the so-called direct payments. In the following settlement periods, farms obtained a right to payment of: PLN 7.5 bn in the first period, PLN 8.1 bn in the second period, and 9.4 bn in the previous season (table I.8). These are amounts accounting for approx. 20% of the value of market agricultural output, determining its profitability and sources of financing the operation activity.

Table I.8. Direct payments due

Specification	Year of payment		
	2004/05	2005/06	2006/07
Number of applications in thous.	1382	1456	1471
Payment amounts in PLN million			
Single Area Payment Scheme (SAPS)	2853	3158	3837
Complementary National Direct Payments (CNDP)	3488	3529	3876
Lees Favoured Areas (LFA)	1144	1443	1650
Total Direct Area Payments	7485	8130	9363

Source: Own elaboration on the basis of the materials of ARiMR (Agencja Restrukturyzacji i Modernizacji Rolnictwa) – ARMA (Agency for Restructuring and Modernisation of Agriculture).

Profitability of agricultural production and food processing is affected by contributions to export paid in line with the EU rules to the exporters of cereals, milk, sugar and meat as well as their preparations placing them all in the selected tertiary markets, i.e. outside the EU. In 2006, export subventions exceeded PLN 0.5 bn (table I.9) and were almost five times higher than before joining the EU. They accounted for approx. 7% of the value of export to tertiary markets, and approx. 10% of the profit of food industry enterprises and other exporters. Increases in world prices limited subsidising of export, which results in a great reduction of payment of those grants (to approx. PLN 0.2 bn in 2007). Export subventions have also an indirect influence on profitability of agriculture, although to a few times lower degree than direct payments.

A separate and abundant source of financial supply for food economy and rural areas are subsidies of various types, provided under the pre-accession programme SAPARD, and in 2004-2006 under the Rural Development Programme (RDP) and the Sectoral Operational Programme (SOP). These programmes supported investments aimed at modernisation and adjustment to the standards of the EU farms and food industry enterprises, infrastructure development and

structural changes of rural areas and agriculture. So far, over PLN 15 bn (table I.10) has been paid for those purposes, but with a constantly growing amounts of such payments from PLN 0.8 bn in 2002-2003 to almost 6 bn in 2006. They will reach a similar level also in 2007. Among those expenditures, subsidies for investments of farms have amounted so far to PLN 6 bn in total, and for investments of food industry enterprises – approx. PLN 2.5 bn. In 2004-2006, those subsidies accounted for over 50% of investment outlays in agriculture, approx. 10% of investment value in food industry, but 30% of investment in the so-called sensitive sectors.

Table I.9. Value of paid export subventions (in PLN million)

Specification	2003	2004		2005	2006	2007 I-IX
		until 30 IV	after 30 IV			
Dairy products	13.7	-	31.8	135.0	85.6	108.5
Sugar	-	-	73.3	181.1	409.1	24.5
Beef and veal	-	-	11.1	47.0	21.0	11.2
Pork	91.4	39.7	0.1	5.7	9.2	5.8
Cereals	14.8	8.8	0.5	10.8	14.2	1.8
Poultry	-	-	0.3	2.2	2.1	2.3
Total	119.9	48.5	117.1	381.8	541.2	154.1

Source: Data of ARR (Agencja Rynku Rolnego) – AMA (Agricultural Market Agency).

Table I.10. Payments from SAPARD, RDP and SOP programmes (in PLN million)

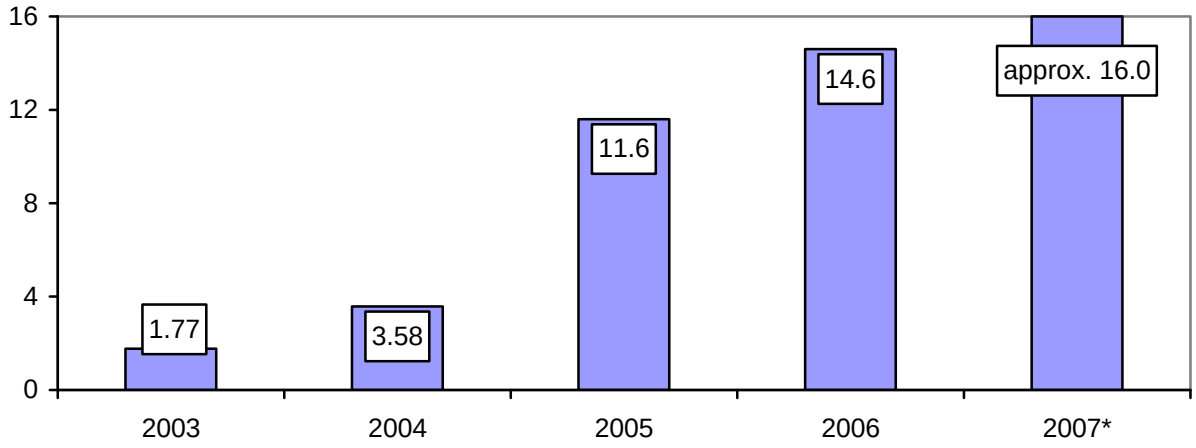
Specification	2002-2003	2004	2005	2006	2007[a]
Investments of farms	66.0	393.6	451	3398	1676
Investments in processing	114.9	448.9	972	772	243
Investments in infrastructure	618.9	461.0	1166	422	273
Other, RDP[b] and SOP	-	71.5	1151	1331	1511
Total	799.8	1375.0	3740	5923	3703

[a] RDP according to the status until 26 X 2007, and SOP in the first half-year; [b] without CNDP and LFA

Source: Own elaboration of the ARMA data.

Support for all forms of activity (operational and investment types) in agriculture, rural areas and their surroundings (along with processing) in the recent five years has totalled approx. PLN 47.5 billion. At that time, it had a strong growing tendency: from approx. 1.8 bn in the pre-accession period to PLN 3.6 bn in the first year after joining the EU, approx. PLN 15 bn in 2006 and 2007 (figure I.29).

Figure I.29. Financial support for the agricultural sector connected with joining the EU (in PLN billion)



* own estimate on the basis of incomplete data

Source: Tables I.8-I.10.

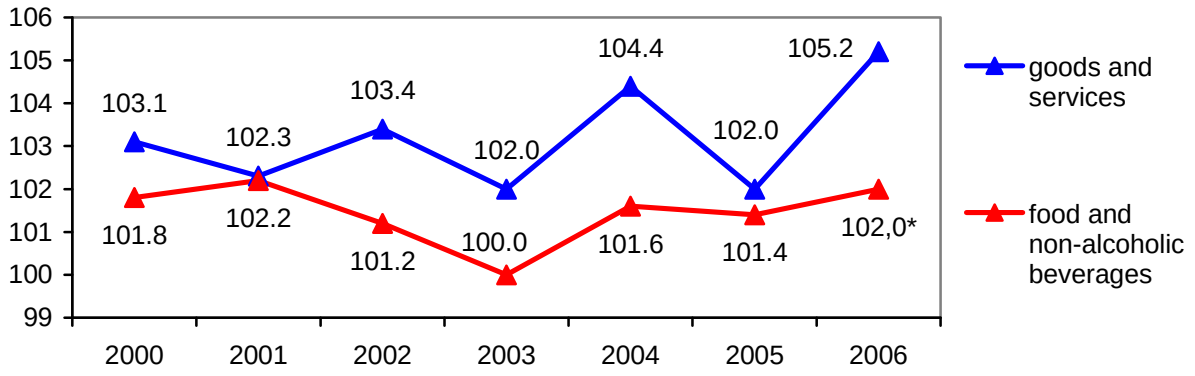
Considerable and systematically growing financial support of the agricultural sector significantly changes the functioning conditions of people living in rural areas, farms and agriculture related enterprises. The main advantage of this support is improvement of the income situation in this sector, acceleration of modernisation processes and structural changes in rural areas, agriculture and the surroundings. At the same time, such a great scale of subsidising weakens the need for improved effectiveness of management and leads to "blurring" of the economic account. Beneficiaries of public aid are privileged in relation to the entities not using such aid.

II. Demand for food and other processing products

II.1. Domestic demand for food

Fast economic development in 2006-2007 improved the income situation of people. It is particularly visible in farmers' households. This entails dynamically growing demand of farms for consumer goods and services. According to global accounts in 2006, it was by 5.2% higher, and in the first half of 2007 by 6.0% higher than in the previous year. Demand for food is growing as well, although definitely more slowly. In the period of integrating of Poland with the EU, a slight increase in demand for food resulted from a high growth in prices of food and non-alcoholic beverages (by 6.3% in 2004) as well as the lack of improvement in the income situation of people.

Figure II.1. Dynamics of individual consumption in households from personal income according to global accounts
(constant prices; previous year = 100)



* own estimate

Source: Own elaboration on the basis of the CSO data.

In 2006-2007, in certain markets again increased demand for agricultural and food products is observed. In 2006, consumption of meat, fish, dairy products, butter and vegetable fats was greater than in the previous year, while it was lower in the case of sugar, raw and melted animal fats, cereal preparations, potatoes and eggs. Preliminary estimates of balances of agricultural and food products indicate that in 2007 there was a further increase in meat consumption, although it was lower than in the previous year (table II.1). Also consumption of eggs, vegetable fats and vegetables will grow as well. Consumption of dairy products, butter, vegetable fats, sugar and potatoes will be similar as last year. Only consumption of fish, cereal preparations and fruit will decrease, due to low harvest (of apples in particular) this year and a considerable growth in prices.

Table II.1. Consumption of basic foodstuffs
(in kg per capita, according to balance data)

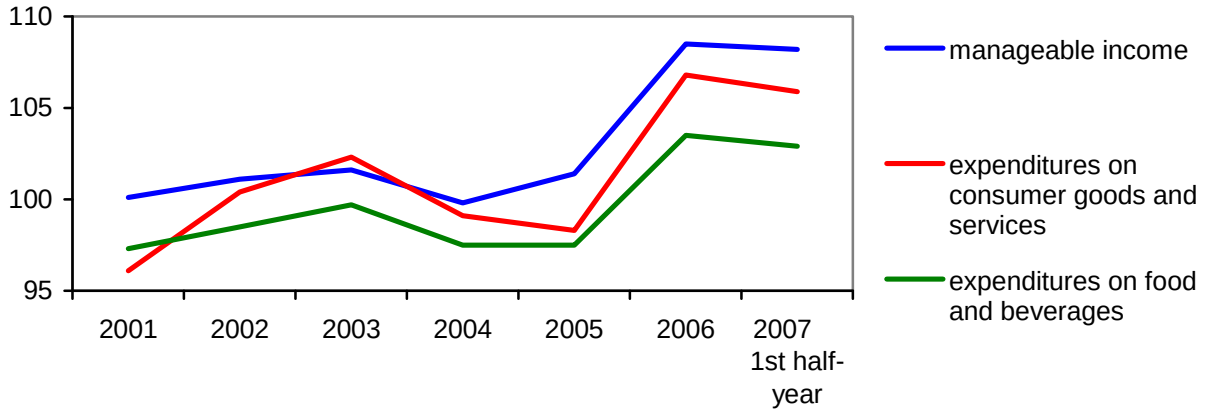
Specification	2003	2004	2005	2006	2007[a]	2008[b]	2006/2005 in %	2007/2006 in %	2008/2007 in %
Meat and meat preparations	72.1	71.8	71.2	74.3	76.0	75.5	4.4	2.3	-0.7
of which: pork	41.2	39.1	39.0	41.4	42.0	41.0	6.2	1.4	-2.4
beef	5.8	5.3	3.9	4.5	4.5	4.0	15.4	0.0	-11.1
poultry	19.7	22.2	23.4	23.7	24.0	25.0	1.3	1.3	4.2
Fish and fish preparations[c]	11.6	12.7	11.4	11.9	11.4	11.6	4.4	-4.2	1.8
Liquid milk (in l)	181	174	173	176	176	174	1.7	0.0	-1.1
Eggs (in pcs)	214	211	215	214	216	217	-0.5	0.9	0.5
Edible fats	29.2	30.7	30.6	30.4	30.6	30.7	-0.7	0.7	0.3
of which: animal fat	6.9	6.6	6.6	6.1	6.1	6.1	-7.6	0.0	0.0
vegetable fat	17.6	19.7	19.8	20.0	20.2	20.4	1.0	1.0	1.0
butter	4.7	4.4	4.2	4.3	4.3	4.2	2.4	0.0	-2.3
Sugar	40.5	37.6	40.1	33.4	33.4	34.0	-16.7	0.0	1.8
Cereal preparations	120	119	119	117	114	113	-1.7	-2.6	-0.9
Potatoes	130	129	126	121	121	120	-4.0	0.0	-0.8
Vegetables	110	111	110	109	112	110	-0.9	2.8	-1.8
Fruit	54.5	55.0	54.1	54.4	52.0	54.0	0.6	-4.4	3.8

[a] own estimate, [b] own forecast, [c] in live weight, the Sea Fisheries Institute data

Source: Own elaboration on the basis of the CSO data, the Sea Fisheries Institute data and own calculations.

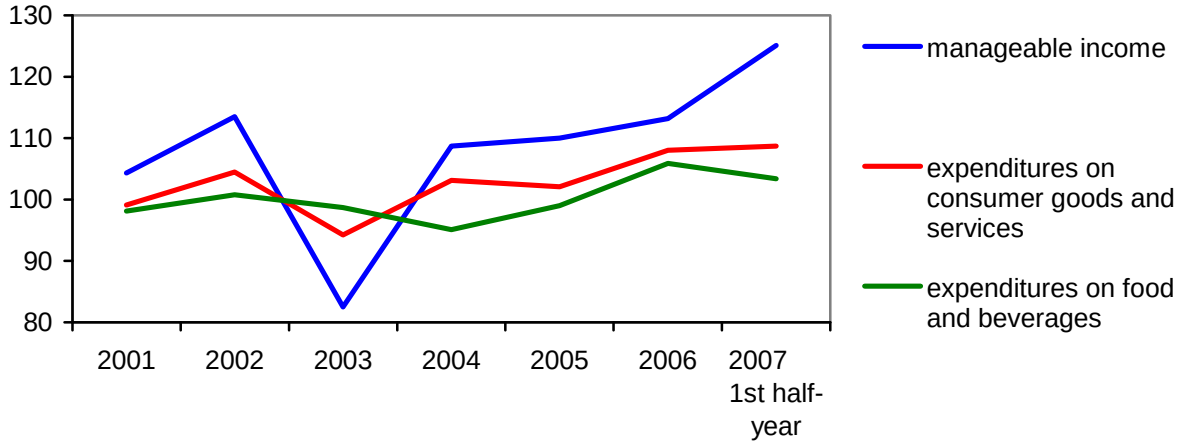
The surveys of family budgets indicate that in the first half of 2007, the financial situation of households was good and similar to the one last year. Despite higher inflation (2.2%, with 0.7% in the first half of 2006), in total households, the real value of income grew considerably (by 8.2%), as well as expenditures (by 5.9%) (figures II.2 and II.3). The greatest growth in the real value of manageable income, as well as expenditures on consumer goods and services occurred in farmers' households (by 25.1 and 8.7%, respectively), just like in 2005-2006. A considerable improvement of the income situation in this group of households resulted from maintaining favourable price relations of agricultural products to goods and services purchased by farmers. The "price gap" in the first half of 2007 was 102.6, with 102.9 in 2006. The growing subsidies from the EU and national aids were also of a great significance. Despite an improved financial situation, income as calculated per 1 person in farmers' households continued to be considerably lower than average for the entire population of households.

Figure II.2. Dynamics of income and expenditures of households according to surveys of family budgets (real, previous year = 100)



Source: Own elaboration on the basis of the CSO data.

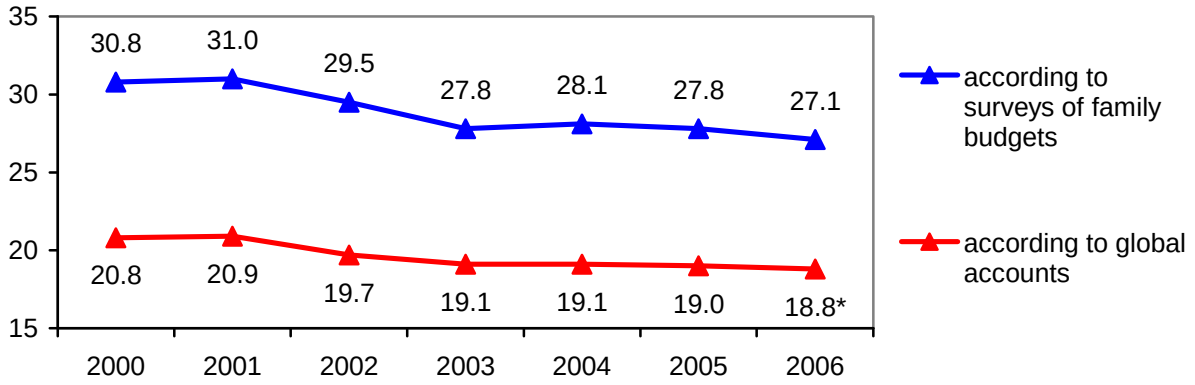
Figure II.3. Dynamics of income and expenditures of farmers' households according to surveys of family budgets (real, the previous year = 100)



Source: Own elaboration on the basis of the CSO data.

In the first half of 2007, real expenditures of households on food and non-alcoholic beverages, with an increase of its retail prices (by 3.9% in relation to the first half of 2006), were higher (by 2.9%), but their share in total expenditures of households decreased again. In the first half of 2007, households assigned 27.1% of their monthly budget on average, to food and non-alcoholic beverages, i.e. by 0.2 p.p. (p.p. – percentage point) less than in the first half of 2006 and by 1.4 p.p. less than in the first half of 2005. Expenditures on food continued to burden budgets of farmers' households. Their share in expenditures of farmers' households in the first half of 2007 amounted to 34.8% and was by 1.3 p.p. lower than in the first half of 2006 and by 2.1 p.p. lower than in the first half of 2005.

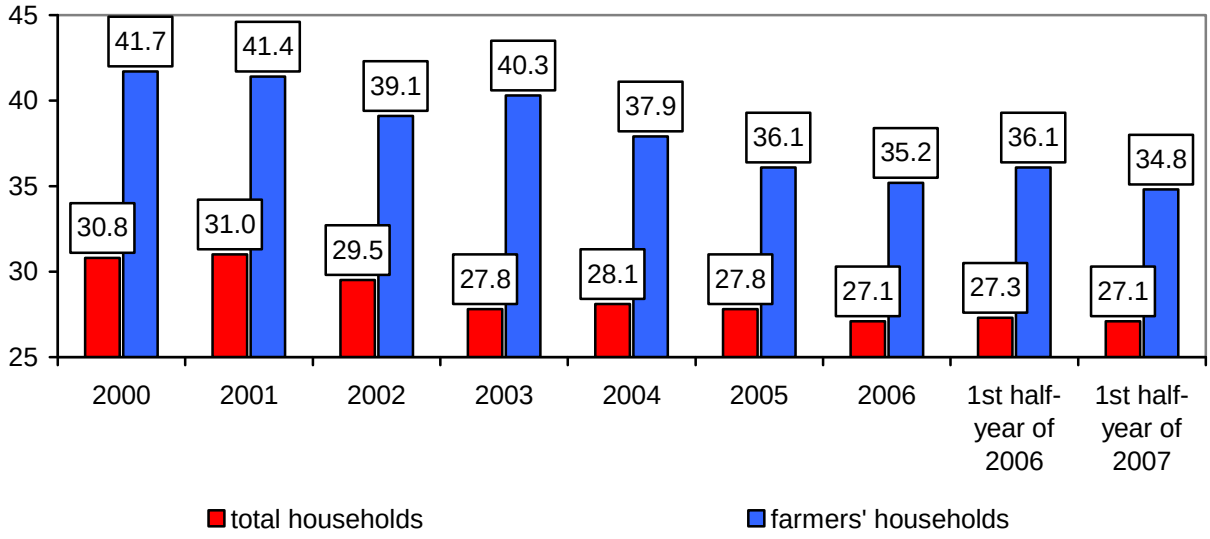
Figure II.4. Share of food and non-alcoholic beverages in expenditures of people (in %, the previous year = 100)



* own estimate

Source: Own elaboration on the basis of the CSO data.

Figure II.5. Share of food and non-alcoholic beverages in expenditures of households (in %)



Source: Own elaboration on the basis of the CSO data.

In households in the first half of 2007, just like in 2006, there was a fall in demand for basic foodstuffs with a simultaneous increase in demand for highly processed food (products convenient in use, but at the same time, more expensive). As compared to the first half of 2006 (table II.2):

- consumption of cereal preparations (as a result of further great fall in bread, flour as well as groats and flakes), liquid milk, raw and melted animal fats and vegetable fats, potatoes, vegetables, eggs and raw meat (as a result of decreased consumption of beef and poultry) declined,
- consumption of butter was at an unchanged level,

- consumption of fruit, dairy products (excluding liquid milk), fish and pork increased.

Table II.2. Average monthly consumption of foodstuffs in households (in kg/1 person, according to surveys of family budgets)

Specification	2003	2004	2005	2006	1st half of 2006	1st half of 2007	1st half of 2007 / 1st half of 2006 in %
Total households							
Meat and meat preparations	5.59	5.43	5.48	5.40	5.30	5.27	-0.6
of which: beef	0.20	0.18	0.14	0.13	0.13	0.12	-7.7
pork	1.41	1.33	1.34	1.32	1.32	1.34	1.5
poultry and processed poultry	1.75	1.71	1.75	1.73	1.68	1.63	-3.0
Fish and fish preparations	0.41	0.41	0.42	0.42	0.38	0.39	2.6
Liquid milk (in l)	4.89	4.60	4.43	4.12	4.13	3.87	-6.3
Cheese	0.89	0.87	0.87	0.89	0.88	0.89	1.1
Eggs (in pcs)	15.16	14.89	15.16	14.02	14.31	13.73	-4.1
Edible fats	1.61	1.57	1.53	1.46	1.45	1.39	-4.1
vegetable fats	0.99	1.01	1.00	0.97	0.96	0.92	-4.2
butter	0.37	0.33	0.31	0.31	0.30	0.30	0.0
regular tissue fats	0.24	0.22	0.21	0.19	0.19	0.17	-10.5
Sugar	1.69	1.62	1.53	1.51	1.39	1.33	-4.3
Cereal preparations	8.82	8.68	8.44	8.05	8.05	7.68	-4.6
Potatoes	7.12	6.91	6.68	5.72	4.72	4.44	-5.9
Vegetables and vegetable preparations[a]	5.41	5.27	5.59	5.19	4.00	3.95	-1.3
Fruit and fruit preparations	3.99	3.91	3.72	3.55	3.11	3.21	3.2
Farmers' households							
Meat and meat preparations	7.17	6.79	6.83	6.88	6.59	6.66	1.1
of which: beef	0.12	0.08	0.07	0.07	0.08	0.07	-12.5
pork	2.50	2.24	2.28	2.30	2.25	2.40	6.7
poultry and processed poultry	1.83	1.87	1.92	1.89	1.73	1.64	-5.2
Fish and fish preparations	0.36	0.34	0.37	0.36	0.33	0.35	6.1
Liquid milk (in l)	8.22	7.39	6.66	6.41	6.36	5.76	-9.4
Cheese	0.84	0.78	0.77	0.76	0.75	0.72	-4.0
Eggs (in pcs)	18.28	17.79	17.93	17.11	17.70	16.70	-5.6
Edible fats	1.87	1.73	1.64	1.57	1.54	1.51	-1.9
vegetable fats	1.05	1.04	0.98	0.97	0.93	0.94	1.1
butter	0.34	0.31	0.28	0.28	0.27	0.27	0.0
regular tissue fats	0.49	0.39	0.38	0.32	0.33	0.30	-9.1
Sugar	2.32	2.29	2.18	2.14	1.91	1.85	-3.1
Cereal preparations	10.84	10.56	10.13	9.65	9.55	9.23	-3.4
Potatoes	9.90	8.99	8.48	7.91	7.72	6.98	-9.6
Vegetables and vegetable preparations[a]	6.61	6.37	6.48	6.22	4.37	4.19	-4.1
Fruit and fruit preparations	3.94	3.97	3.66	3.60	2.69	2.85	5.9

[a] excluding leguminous vegetables, potatoes and their preparations

Source: Own elaboration on the basis of the CSO data.

In the first half of 2007, structural transformations in consumption of food, which started in the previous decade, continued. There was a further increase in the share of tropical fruit in consumption of fruit. Also the share of liquid milk in consumption of dairy products kept falling, as well as the share of bread and flour in consumption of cereal products. However the increased share of poultry and processed poultry in consumption of meat and its preparations was slowed down, as well as the increased share of vegetable fats in consumption of fats. This did not apply to farms, in the diet of which a growth in the share of vegetable fats was observed.

Table II.3. Average monthly consumption of highly processed food in households (in kg/1 person, according to surveys of family budgets)

Specification	2003	2004	2005	2006	1st half of 2006	1st half of 2007	1st half of 2007 / 1st half of 2006 in %
Total households							
High category processed meat and dry sausage	0.44	0.49	0.54	0.57	0.55	0.57	33.3
Pasta	0.37	0.38	0.36	0.37	0.37	0.38	2.7
Cake products	0.59	0.59	0.59	0.62	0.61	0.63	3.3
Yoghurts	0.37	0.36	0.34	0.37	0.38	0.44	15.8
Milk beverages	0.27	0.27	0.25	0.27	0.26	0.27	3.8
Chocolate	0.08	0.09	0.08	0.09	0.09	0.09	0.0
Ice-cream (in l)	0.18	0.17	0.17	0.19	0.17	0.20	17.6
Mineral water (in l)	1.97	1.89	2.13	2.62	2.37	2.76	16.5
Fruit and vegetable juice (in l)	0.97	0.95	1.00	1.10	1.14	1.10	-3.5
Share of expenditures on gastronomy in expenditures on food (in %)	5.52	5.55	5.84	6.43	6.30	5.82	x
Farmers' households							
High category processed meat and dry sausage	0.40	0.45	0.52	0.60	0.60	0.63	5.0
Pasta	0.33	0.35	0.32	0.34	0.33	0.34	3.0
Cake products	0.45	0.48	0.48	0.54	0.51	0.55	7.8
Yoghurts	0.18	0.17	0.19	0.22	0.21	0.26	23.8
Milk beverages	0.09	0.08	0.08	0.09	0.09	0.09	0.0
Chocolate	0.06	0.07	0.06	0.07	0.06	0.06	0.0
Ice-cream (in l)	0.16	0.14	0.17	0.19	0.16	0.20	25.0
Mineral water (in l)	0.72	0.78	0.91	1.29	1.00	1.30	30.0
Fruit and vegetable juice (in l)	0.33	0.36	0.43	0.50	0.55	0.59	7.3
Share of expenditures on gastronomy in expenditures on food (in %)	1.17	1.55	1.78	1.71	1.88	2.86	x

Source: Own evaluation on the basis of the CSO data.

There was also a further recovery of demand for added value, hence for products with a higher degree of processing. Consumption of products such as: high category processed meat and dry sausage, pasta, cake products, yoghurts milk beverages, ice-cream and mineral water increased on average in households by 3-33%. It grew even faster in farmers' households. An exception was consumption of milk beverages, which in farmers' households remained unchanged. Also dynamics of the increase in consumption of high category processed meat and dry sausage was lower than average (table II.3).

Households, despite improvement in their income situation, did not increase consumption in catering establishments. Expenditures of households in collective catering establishments decreased by 4.9% on average (in real terms), and their share in total expenditures on food and non-alcoholic beverages dropped in the first half of 2007 to 5.8%, against 6.3% in the first half of the previous year. It was particularly low in farmers' households, although in this group of households, demand for catering services grew significantly (table II.3).

In farmers' households the falling tendency of natural consumption continued, and this was followed by an increased share of market purchases in food consumption in this group of households (table II.4 and figure II.6). The value of self-supply in farmers' households in the first half of 2007 accounted for 33.4% of food consumption, and was by 0.7 p.p. lower than in the first half of 2006, and by 1.3 p.p. lower than in 2006. Hence, the share of market purchases in consumption of food in farmers' households grew to 66.6%, from 65.9% in the first half of 2006 and from 65.3% in 2006.

As for self-supply in farmers' households (table II.4), still potatoes were consumed in the greatest amounts (90%), as well as eggs (78%), liquid milk (75%), pork (74%) as well as raw and melted animal fats (67%). Self-supply had also a great share in consumption of sour cream (55%), vegetables (50%), cottage cheese (43%) and poultry (49%).

Macroeconomic data indicate that in the second half of 2007 there is still a good economic situation accompanied by a systematic increase in jobs and a fall in unemployment as well as growth of real wages and salaries and social benefits, and also profitability of households conducting their own activity is greater and greater. However, taking into account the fact that despite this year's harvest which was higher (mainly cereals, root plants, and vegetables), there is an absolute and relative increase in prices of food; it is predicted that in 2007, the increase of domestic demand for this group of products will be lower than last year (cf. table II.1).

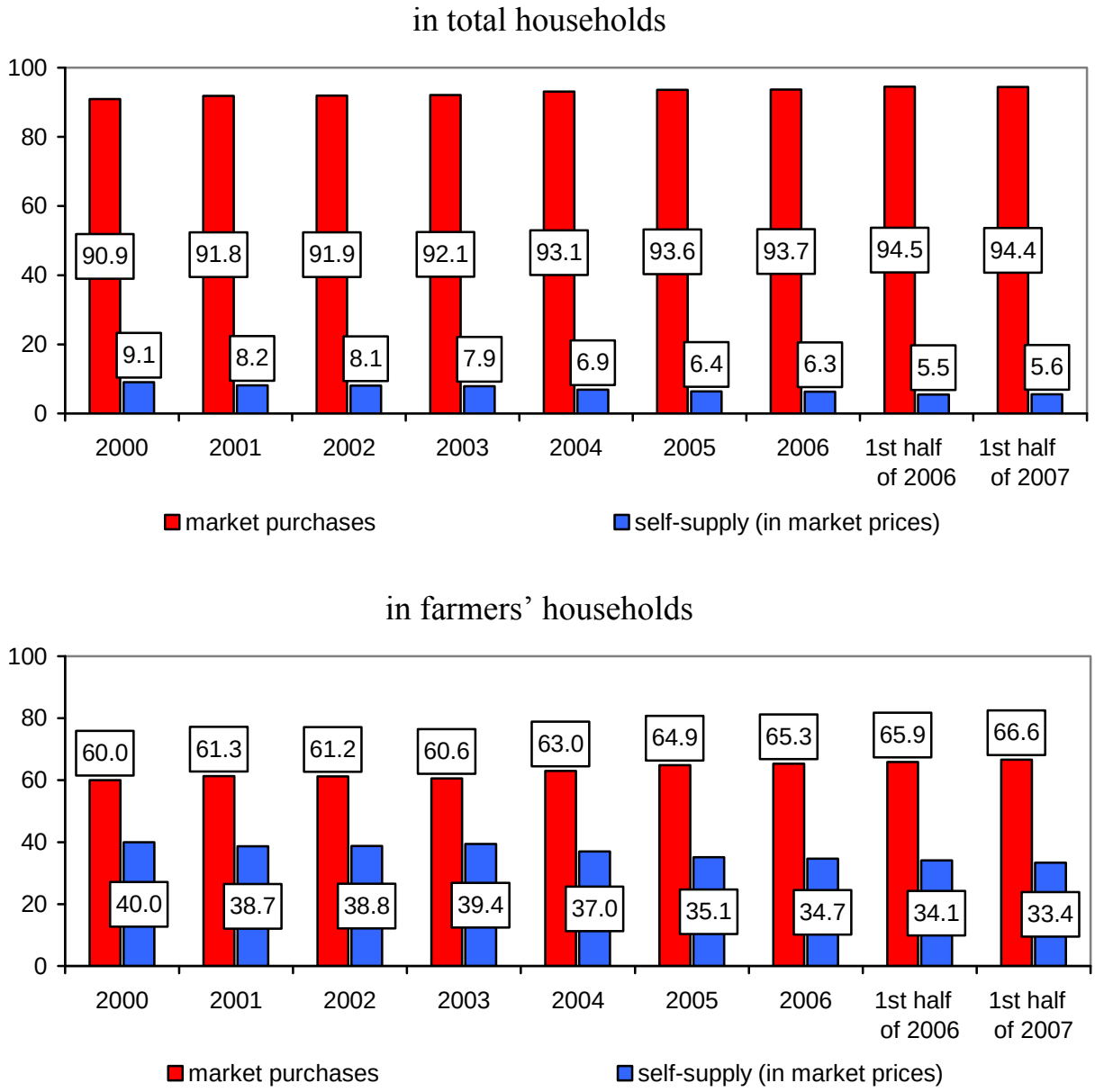
Table II.4. Share of self-supply in consumption of food in households (in quantity terms in %, according to surveys of family budgets)

Specification	2003	2004	2005	2006	1st half of 2006	1st half of 2007	Change 1st half of 2007 – 1st half of 2006 in p.p.
Total households							
Meat and meat preparations	11.0	9.6	8.9	8.9	8.9	9.3	0.4
of which: beef	5.0	0.0	0.0	0.0	0.0	0.0	0.0
pork	17.7	15.8	14.9	15.2	15.9	16.4	0.5
poultry and poultry processed meat	12.6	11.7	10.9	9.8	8.3	8.6	0.3
Liquid milk	21.7	18.9	17.2	16.7	16.2	15.0	-1.2
Cottage cheese	12.7	11.3	9.6	9.6	9.6	7.7	-1.9
Eggs	20.8	19.7	18.5	19.0	18.6	19.1	0.5
Sour cream and sweet cream	15.9	13.6	11.6	12.2	12.2	9.8	-2.4
Edible fats	3.1	2.5	2.6	2.1	2.8	2.2	-0.6
butter	2.7	3.0	3.2	3.2	3.3	3.3	0.0
regular tissue fats	16.7	13.6	14.3	10.5	15.8	11.8	-4.0
Cereal preparations	1.7	1.3	1.2	1.1	1.1	0.9	-0.2
Potatoes	29.8	28.1	25.7	26.4	30.3	29.3	-1.0
Vegetables and vegetable preparations[a]	27.7	25.6	21.5	20.6	12.8	12.9	0.2
Fruit and fruit preparations	18.3	18.4	14.2	15.8	5.1	7.2	2.0
Farmers' households							
Meat and meat preparations	56.6	54.8	52.0	50.4	51.9	54.1	2.2
of which: beef	25.0	12.5	28.6	28.6	12.5	14.3	1.8
pork	76.8	75.9	71.5	71.7	74.7	73.8	-0.9
poultry and poultry processed meat	61.7	61.0	58.3	50.8	47.4	48.8	1.4
Liquid milk	85.4	84.7	80.6	79.1	77.7	75.0	-2.7
Cottage cheese	57.8	58.6	52.7	53.7	52.8	42.9	-10.0
Eggs	79.6	79.3	76.6	77.1	77.6	78.3	0.8
Sour cream and sweet cream	77.0	71.4	64.8	62.7	65.3	55.3	-10.0
Edible fats	18.7	17.9	15.2	15.3	16.9	15.9	-1.0
butter	14.7	22.6	14.3	14.3	14.8	14.8	0.0
regular tissue fats	61.2	61.5	55.3	62.5	66.7	66.7	0.0
Cereal preparations	7.5	6.8	5.9	4.5	4.8	3.8	-1.0
Potatoes	90.4	92.4	90.7	89.0	91.8	89.8	-2.0
Vegetables and vegetable preparations[a]	69.1	65.3	63.3	61.3	54.5	49.9	-4.6
Fruit and fruit preparations	54.3	56.4	48.1	53.1	25.3	29.8	4.5

[a] excluding leguminous vegetables, potatoes and their preparations

Source: Own elaboration on the basis of the CSO data.

Figure II.6. Share of market purchases and self-supply in consumption of food (in value terms)



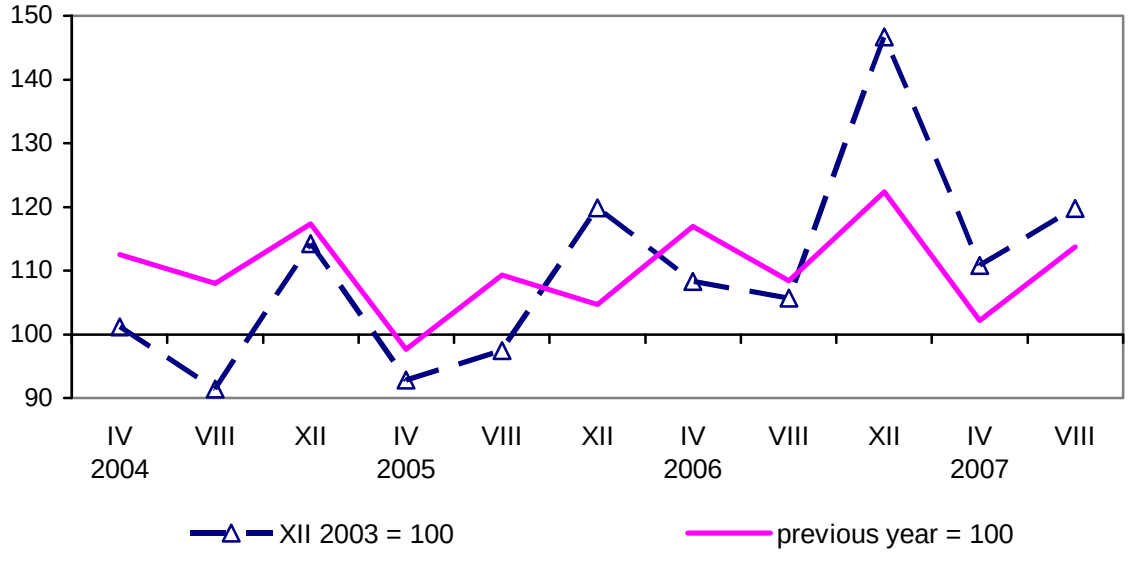
Source: Own elaboration on the basis of the CSO data.

Further slowing down of the increase pace of domestic demand for food, including in particular for animal products is also expected in 2008. This means that the increase dynamics of domestic market demand for agricultural products will slow down. In the coming years, further development of food export and development of biofuels production will be a chance for accelerating that dynamics. In 2008-2013, the expected increase in production of biofuels (in line with the National Indicator Goals) means an additional (non-food) growth of domestic demand for approx. 0.8-2.0 mln tonnes of rape and for approx. 0.7-1.1 mln tonnes of cereals.

II.2. Retail sale and market supplies of food, beverages and tobacco products

For a few years, high dynamics of retail sale of food, beverages and tobacco products has been observed (figure II.7). It was particularly high in the year of Poland's accession to the EU. In 2004, retail sale of those products grew by as much as 11.8% (in constant prices in relation to the previous year). The dynamics of such sale weakened in the second year after joining the EU, as in 2005 it was only 5.8%. Another great recovery in trade of food and other products of food industry occurred in 2006, in which sale of those products increased by as much as 11% (in constant prices). Currently, i.e. in 2007, sale of retail trade of foodstuffs is by approx. 40% higher than in 2003, it exceeds the highest the level of December 2003 by 10.8%, and it is by 6.3% greater than the average level of 2006. Such high increases of retail sale of food, beverages and tobacco products confirm earlier evaluations concerning a high growth in domestic demand for products of food sector, resulting from increased income of people, which causes higher consumption of more expensive food goods, goods with a high degree of processing from industrial production. This is also a result of falling self-supply and lower and lower direct foreign trade (sale).

Figure II.7. Dynamics indicators of retail sale of food and tobacco products according to value in constant prices



Source: On the basis of the CSO data published in the Statistical Bulletin 2005, No. 1; 2006, No. 7 and 9; 2007, No. 9.

Table II.5. Market supplies of basic groups of food and beverages

Specification	Measurement units	2003/04	2004/05	2005/06	2006/07
Meat of animals for slaughter	thous. tonnes	854	1119	1195	1232
Poultry meat	thous. tonnes	699	852	943	970
Red meat preparations	thous. tonnes	787	826	917	934
of which: processed meat	thous. tonnes	697	673	691	706
tinned meat	thous. tonnes	25.0	19.0	18.1	18.7
Cheese and cottage cheese	thous. tonnes	488	490	500	542
of which: ripening cheese	thous. tonnes	170	173	180	201
cottage cheese	thous. tonnes	276	268	271	286
Butter	thous. tonnes	145	137	142	146
Margarine	thous. tonnes	341	333	324	329
Flour	thous. tonnes	1777	1757	1788	1818
Groats and semolina	thous. tonnes	66	78	65	73
Pasta	thous. tonnes	89	105	122	136
Fruit jam	thous. tonnes	51	59	53	42
Sugar	thous. tonnes	41	41	35	28
Chocolate and chocolate products	thous. tonnes	111	153	155	182
Vodka	mln l	94	97	96	108
Wine	mln l	293	251	223	226
of which: grape wine and vermouth	mln l	100	102	104	104
Beer	mln l	2772	3063	3132	3493
Cigarettes	bn pcs	72	74	76	78

Source: Own elaboration on the basis of the CSO data published in the Statistical Bulletins 2004-2007, No. 8.

After joining the European Union, supplies of most basic groups of food and beverages have been increasing year by year. The greatest dynamics of growth in the seasons 2003/04-2006/07 applied to meat supplies of animals for slaughter (44%) and poultry meat (39%), as well as pasta (52%), chocolate and chocolate products (64%), beer (26%) and ripening cheese (18%). Supplies of processed meat, cottage cheese, cigarettes, flour, groats, semolina and butter were characterised by fluctuations in the following years, and in the whole period – by a slight increase. In that period supplies of candy decreased (by over 30%), as well as tinned meat (by over 25%), wine, of which mainly fruit wine (by over 20%), fruit jam (by approx. 18%) and margarine (by 3%).

II.3. Demand of exporters

Poland's accession to the EU evoked a rapid recovery in agricultural and food export. Within three years (2004-2006), the export value of such products more than doubled, and its growth exceeded monthly EUR 100 mln and 20% in

annual terms. Slowing down of the growth pace did not occur until the first months of 2007, but the results of the recent few months indicate that this may be a temporary phenomenon. Within eight months of 2007, agricultural and food export increased by approx. 14% (by approx. EUR 850 mln), which makes it possible to estimate that in the whole current year, it will reach the value of approx. EUR 9.5-9.8 bn and will be by EUR 1.2 bn greater than in 2006 (table II.6).

Table II.6. Foreign trade of agricultural and food products (in EUR million)

Specification	2003	2004	2005	2006	2007[a]
Agricultural and food export	4003	5242	7145	8577	9700
of which: products of agriculture	733	992	1365	1597	1850
products of food industry	3270	4250	5780	6980	7850
Agricultural and food import	3557	4406	5478	6486	7500
of which: products of agriculture	1217	1536	1828	2316	2750
products of food industry	2340	2870	3650	4170	4750
Foreign trade balance	446	836	1667	2091	2200
products of agriculture	-484	-544	-463	-719	-900
products of food industry	930	1380	2130	2810	3100

[a] own estimate on the basis of the results of eight months

Source: Ministry of Agriculture and Rural Development on the basis of a summary statement by A. Pachnicki.

Both export of agricultural products and products of food industry is constantly increasing. In 2006, export of agriculture was by almost 120% higher than in 2003, and the growth in the export value of a manufacture part was at that time only by 5 percentage points lower than that of agriculture. After joining the EU, the relation between those activities of the agricultural and food sector did not change. The share of agriculture in agricultural and food sector accounts for approx. 20%, and that of processing products exceeds 80%. Polish food economy is mainly an exporter of processed food. In 2006, the share of export in the value of sold food industry exceeded 20%, and export involved almost 50% of such production growth.

Import of agricultural and food products is developing slightly more slowly. In 2003-2006, its value grew by 82%, thus by almost 1/3 more slowly than that of export. At that time the increase in import of agricultural products was slightly faster (90%) than that of food industry products (by 78%). Import increased faster in the first months of 2007, although the acceleration is not permanent. However throughout 2007, import may reach EUR 7.5 bn, which means an increase by almost 20%.

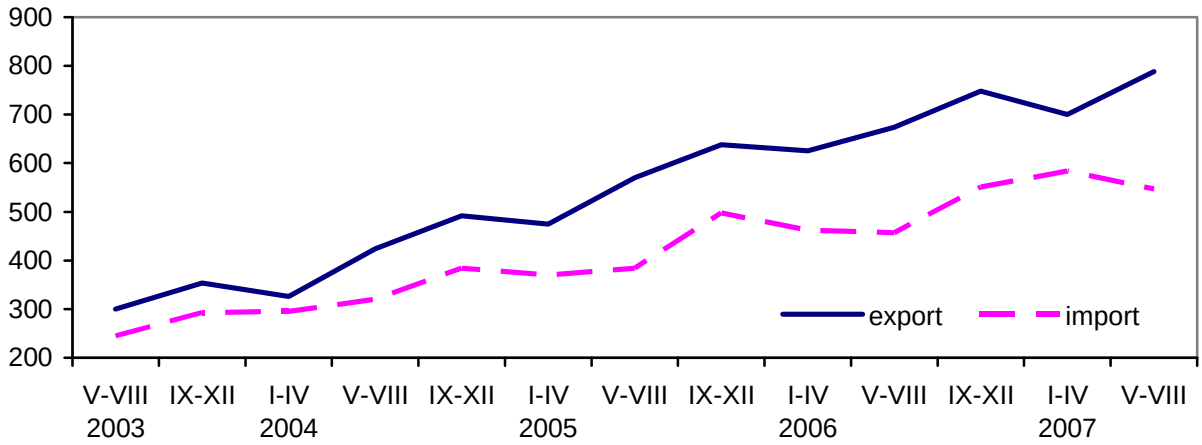
The share of agriculture in import of agricultural and food products (36%) is higher than in export (19%). Taking into consideration the fact that in import of food industry, semi-finished products (resources for further processing) have a large share, then import of the entire agricultural sector is mainly of a material and resource character. It is also significant that 44% of agricultural and food import are products manufactured in other climatic zones. These are products complementing the offer of Polish agriculture and they are not competitive for it.

After joining the EU, there was a considerable improvement of foreign trade balance of agricultural and food products. The positive foreign trade balance improved by almost four times, from EUR 446 in 2003 to almost EUR 2.1 bn in 2006. In 2007, export will probably be slightly greater than import, and should amount to approx. EUR 2.2 bn. In the recent years, a surplus in trade of food industry products has grown by three times – to EUR 3 bn, but the balance in trade of agricultural products deteriorated (from EUR -0.5 bn in 2003 to EUR -0.9 bn in 2007).

The analysis of development of agricultural and food export and import in the subsequent months of 2003-2007 (figure II.8-II.10) allows for the following evaluations:

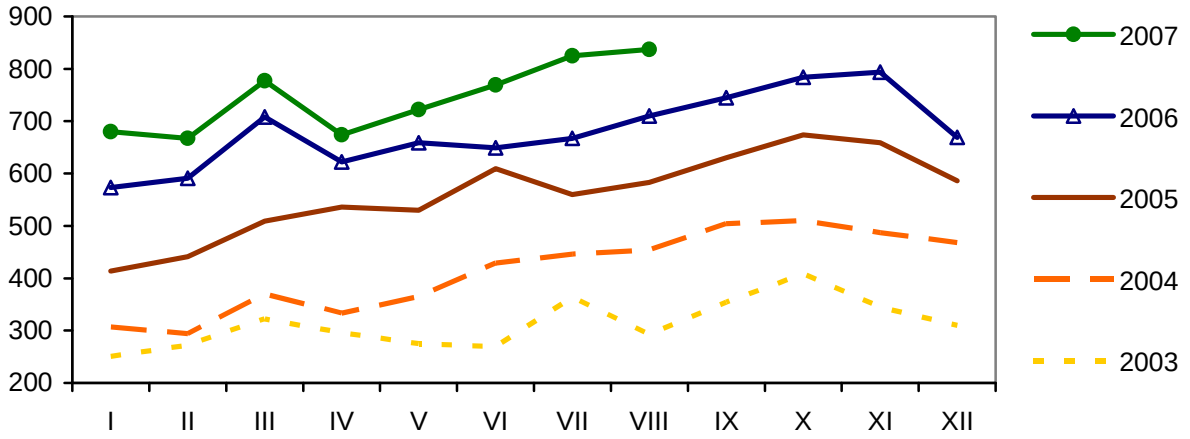
- increased export and import of agricultural and food products has been of a stable character so far, and their growth is similar in the subsequent segments of time,
- decreased plant production of our agriculture in 2006 caused only a temporary decline in the growth of export and insignificant acceleration in import,
- the curve of export and import shows a constant increase in the positive balance of foreign trade.

Figure II.8. Development of foreign trade of agricultural products and food industry products (in EUR million monthly)



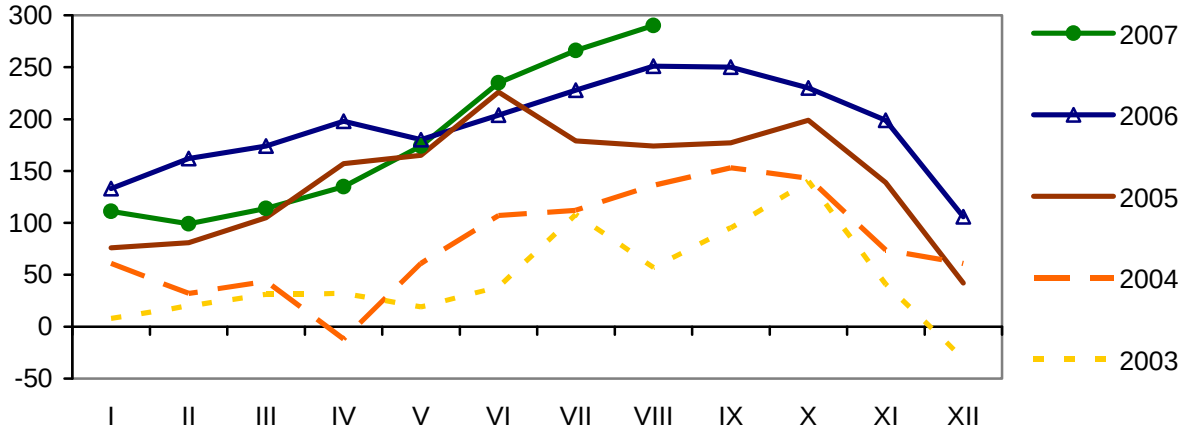
Source: CSO Statistical Bulletins of 2004-2007, No. 1 and 8, as well as own calculations.

Figure II.9. Export of agricultural and food industry products
(in EUR million)



Source: CSO Statistical Bulletins of 2004-2007, No. 1 and 8, as well as own calculations.

Figure II.10. Trade balance of agricultural and food products (in EUR million)

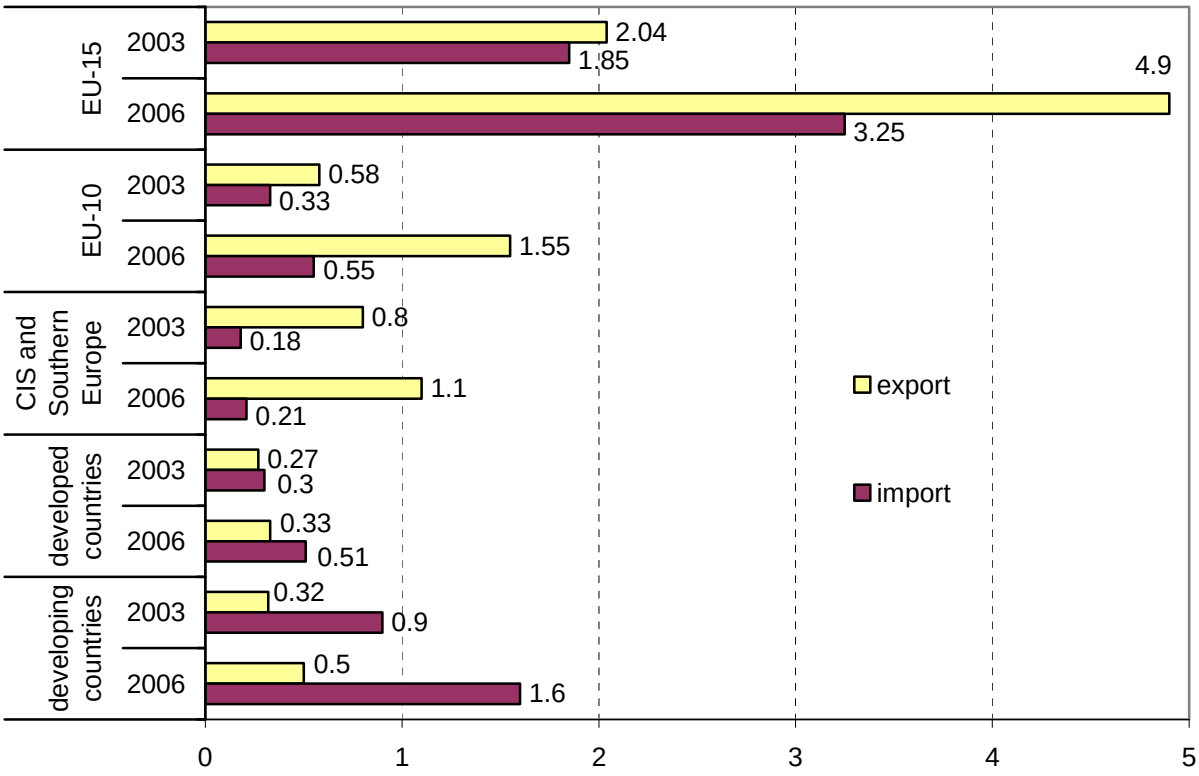


Source: CSO Statistical Bulletins of 2004-2007, No. 1 and 8, as well as own calculations.

After joining the EU, first of all trade with other Member States of the EU speeded up (figures II.11-II.12). In the recent years, the increase in Polish export to other new members of the EU has been the fastest (by almost three times), and it was also considerable to old Member States of the EU (2.5 times) (the EU-15). Within the turnover inside the European Union mainly export to our closest neighbours developed: to Germany, two times more, to our Southern neighbours (Czech Republic, Slovakia and Hungary), three times more, and to the Baltic countries, over six times more. The increase in export outside the Union was much slower, accounting for:

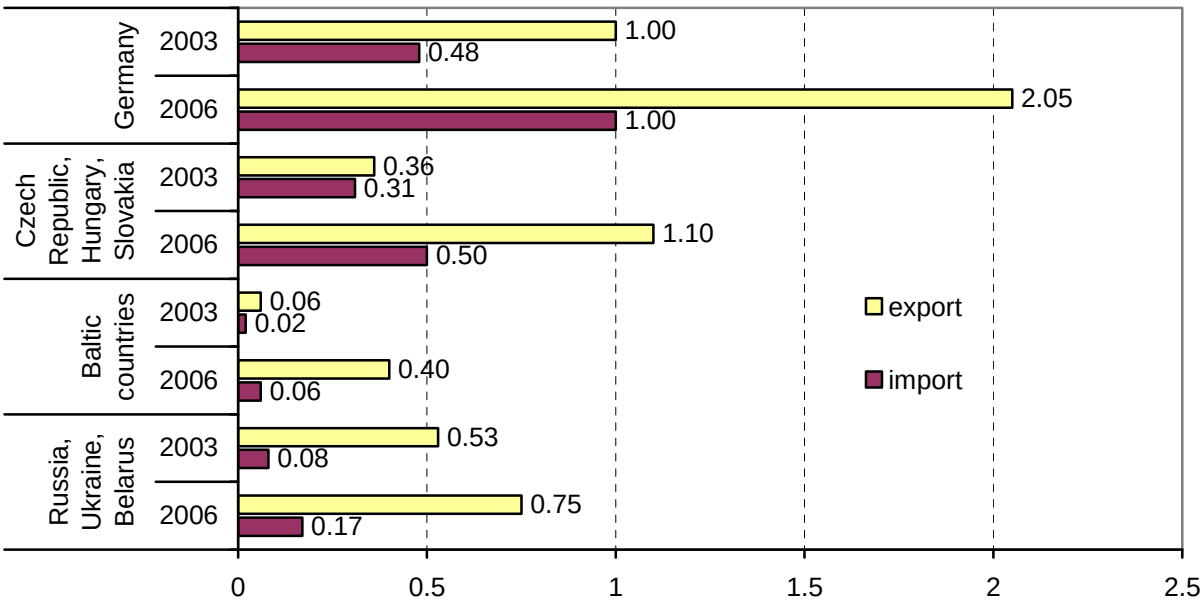
- 37.5% – to the CIS and Southern Europe countries,
- approx. 70% – to other developed countries,
- approx. 65% – to developing countries.

Figure II.11. Foreign trade of agricultural and food products with groups of countries (in EUR billion)



Source: Own elaboration on the basis of Handel zagraniczny produktami rolno-spożywczymi. Stan i perspektywy, nr 21 i 25, IERiGŻ-PIB, ARR, MRiRW, Analizy Rynkowe" 2005, 2007.

Figure II.12. Foreign trade of agricultural and food products with the closest neighbours (in EUR billion)



Source: Own elaboration on the basis of Handel zagraniczny produktami rolno-spożywczymi. Stan i perspektywy, nr 21 i 25, IERiGŻ-PIB, ARR, MRiRW, „Analizy Rynkowe" 2005, 2007.

However, on the side of import the increase of turnover with all our main suppliers was similar. Poland is a net exporter to other countries of the EU, both the old and new ones, as well as to other European countries, while in trade with developing countries, and with other developed countries we are a net importer, but with developing countries from which we import mainly resources of agricultural origin that are not produced in our climatic zone, we have a significant and growing negative balance (EUR 1.1 bn). The share of other EU countries in the Polish export of agricultural and food products grew from 65.3% in 2003 to 76% in 2006, and their share in import accounts for approx. 61.5%. It is also significant that in export, the fall in the share of other European countries was considerable (from 20 to 13.6%), including mainly our Eastern neighbours (from 13.3 to 9%).

Fast development of Polish export and import was a common phenomenon occurring in all main divisions of food economy (table II.7). After joining the EU, export developed the fastest in divisions, in which it was earlier slight and which are a large importer of agricultural products. This applies, above all, to the oil sector and production of stimulants, in which export within three years increased by almost three times. In that period export of the dairy, cereal, fish and meat sectors grew by 2.5 times. The increase in export of the sugar and confectionary sector and other food doubled, while the growth of fruit and vegetable export was the slightest (only by approx. 50%).

Joining the EU structures caused the greatest recovery in import among divisions in which it had been relatively low until then. Import of dairy and meat products increased by almost three times. Import of products in divisions where it has been a significant source of resource supply of Polish processing grew two times. This applies to such sectors as processing of cereals and fish as well as production of stimulants. Import in divisions where it is one of the main sources of resource supply, was growing the slowest. Such sectors involve fruit and vegetable processing, oil processing and fodder production, in which import has increased for three years by approx. 45-70%.

The greatest exporter of almost EUR 2 bn yearly each, is the meat and fruit and vegetable sector, which jointly accounts for 45% of Polish agricultural and food export. It is also significant that the meat sector, after entering the EU, strengthened its position, and the fruit and vegetable sector lost the position of a leader. In that period, the sector of dairy and production of stimulants improved considerably its position (by approx. 10% each) as well as the cereal and sugar sector (by almost 9% each). The oil and fodder sector and the sector of other food continue to have a weaker position in Polish export.

Table II.7. Foreign trade in main divisions of Polish food economy
(in EUR million)

Specification	Export			Import		
	2003	2005	2006	2003	2005	2006
1. Meat, meat preparations and other products of slaughter	830.5	1549.4	1942.3	244.1	662.4	678.0
of which: poultry	220.6	392.6	445.8	41.3	100.9	101.2
animals for slaughter	408.8	865.9	1146.3	88.1	365.6	367.9
preparations	96.0	137.7	183.0	8.5	22.3	22.0
2. Milk and milk preparations	326.7	883.2	848.9	49.1	98.9	141.8
of which: powdered milk	144.7	279.5	213.8	10.0	15.4	14.2
cheese	117.5	273.1	319.5	18.4	45.3	57.2
3. Fish and fish preparations	263.0	487.9	628.0	321.2	536.4	661.3
of which: preparations	88.4	134.2	166.6	36.4	48.2	53.9
4. Cereals and cereal preparations	326.0	663.6	753.2	292.4	417.8	562.7
of which: cereals	64.8	153.6	153.1	106.4	111.7	192.8
preparations of secondary processing	206.2	451.0	536.8	93.8	188.1	233.5
5. Seed, oil and grits	111.2	313.2	411.7	678.2	857.8	934.0
of which: oil	16.9	96.5	166.5	212.2	255.8	272.4
grits and fodders	91.2	172.8	201.2	408.2	529.3	559.1
6. Sugar and sugar preparations	371.0	620.7	761.6	320.9	418.4	535.5
of which: preparations	235.8	360.9	468.5	119.5	191.5	259.5
sugar and molasses	113.1	232.6	265.0	29.8	73.5	111.3
7. Potatoes, fruit, vegetables and their preparations	1248.5	1577.5	1864.1	877.6	1310.8	1496.5
of which: fresh vegetables, flowers and potatoes	250.2	373.1	405.4	189.5	307.5	364.5
fresh fruit	135.0	231.4	216.2	488.4	640.6	693.4
juice	244.9	304.4	395.9	56.0	106.0	108.9
frozen food	392.6	372.2	446.3	27.0	49.0	69.9
other preparations	225.8	296.4	400.3	116.7	207.7	259.8
8. Other food products	268.0	456.7	540.6	344.8	440.1	595.8
9. Beverages and tobacco products	258.3	592.6	827.0	428.4	735.4	880.6
of which: water	24.8	129.7	141.2	19.5	51.7	64.3
coffee and tea	99.3	122.1	159.4	235.4	307.6	349.8
alcohol	61.0	127.4	159.1	113.9	175.5	221.1
tobacco and tobacco products	73.2	213.4	367.3	59.6	200.6	245.4
Total	**4003.2**	**7144.8**	**8577.4**	**3556.7**	**5478.0**	**6486.2**

Source: Own calculations on the basis of materials prepared by A. Pachnicki from the Ministry of Agriculture and Rural Development.

Table II.8. Foreign trade balance of agricultural and food products
(in EUR million)

Divisions of food economy	2003	2006
Meat	586.4	1264.3
Dairy	277.6	707.1
Fish	-58.2	-33.3
Cereal	33.6	190.5
Oil and fodder	-567.0	-522.3
Confection and sugar	50.1	226.1
Potatoes and fruit and vegetables	370.9	367.6
Other food products	-76.8	-55.2
Beverages and tobacco products	-170.1	-53.6
Agriculture and food industry	**446.5**	**2091.2**

Source: Own elaboration on the basis of materials prepared by A. Pachnicki from the Ministry of Agriculture and Rural Development.

A net exporter (table II.8) is, above all, the meat and dairy sector, export of which is higher than import by almost EUR 2 bn in total, and within three years this predominance increased by 2.5 times. The net exporter is also the fruit and vegetables sector, sugar and confection sector and cereal sector, while the net importer is above all the oil and fodder sector, in which the predominance of import over export is over EUR 0.5 bn. The net importer is also production and processing of fish, production of other food and production of stimulants. However in those three divisions, the negative turnover balance is relatively low (it accounts for between 5 and 10% of import). It is also significant that in all divisions being net importers, the negative foreign trade balance is constantly decreasing.

III. Development tendencies of agriculture and food industry

III.1. Output and supply of agriculture

III.1.1. Tendencies and changeability of agricultural output

The influence of integration on agricultural output results was has been evaluated by comparing the output level after joining the European Union, i.e. in 2004-2006 with relevant values reached in 2001-2003 and 1998-2000. The continuation of the nine-year time series, i.e. the years 1998-2006, is 2007, the output results of which will be compared with the period directly preceding it, i.e. the years 2004-2006. The common feature of the distinguished periods, i.e. 1998-2000, 2001-2003 and 2003-2006 is the fact that in each of them the first year was characterised by high output, in particular plant production, and in the last year of the three-year period, there was a huge fall of yields, mainly caused by unfavourable climatic conditions. This regularity seems to be reflected by the year 2007, when output of cereals and rape is higher than in 2006.

In 2007, global agricultural output calculated in prices of 2003 amounted to PLN 58.6 bn and was by 0.5% higher than the average in 2004-2006 (table III.1). At that period, global plant production declined by 2.3% and animal production grew by 3.2%. In the initial years of Poland's accession to the European Union, global agricultural output was by 2.1% higher on average than in 2001-2003. In that period, plant production dropped by 1.0%, but at a five times lower scale than in 2001-2003 (in relation to 1998-2000). At the same time, after joining the EU, the increase pace of global animal production significantly speeded up, which developed in a pace of approx. 2%, while in 2001-2003, its growth was less than 1.0%. In that period, accelerated development of animal production may be linked with improvement of its profitability, resulting mainly from the falling prices of cereals and fodder due to including Polish agriculture in the Common Agricultural Policy.

The feature of agricultural output development is a faster growth pace of final and market output than the global output. This phenomenon occurred both before Poland's accession to the EU, and afterwards. In 2007, final agricultural output grew by almost 4% as compared to the average in 2004-2006. The growth pace of final plant production was slower, i.e. 3.3%, and that of animal

production was slightly higher – 4.4%. This increase is slightly greater than the one which occurred earlier. The final and market plant production in the periods under comparison, i.e. in 2001-2003 and 2004-2006 developed in a pace of approx. 1.5-3.0% yearly (4.8-9.5% within three years). This phenomenon to a lower degree occurred also in animal production, the growth in final and market output of which was by approx. 0.5% higher in annual terms that global output.

In 2007, market agricultural output was by 7% higher as compared to 2004-2006. Market plant production grew even more, i.e. by nearly 9%. This was a pace by 3 percentage points higher than the increase of market animal production. This means that the internal use both of production and consumption keeps declining, and greater and greater part of output is directed to the market. A high growth in market plant production this year results among others from considerable growth in harvest of cereals and rape, and animal production – from high supply of pigs and poultry for slaughter.

After Poland's accession to the EU, the changeability of global agricultural output increased, and in particular plant production. The changeability of this output grew from ±7.0% yearly in 2001-2003 to ±11.4% in the past three years. The final output changeability almost doubled (from ±8.5 to ±14.4%) and market output changeability – almost tripled (from ±3.2 to ±9.5%). Such great changes of plant production changeability are significantly affected by climatic conditions. Animal production changeability is lower (±4% yearly).

The value curve of agricultural output in Poland indicates that integration of Poland with the European Union and including Polish agriculture in the Common Market Policy did not contribute to better output stabilisation of this sector (figure III.1), because:

- plant production is subject to considerable changes of a periodical character,
- similar periodical changes occur in animal production, but the amplitude of such changes is lower with a significant growing tendency,
- the overall (global) value of agricultural output is under a considerable influence of changes of plant production.

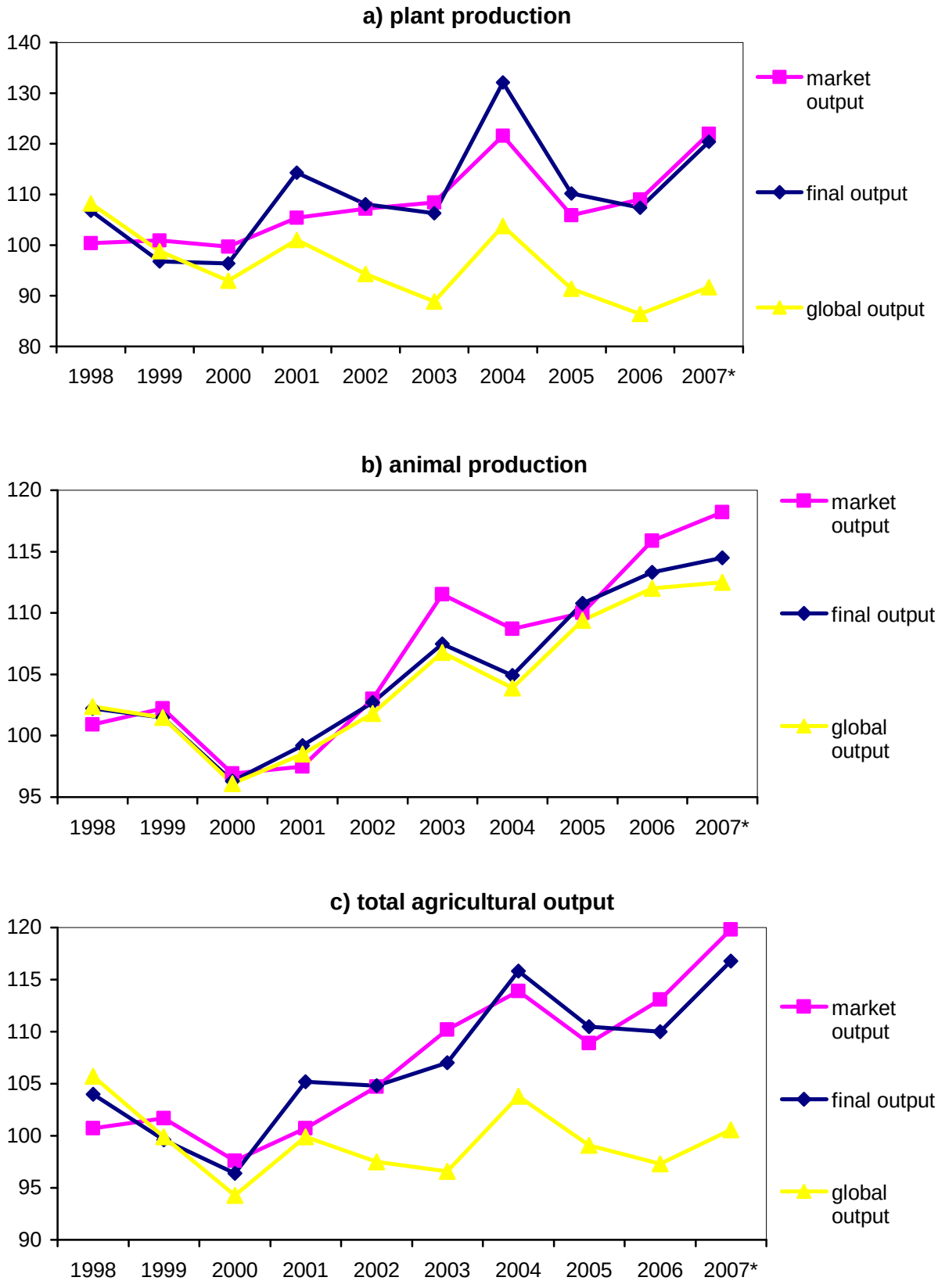
Table III.1. Comparison of the level and changeability of agricultural output value[a] in 2001-2007

Specification	Average output value in				Change in the output level in			Output changeability average changes in	
	1998-2000	2001-2003	2004-2006	2007	2001-2003 in relation to 1998-2000	2004-2006 in relation to 2001-2003	2007 in relation to 2004-2006	2001-2003	2004-2006
	in PLN billion				**in %**				
Global output	58.27	57.12	58.31	58.60	-2.0	2.1	0.5	2.83	4.40
of which:									
plant production	33.40	31.65	31.35	30.63	-5.2	-1.0	-2.3	7.00	11.37
animal production	24.87	25.47	26.93	27.97	2.4	5.7	3.2	3.87	3.47
Final output	38.70	40.79	43.51	45.21	5.4	6.7	3.9	3.73	4.30
of which:									
plant production	15.45	16.92	18.01	18.60	9.5	6.4	3.3	8.53	14.47
animal production	23.25	23.87	25.50	26.61	2.7	6.8	4.4	3.90	3.43
Market output	33.15	34.93	37.11	39.70	5.4	6.2	7.0	4.10	3.90
of which:									
plant production	13.48	14.42	15.11	16.45	7.0	4.8	8.9	3.20	9.40
animal production	19.67	20.51	22.00	23.25	4.3	7.3	5.7	4.67	3.00

[a] in prices of 2003

Source: CSO data and own calculations.

Figure III.1. Dynamics of agricultural production value
(in constant prices, average of 1998-2000 = 100)



* preliminary own estimate

Source: CSO data.

In 2007, similarly to the previous years, there have not occurred any significant changes in the output level of main divisions of Polish agriculture, i.e.: production of cereals, milk and pork. Production of cereals was by 5% higher than the average in 2004-2006, but by 1/4 higher than harvest of cereals in 2006 (table III.2). Milk production stabilised in the recent years at the level of approx. 11.5 bn litres yearly, although in 2007, a slight growth is possible. Pork production remained at the level of the previous year, i.e. approx. 2.2 mln tonnes, but it is higher than the average in the previous years by approx. 6%. In the periods under comparison there was a considerable fall in root production, i.e. by over 1/5, including in particular potatoes (almost by 30%). In 2007, production of potatoes will exceed 11 million tonnes and will reach the level of the average output in 2004-2006; it will be by approx. 1/4 higher than in 2006. This year's production of sugar beets will be approx. 11.1 million tonnes, which indicates that the falling tendency will continue, especially as the sugar market reform in the EU assumes reduction of output in the following years. In 2007, there was a considerable fall in production of fruit, which will decrease to half of the amount in 2004-2006. This resulted from unfavourable climatic conditions in the period of orchard blooming. It is also predicted that production of vegetables this year will be by approx. 2.4% higher than the average in the previous three years.

Agriculture divisions, which after Poland's accession to the European Union show an increase, are:

- production of rape, which under the influence of growing demand for biofuels exceeded 2 mln tonnes and will be by 1/3 higher than in 2004-2006 and twice higher than in 2001-2003,
- poultry sector, which under the influence of domestic demand and export shows growing tendencies, both in production of meat and eggs.

After Poland's accession to the EU, changes in the harvest of rape increased considerably (±41% yearly) as well as that of cereals (±18%), while it declined in the case of fruit, (±11%), vegetables (±8%), and sugar beets (±11%). Changeability of production of pigs is still high (±7%), resulting from the so-called pig cycles, whereas production of poultry declined considerably (to approx. ±7%) as well as that of beef (to approx. ±3%). Production of milk remains at a stable level.

Plant production is closely linked with agricultural land resources. The area of arable land in the past 10 years decreased from 18.4 mln ha in 1998 to approx. 16 mln ha in 2007, i.e. by 13%. In the same period, the area of plough land decreased by 1.6 mln ha, i.e. by approx. 11% and in 2007, it amounted to 12.5 mln ha (figure III.2).

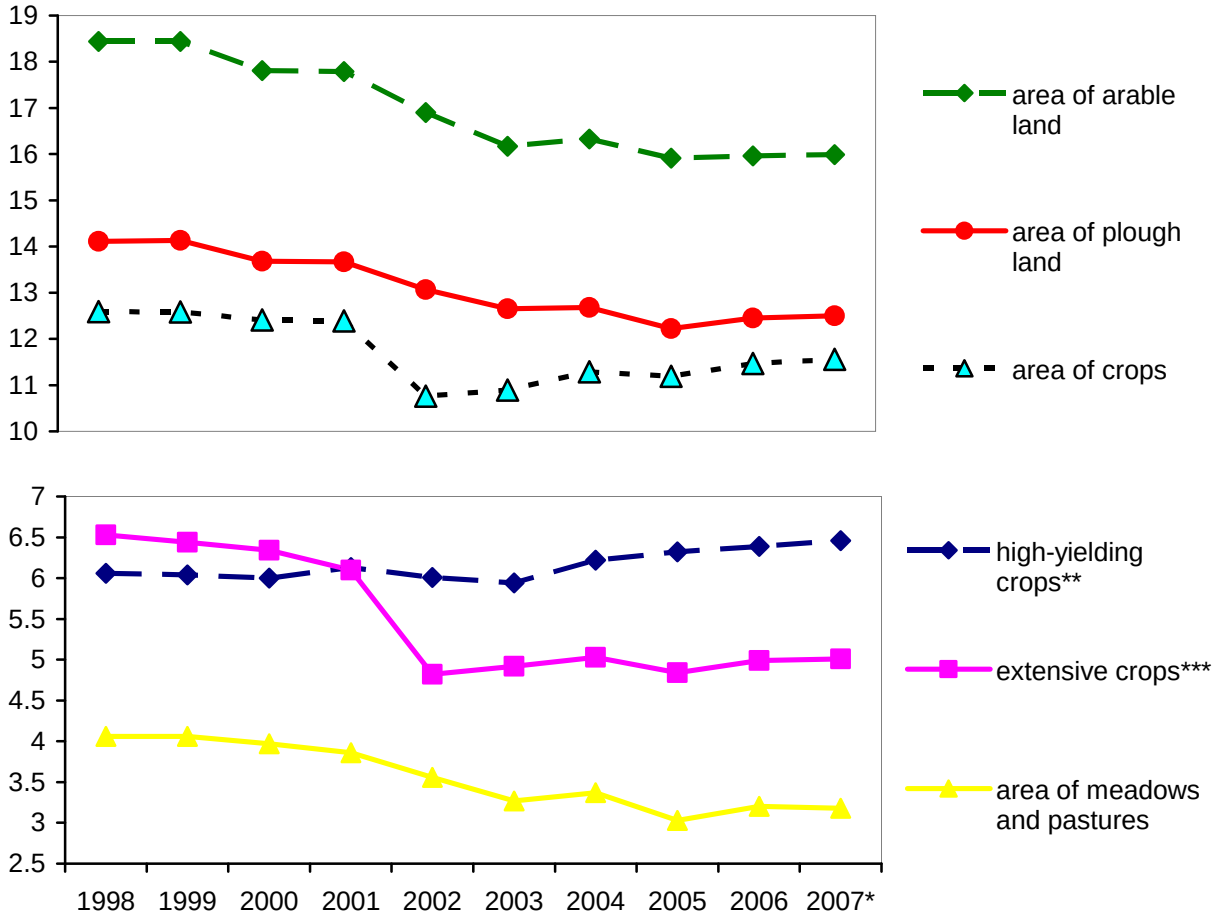
Table III.2. Comparison of the level and changeability of agricultural output in 2001-2007

Specification	Average output in thous. tonnes in			Change of the output level in % in		Changeability of output – average changes in the years in % yearly	
	2001-2003	2004-2006	2007[a]	2004-2006 in relation to 2001-2003	2007[a] in relation to 2004-2006	2001-2003	2004-2006
Cereals	25,743	26,188	27,420	1.7	4.7	13.3	18.1
Oilseed crops	959	1575	2100	64.2	33.3	12.1	40.8
Root	30,705	24,105	25,400[a]	-21.5	5.4	16.4	14.7
of which: sugar beets	12,179	11,387	11,100	-6.5	-2.5	14.8	11.2
potatoes	15,548	11,123	11,200	-28.5	0.7	21.4	19.5
Fruit	3247	3218	1673	-1.0	-48.0	24.4	11.0
Vegetables	4897[b]	5389	5521	10.0	2.4	9.8	8.1
Meat	3200	3441	3700	7.5	7.5	5.4	5.3
of which: beef and veal	339	362	404	6.8	11.6	9.4	3.3
pork	2041	2047	2170	0.3	6.0	6.6	6.8
poultry	783	994	1090	27.0	9.7	13.8	6.9
Milk (in mln l)	11,537	11,551	11,750	0.1	1.7	0.1	0.6
Eggs (in mln pcs)	8724	9537	9976	9.3	4.6	6.4	2.0

[a] on the basis of the IAFE-NRI forecast and pre-result estimate of harvest of main agricultural and horticultural field crops of the CSO; [b] the average in 2002-2003, as the estimate of the previous years are incomparable

Source: CSO data and own calculations.

Figure III.2. Use of cropland (in mln ha)



* preliminary data;

** wheat, triticale, barley, corn, rape, sugar beets, leguminous vegetables, orchards and crops of vegetables;

*** rye, oat, mixtures, potatoes, root fodder and other fodder plants

Source: CSO Statistical Yearbooks of 2000-2005 and the CSO statistics of agriculture.

Since Poland's accession to the EU, the decreasing area of arable land is utilised more and more intensively, because in 2003-2007, the land area of plants with higher soil requirements grew by approx. 9%, and remains at a similar level in the case of extensive plant crops, which may be influenced by the quality of soils and the area system of direct subsidies for agricultural output.

The area of permanent green land decreased from 4.1 mln ha in 1998 to approx. 3.2 mln ha in 2007, i.e. by over 1/5, and after joining the EU by approx. 5%. The decrease in the dynamics of excluding meadows and pastures from using after 2004 results from including this land in the system of direct subsidies and from slowing down of the regress in cattle breeding, lasting for many years.

III.1.2. Output of main agricultural products

Harvest of cereals

Production of cereals is a derivative of two figures, i.e. the area of crops and obtained yields. Since Poland's accession to the EU, the acreage of cereal crops has been stable and amounts to approx. 8.4 mln ha. In 2004-2007, the crops area changed as follows:

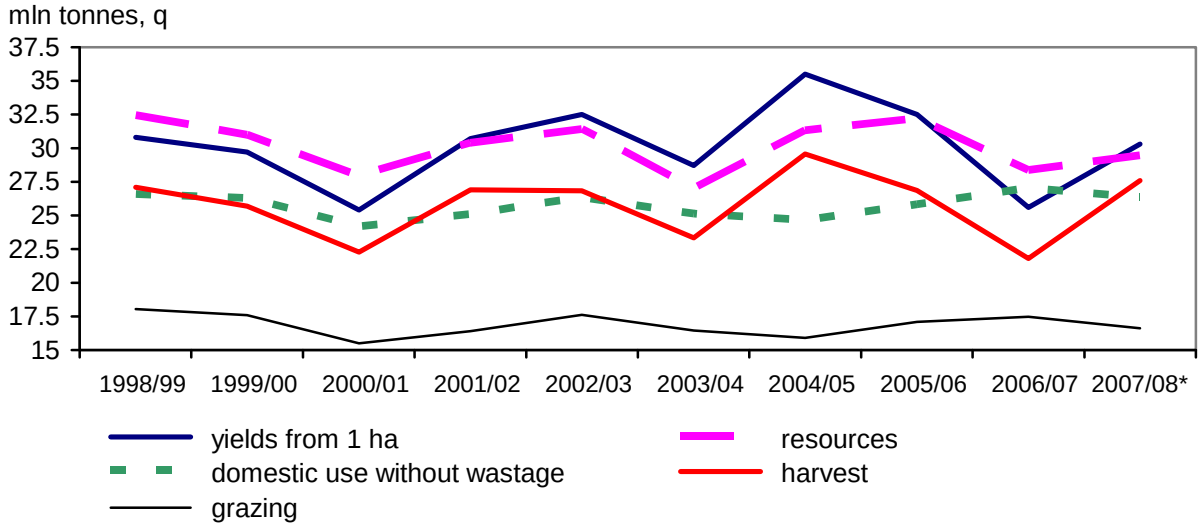
- wheat – a slight fall by approx. 4% to approx. 2.2 mln ha,
- barley – an increase by approx. 20% to 1.2 mln ha,
- triticale – an increase by approx. 11% to 1.2 mln ha,
- rye – a decrease by approx. 13% to 1.35 mln ha,
- oat – an increase by approx. 4% to 0.54 mln ha,
- cereal mixtures – an increase by approx. 8% to 1.57 mln ha,
- corn for seed – a decrease by nearly 32% to 0,28 mln ha.

In 2004-2007, harvest of cereals ranged between 21.8 mln tonnes in 2006 and nearly 30 mln tonnes in 2004, with average yields of cereals amounting to 2.6 and 3.5 t/ha, respectively.

The use of such cereals is more stable, fluctuations of which are determined mainly by changeability of pigs production. The domestic use of cereals ranges between 24.5 and 26 mln tonnes and is slightly lower (by approx. 0.6 mln tonnes) than production. In the years of low harvest, import of cereals to Poland is necessary. In the domestic use of cereals, grazing predominates (approx. 2/3) (figure III.3). Consumption has also a stable position in the distribution of cereals, which amounts to approx. 5.6 mln tonnes yearly. On the side of the use, only industrial use shows a growing tendency, which in 1998-2007 increased by 60% (from approx. 0.8 mln tonnes to 1.3 mln tonnes).

High changeability of cereal production is determined by fluctuations of yields, which mainly depend on weather conditions. Yields of cereals in the subsequent three-year periods (1998-2001, 2001-2003 and 2004-2006) show a slightly growing tendency. Yields of the most fertile kinds of cereals in 2007 amounted to 39.4 dt/ha and were higher than average yields of cereals in 2004-2006 by less than 10%. Also yields of other kinds of cereals are higher. In that year, approx. 27.4 mln tonnes of cereals were harvested in Poland, i.e. by 1/4 more than in 2006.

Figure III.3. Production and use of cereals in Poland



* forecast

Source: Rynek zbóż. Stan i perspektywy, nr 33, IERiGŻ-PIB, ARR, MRiRW, „Analizy Rynkowe" 2007.

The share of wheat in the production structure of cereals decreased to approx. 31%. It was declining also in the pervious 3-year periods in the pace of approx. 1.7 percentage points (yearly by 0.5 percentage points). The share of triticale and barley maintained the growing tendency, the share of which in output of cereals is approx. 15% each. The share of rye is falling constantly to approx. 12%, and the share of oat (approx. 21%) as well as cereal mixtures (table III.3) is stabilised.

Table III.3. Yields and production structure of cereals in Poland

Kinds of cereals	Harvest in dt from 1 ha				Production structure of cereals in %			
	1998--2000	2001--2003	2004--2006	2007[a]	1998--2000	2001--2003	2004--2006	2007[a]
Wheat	34.5	35.9	38.4	41.6	36.0	34.3	32.8	30.8
Triticale	30.5	31.0	31.7	32.8	8.0	11.1	13.8	15.3
Barley	29.3	30.4	31.2	32.3	13.0	12.7	13.2	15.0
Corn	58.8	58.4	52.1	56.0	3.7	5.5	7.1	6.1
4 kinds on average	33.1	35.1	36.1	39.4	60.7	63.6	66.9	67.2
Rye	22.2	23.4	23.9	26.0	19.7	15.4	13.1	11.7
Oat and mixtures	25.4	26.0	25.6	25.9	19.6	21.0	20.0	21.1
2 kinds on average	23.7	24.9	25.0	25.9	39.3	36.4	33.1	32.8
Cereals	28.6	30.7	31.5	33.8	100.0	100.0	100.0	100.0

[a] pre-result estimate of the CSO

Source: Own calculations on the basis of: Rynek zbóż. Stan i perspektywy, nr 33, IERiGŻ-PIB, ARR, MRiRW, „Analizy Rynkowe" 2007 as well as Przedwynikowy szacunek zbiorów głównych ziemiopłodów rolnych i ogrodniczych, GUS 2007.

In the production structure of cereals in the recent decade, the share of rye has decreased the most, from 19.7% in 1998-2001 to 11.7% in 2007, and the share of more valuable cereals increased, i.e. triticale, from 8.0 to 15.3% and corn, from 3.7 to 6.1%. At that time, the share of wheat declined by 5 percentage points.

Production of industrial and root plants

In 2007 earlier tendencies in production of rape, sugar beets and potatoes continued. After Poland's accession to the EU, the crop area of rape increased considerably. The crop acreage of this industrial plant grew from 436 thous. ha in 2001-2003 to almost 800 thous. ha in 2007, i.e. by 80%. This year the harvest of rape has reached a record level of approx. 2.1 mln tonnes, with slightly lower yields (approx. 2.5%) than the average in 2004-2006. In 2003-2007, rape production increased by 2.5 times (figure III.4). This is an effect of growing demand on the side of biofuels and improved relations of rape prices to wheat prices.

The crop of beets is characterised by continuous decreasing of the area of crops and harvest. In 2007, the crop acreage of this plant amounted to 249 thous. ha and was by 11% lower than in 2004-2006, and by 17.5% lower than in 2001-2003 (table III.4). It was accompanied by increased yields, which in 2001-2006 stabilised at the level of approx. 40 tonnes/ha and were by approx. 9% higher than the average in 1998-2000. In 2007, as a result of favourable weather conditions, yields of sugar beets were by approx. 11% higher than average yields in 2003-2006 and will amount to approx. 45 tonnes/ha, while production of beets will be approx. 11.1 mln tonnes, i.e. by 0.4 mln tonnes less than in 2006. The number of sugar beet cultivators is constantly decreasing. In 2006, there were 63.2 thousand of them, and the average crop area of sugar beets increased to 4.2 ha. The sugar market is a regulated market. The amount of sugar production assigned to Poland in 2007 was reduced to 1533 thous. tonnes.

Table III.4. Crop area and yields of main industrial and root plants

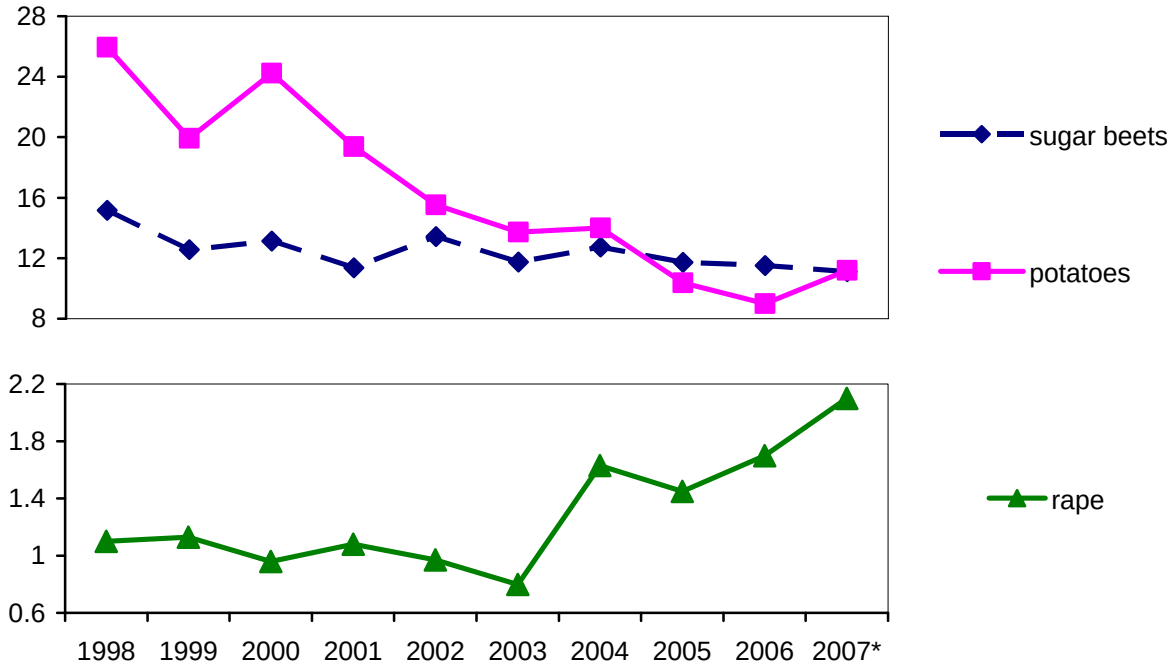
Specification	Crop area in thous. ha				Yield in tonnes from 1 ha			
	1998--2000	2001--2003	2004--2006	2007	1998--2000	2001--2003	2004--2006	2007[a]
Rape	482	436	571	786	2.21	2.14	2.73	2.66
Sugar beets	368	302	280	249	37.0	40.4	40.2	44.6
Potatoes	1271	921	633	597	18.4	17.8	17.2	19.7

[a] pre-result estimate

Source: CSO data.

Production of potatoes has shown a falling tendency for a number of years, which was not stopped by Poland's accession to the EU. In 1998-2006, the crop acreage of potatoes decreased by half, from 1.3 to 0.6 mln ha with a slight fall of yields (to approx. 17 ton/ha). In 2007, production of potatoes was approx. 11.2 mln tonnes and is higher by 1/4 than in 2006, with yields of approx. 20 ton/ha (table III.4, figure III.4).

Figure III.4. Harvest of industrial and root plants (in mln tonnes)



* CSO pre-result estimate

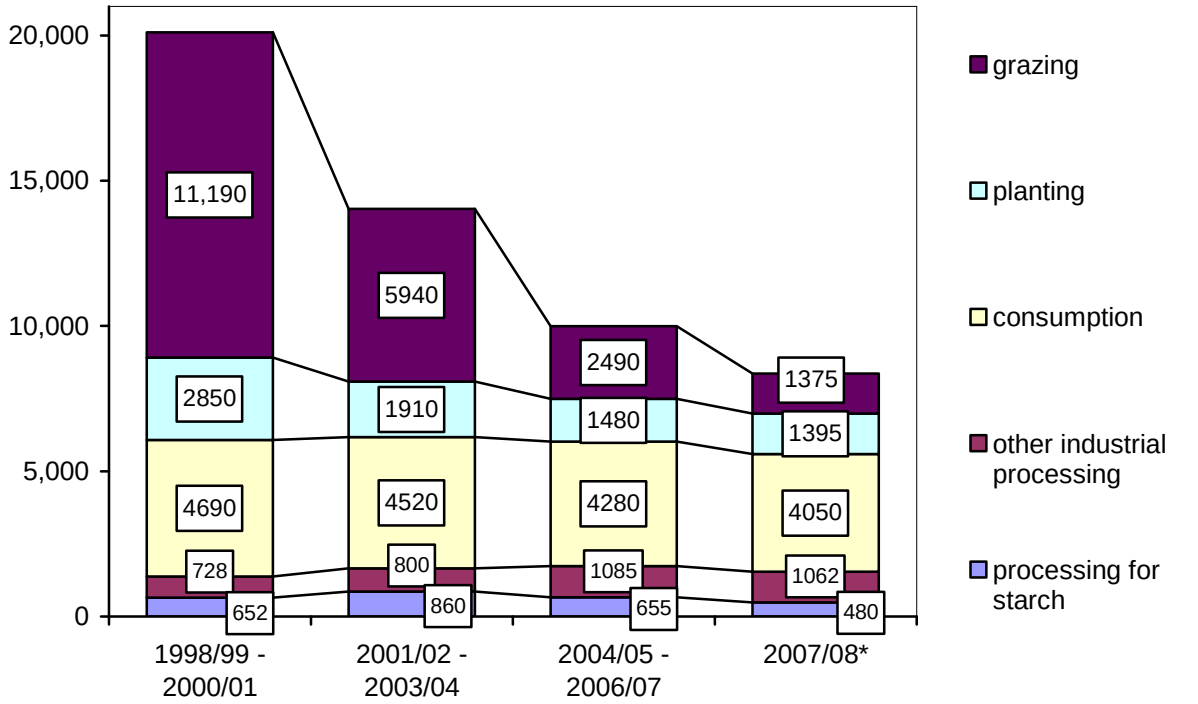
Source: CSO data.

The decreased production of potatoes, of which we were the leading producer in the world, was affected by their reduced use in feeding farm animals and replacing them by concentrated feeding stuff (mainly cereals). Using potatoes in production of spirit was almost completely withdrawn. This led to a radical decrease in the crop area of potatoes (from 1.3 mln ha in 1998 to less than 0.6 mln ha in 2007). Also the area of pasture root crops was limited (from 120 thous. ha to 50 thous. ha, respectively).

The utilisation structure of potatoes changed considerably. In the seasons 1998/99-2000/01, over half (approx. 11.2 mln tonnes) of harvested potatoes were provided to farm animals as food. In 2006/07, only approx. 15% of harvest was assigned for that purpose, i.e. approx. 1.4 mln tonnes of potatoes. Consumption of fresh potatoes showed a weaker tendency at that time, however its share in the use of potatoes is currently almost 40%, i.e. by 13 percentage points more

than on average in the seasons 1998/99-2000/01. Slightly over 1 mln tonnes of potatoes are assigned for food purposes in the processed form, e.g.: potato crisps, chips (figure III.5).

Figure III.5. Structure of domestic use of potatoes (in thous. tonnes)



* estimate

Source: Rynek ziemniaka. Stan i perspektywy, nr 26 i 32, IERiGŻ-PIB, ARR, MRiRW, „Analizy Rynkowe" 2004 i 2007.

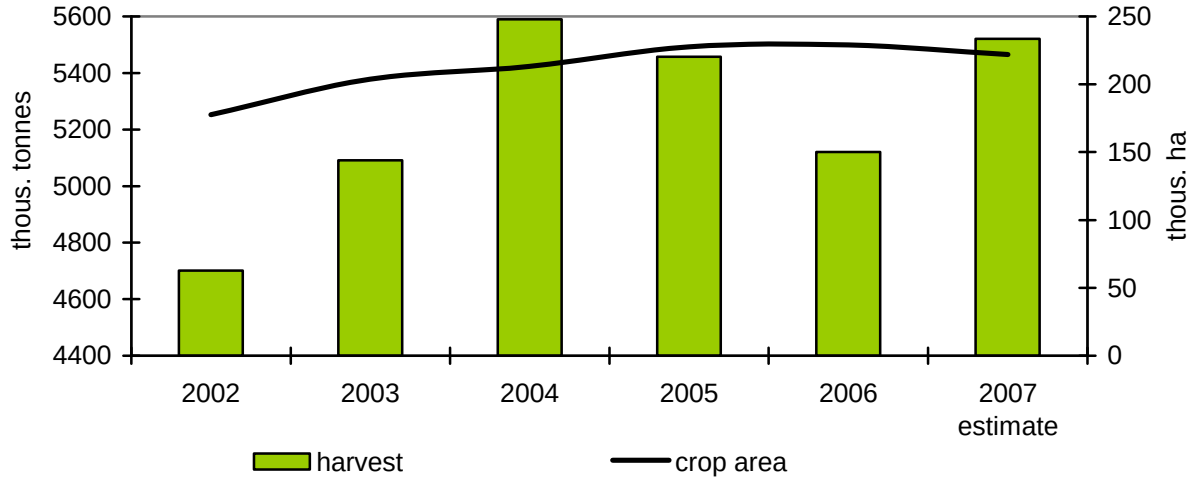
Production of starch potatoes and starch processing are included in the quotation system. In the season 2006/07, compensation payment for producers of starch potatoes was 236.7 PLN/tonne of starch, whereas for a tonne of the produced potato starch – EUR 22.25.

Production of fruit and vegetables

In 2007, the growing tendency of the crop area of field vegetables, which had lasted from the beginning of the current decade was stopped. According to the CSO data, it amounted to 216 thous. ha and was smaller as compared to 2006 by 3.2%, and in relation to the average in 2004-2006 by 0.8%. Higher than the average in 2004-2006 was only the crop acreage of cauliflowers, tomatoes and most vegetables which are less significant in the crop structure – mainly pepper, broccoli, leguminous vegetables and sugar corn. Higher than the average acreage in 2004-2006 was also the crop acreage of vegetables cultivated under shields –

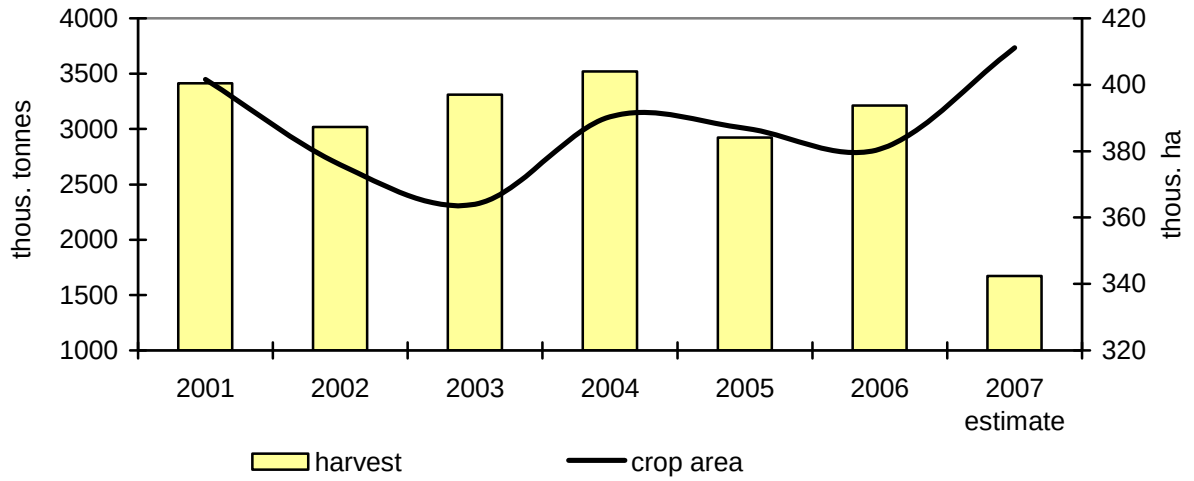
mainly tomatoes. In 2007, the growing tendency of the apple orchard area, plantations of raspberries, blackcurrants and high bilberries continued. The cherry orchard area was greater than in 2006, as well as than the average in 2004-2006, and the same applies to walnuts. The falling tendency of plum crop area continued. The strawberry crop area was smaller than in 2006 and than the average in 2004-2006, while the crop area of peaches, apricots, hazelnuts, sweet cherries and pears did not change considerably.

Figure III.6. Crop area and harvest of vegetables in Poland



Source: On the basis of the CSO data.

Figure III.7. Crop area and harvest of fruit in Poland



Source: On the basis of the CSO data.

A systematic increase in the crop area of most sorts of soft fruit and apples is caused above all by the growing demand in the foreign sale markets, while in

the case of bilberries, tomatoes from shields or vegetables outside the group of "basic vegetables" – such increase is caused by the growing demand in the internal market. The increase in the area of walnuts and vegetables cultivated under shields was greatly influenced by the EU fund support (with reference to crops under shields, these are structural funds, and for walnuts – resources guaranteed under the common organisation of the horticultural market).

In the current decade, yields of most horticultural crops do not show growing tendencies. In 2007, due to favourable meteorological conditions, yields of almost all field vegetables were higher than in the previous year, however only the productivity of cabbage, carrots, beets and tomatoes from a hectare was higher than the average in 2004-2006. As compared to the average in 2002-2003, in 2007 only yields of carrots and cauliflowers increased. Among vegetables cultivated under shields, yields of tomatoes keep growing due to the application of modern output technologies. In 2007, due to May frosts, yields of all tree fruit were the lowest in twenty years. Yields of apples, cherries, sweet cherries, pears, plums and nuts accounted for 40-50% of the volume in 2006. Yields of berry fruit were also the lowest in the current decade. In relation to 2006, yields of currants dropped by 30%, raspberries by 25%, and strawberries by 8%. In 2004-2006, yields of most sorts of fruit and vegetables accounted for 40-70% of average yields of the "old" EU.

The harvest of field vegetables are characterised by a growing tendency. In 2004-2006, it was higher than average in three previous years by 12% and amounted to 4.7 mln tonnes. In 2007, the harvest of field vegetables exceeded the level of the previous year by 9%, and in the relation to the average in 2004-2006, it was higher by 2%. Production of vegetables from shields increased by 3 and 6%, respectively. In 2007, the harvest of fruit amounted to only 1.7 mln tonnes and was lower in relation to the previous year and the average in 2004-2006 by 48%. In 2004-2006, in relation to the previous three years, the harvest of all sorts of berry fruit increased, and the harvest of all tree fruit was lower.

In the season 2007/08, supply of fruit in the moderate zone for the domestic market, i.e. market output adjusted taking into account the foreign trade balance, will decrease less than the harvest as compared to the previous season (by 41%) and will amount to approx. 1 mln ton. Supply of vegetables will increase less than the harvest, as a result of the expected growth in the positive balance of foreign trade turnover (from 2.9 to 3.1 mln tonnes), which in the current decade is constantly increasing. On the other hand, supply of moderate zone fruit is decreasing.

Table III.5. Harvest of fruit and vegetables in Poland (in thous. tonnes)

Specification	2001-2003 the average	2004-2006 the average	2006	2007 estimate	2004-2006 / 2001-2003 in %	2007 / 2006 in %
Fruit	**3246.7**	**3217.8**	**3210.8**	**1672.5**	**99.1**	**52.1**
apples	2343.3	2300.5	2304.9	1039.1	98.2	45.1
cherries	181.4	178.8	194.9	106.7	98.6	54.7
plums	114.8	105.9	93.6	53.4	92.2	57.1
other tree fruit	151.8	132.8	114.6	62.1	87.5	54.2
strawberries	175.5	188.0	193.7	168.2	107.1	63.7
raspberries	44.2	58.3	52.5	47.0	131.9	89.5
currants	175.1	191.9	194.5	140.0	109.6	72.0
other berry fruit	60.6	61.6	62.1	56.0	101.7	90.2
Field vegetables	**4183.3**[a]	**4703.2**	**4408.0**	**4790.7**	**112.4**[b]	**108.7**
cabbage	1212.6	1293.5	1189.4	1314.2	106.7	110.5
carrots	763.4	896.7	833.2	902.1	117.5	108.3
onions	631.6	723.3	590.2	653.3	114.5	110.7
beets	322.4	351.2	340.6	347.0	108.9	101.9
cauliflowers	182.6	207.3	211.8	218.0	113.5	102.9
tomatoes and cucumbers	502.5	492.4	518.6	531.8	98.0	102.5
other	568.2	738.8	724.2	824.3	130.0	113.8
Vegetables under shields	**712.7**[a]	**686.3**	**712.0**	**730.0**	**96.3**[b]	**102.5**
tomatoes and cucumbers	593.6	594.2	625.0	640.0	100.1	102.4
other	119.1	92.1	87.0	90.0	77.3	103.4

[a] Average in 2002-2003; [b] the average in 2004-2006 was compared to the average in 2002-2003. The results of the CSO Agricultural Census of 2002 changed the crop area and harvest of vegetables to a great extent, hence the data of 2001 was not presented.

Source: CSO data.

Table III.6. Market output of fruit and vegetables (in thous. tonnes)

Specification	Fruit of moderate zone				Vegetables			
	2001/02--2003/04 the average	2004/05--2006/07 the average	2006/07	2007/08 forecast	2002/03--2003/04 the average	2004/05--2006/07 the average	2006/07	2007/08 forecast
Market output	2366	2285	2280	1205	2276	3126	2970	3200
Balance of foreign trade turnover	445	461	571	205	150	168	34	150
Supply in domestic market	1921	1824	1709	1000	2126	2958	2936	3050

Source: CSO data, Foreign Trade Information Technology Centre, Ministry of Finances and Analytical Centre of Customs Administration.

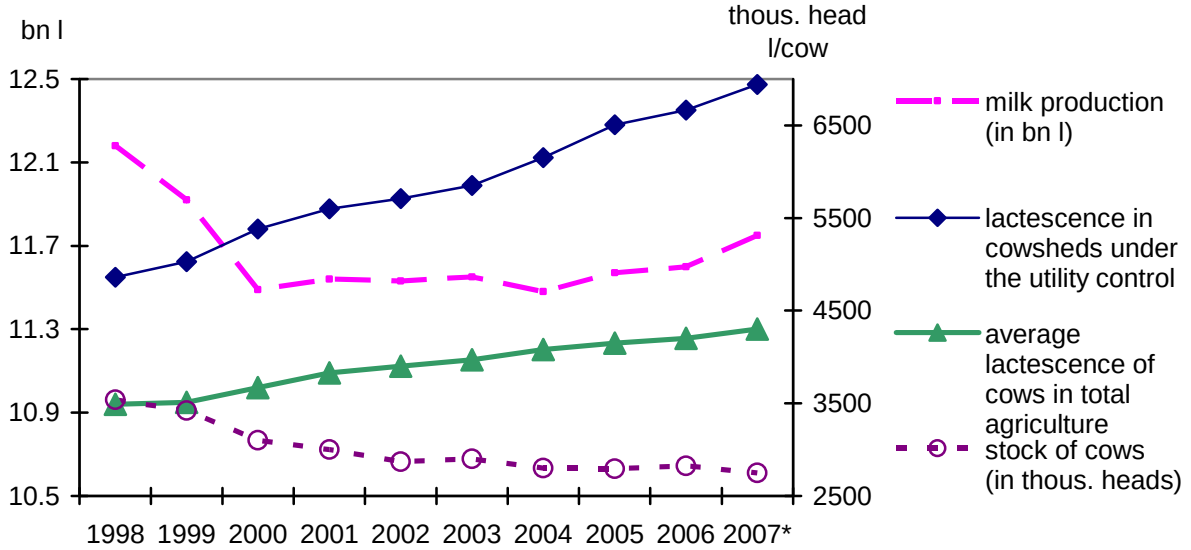
Accession to the EU did not have a greater influence on forming the area of most horticultural crops. Demand for Polish fruit and vegetables did not increase significantly in the market of the extended Community, and at the same time import of products directly competitive for family products did not increase. Insignificant use of the EU mechanisms of support is one of the reasons for stabilisation of fruit and vegetables harvest at the low level.

Production of milk

In 2007, output of milk will be approx. 11.7 bn litres of milk, and will be by approx. 2% higher than in 2006. Since 2000, milk production stabilised at the level of approx. 11.5 bn of litres. Poland's accession to the European Union led to including our dairying in the quotation system of milk sale. In the quotation year 2006/07, the domestic reference volume for Poland (jointly with the re-structuring reserve) amounts to approx. 9380 thous. tonnes, of which approx. 9142 thous. tonnes constitute wholesale supplies, and approx. 238 thous. tonnes – direct sale. In 2007, the total milk purchase, calculated as milk with reference fat content, will amount to approx. 9370 thous. tonnes, which means that the domestic reference volume of supplies will not be exceeded.

The stabilisation of milk production in the recent years has been accom-panied by a slow fall in the stock of cows, which in 2000-2007 decreased from 3.1 to 2.75 mln heads, i.e. by 10%. At the same time, lactescence of cows increased to 4300 litres of milk, i.e. by approx. 650 litres. A higher level of lactescence of cows by 61% is achieved by cowsheds subject to milk utility control. In 2007, there were approx. 17 thous. of such farms (i.e. by 1000 fewer than in 2004), and the stock of cows increased to 527 thousand and was higher by 47 thous. heads than in 2004. In 2000-2007, the increase in lactescence of cows in those farms amounted to 25% and was by 6.5 percentage points higher than the national average.

Figure III.8. Stock of cows, milk production and lactescence of cows

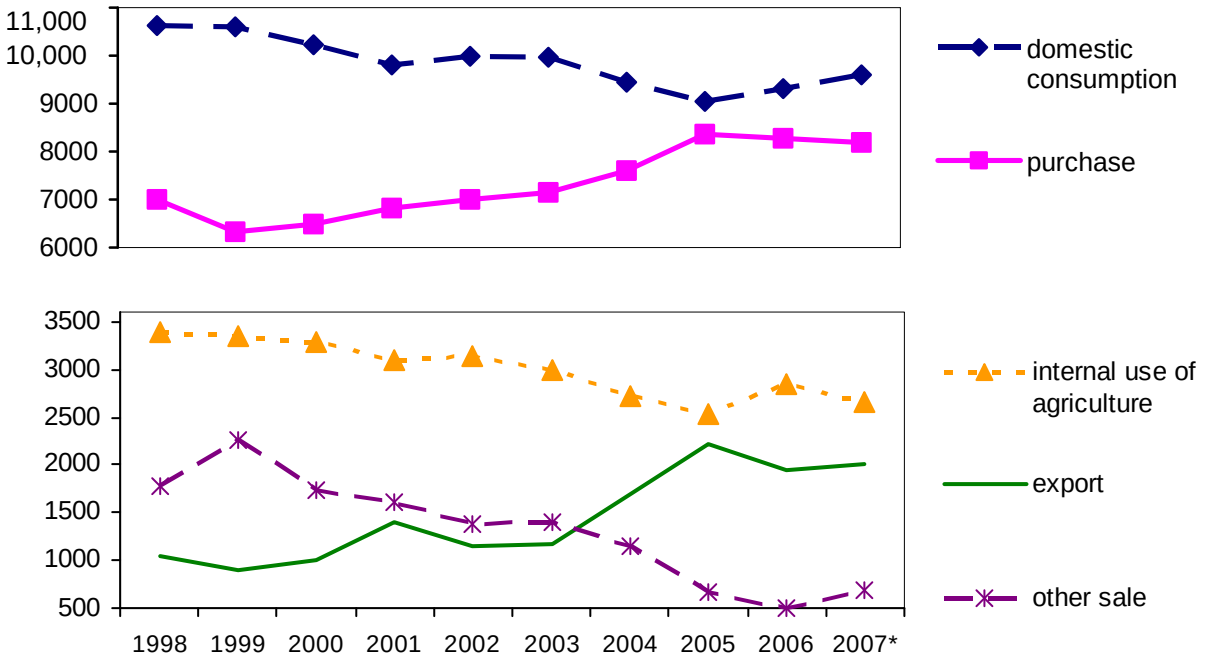


* IAFE-NRI estimate

Source: Rynek mleka. Stan i perspektywy, nr 21 i 33, IERiGŻ-PIB, ARR, MRiRW, „Analizy Rynkowe" 2001 i 2007.

In milk production in Poland, quality changes were greater, which was forced by the market economy and our country's accession to the EU. Almost 100% of milk currently purchased is in the Extra class, while in 2000 it accounted for approx. 50%.

Figure III.9. Changes in allocation of domestic production of milk (in mln l)



* IAFE-NRI estimate

Source: Rynek mleka. Stan i perspektywy, nr 21 i 33, IERiGŻ-PIB, ARR, MRiRW, „Analizy Rynkowe" 2001 i 2007.

In the recent decade there have occurred significant changes in allocating domestic production of milk. After Poland's accession to the EU, the falling tendency of milk consumption in the country was slowed down. In 2007, this consumption will amount to approx. 9600 million litres of milk and will be similar as in 2006, but by approx. 5% higher than in 2005. At the same time, milk purchase stabilised at the level of approx. 8.2 bn yearly. In 1999-2007, milk purchase increased from 6324 to 8184 million litres of milk, i.e. by almost 1/3, while other milk sale decreased (direct sale, to small producers) by approx. 1300 million litres and the internal use in agriculture – by approx. 700 million litres. Poland's accession to the EU caused a rapid increase in export of dairy products from 1.2 bn litres in 2003 to 2.2 bn litres in 2005 and 2.0 bn litres in 2007.

Meat production

In the production structure of meat in Poland pork dominates, the share of which accounts for approx. 60%, then there is poultry (approx. 30%) and beef with veal (ok. 10%).

Production of pigs for slaughter is characterised by periodicity of output evoked by the mechanism of a pig cycle, which lasts 3-4 years (figure III.10). Poland's accession to the EU did not eliminate fluctuations in production of pigs. In 2007, production of pork will be approx. 2.2 million tonnes and will be at a similar level as in the previous year. In the same year there appeared, due to low profitability of production of pigs for slaughter, signs proving that the falling phase of a pig cycle started. The falling phase of a pig cycle is reflected by decreased stock of sows, which in 2007 declined by 4.8% (table III.7). This means that in the next year production of pigs will be reduced by 5%, and prices of pigs for slaughter will rise.

Productivity indicators of breeding pigs in 2007 are slightly higher than the average in 2004-2006, e.g. production of meat from one head of stock is higher by 4.5%, the rotation of the herd of pigs – by 5 percentage points, and slaughters of pigs in relation to the stock of sows – by approx. 7%.

Figure III.10. Stock of pigs and production of pork

* preliminary estimate

HCW – Hot Carcass Weight

Source: CSO and Rynek mięsa. Stan i perspektywy, nr 31 i 33, IERiGŻ-PIB, ARR, MRiRW, „Analizy Rynkowe" 2006 i 2007.

Table III.7. Stock of pigs and cattle and breeding productivity of those animals

Specification	1998-2000	2001-2003	2004-2006	2007[a]
Stock of pigs (in million heads)	18.4	17.9	17.9	18.1
of which: sows (in thous. heads)	1781	1751	1793	1754
Slaughter of pigs (in million heads)	23.54	23.43	23.66	24.8
Stock of cattle (in million heads)	6.52	5.56	5.39	5.70
of which: cows	3.39	2.96	2.81	2.79
other	3.13	2.60	2.58	2.91
Slaughter of cattle (in thous. heads)	1731	1303	1228	1336
calves (in thous. heads)	1088	990	830	811
Production of meat from one head of stock (in kg)				
▪ pigs	109.8	114.0	114.5	119.7
▪ cattle	65.2	61.0	67.2	68.6
Rotation of the herd of pigs	1.28	1.31	1.32	1.37
Rotation of the herd of cattle	0.43	0.41	0.38	0.38
Slaughter of pigs/stock of sows	13.2	13.4	13.2	14.1
Slaughter of cattle and calves/stock of cows	0.830	0.775	0.732	0.770

[a] IAFE-NRI estimate

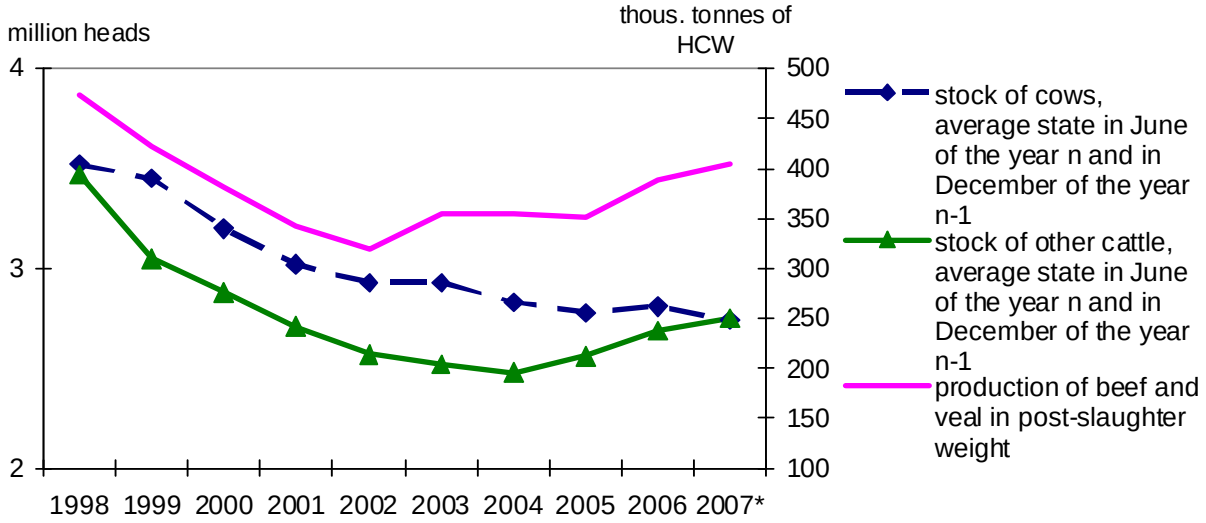
Source: Own calculations on the basis of the CSO data; Rynek mięsa. Stan i perspektywy, nr 33, IERiGŻ-PIB, ARR, MRiRW, „Analizy Rynkowe" 2007.

After Poland's accession to the EU, the falling tendency in the breeding of cattle was slowed down. In 2004-2007, the stock of cattle increased from 5.3 to 5.7 million of heads, i.e. by approx. 8%. At that time, the stock of cows declined by approx. 100 thous. heads, and its fall was compensated by increased stock in other age groups, which was influenced by significant improvement of beef output.

A favourable phenomenon in breeding of cattle is the fact that fewer calves are slaughtered than a few years before. In 2006, approx. 800 thousand heads of them were slaughtered, while in 2003, almost 1 million heads. The number of slaughtered cattle over 1 year old increased to 1.3 mln heads in 2007. At the same time, the average weight of slaughtered cattle increased from 440 kg in 2003 to approx. 520 kg in 2007. Production of cattle for slaughter together with calves for slaughter increased from approx. 360 thous. tonnes of HCW in 2004 to approx. 404 thous. tonnes of HCW in 2007, i.e. by 12.2% (figure III.11).

Since the end of the nineties of the last century production of poultry has shown a growing tendency, the pace of which after Poland's accession to the EU was slightly slowed down. In 1998-2007 poultry output increased from 519 to 1090 thous. tonnes, i.e. it more than doubled.

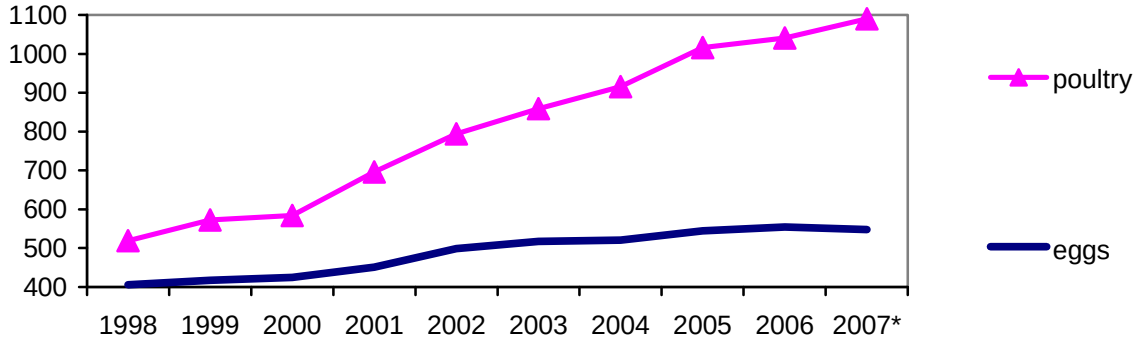
Figure III.11. Stock of cattle and production of beef, including veal



* IAFE-NRI estimate

Source: CSO and Rynek mięsa. Stan i perspektywy, nr 31 i 33, IERiGŻ-PIB, ARR, MRiRW, „Analizy Rynkowe" 2006 i 2007.

Figure III.12. Poultry production in Poland (in thous. tonnes)



* IAFE-NRI estimate

Source: CSO and Rynek drobiu i jaj. Stan i perspektywy, nr 30, 32, IERiGŻ-PIB, ARR, MRiRW, „Analizy Rynkowe" 2006, 2007.

Production of pigs, poultry and cattle for slaughter is diverse in terms of territory (table III.8):

- A leading role in production of pigs for slaughter is played by the Wielkopolskie (27%), Mazowieckie (11%) as well as Kujawsko-Pomorskie and Łódzkie (approx. 10% each) Voivodships. There were not any significant changes in production of such animals for slaughter in the Wielkopolskie and Mazowieckie Voivodships. In half of the voivodships, production of pigs for slaughter fell and the greatest decline was observed in the Warmińsko-Mazurskie Voivodship, by approx. 20%. The greatest increase occurred in the Świętokrzyskie Voivodship, by 41%.

Table III.8. Production of pigs, poultry and cattle for slaughter in warm post-slaughter weight

Voivodships	Pigs for slaughter				Poultry for slaughter				Cattle for slaughter (excluding calves)			
	2000	2005	Distribution in % in 2005	Dynamics rate in % 2005/2000	2000	2005	Distribution in % in 2005	Dynamics rate in % 2005/2000	2000	2005	Distribution in % in 2005	Dynamics rate in % 2005/2000
	thous. tonnes of HCW				thous. tonnes of HCW				thous. tonnes of HCW			
POLAND	1950.6	1981.2	100.0	101.6	583.9	1016.4	100.0	174.1	333.4	314.3	100.0	94.3
Dolnośląskie	53.9	48.4	2.5	90.6	25.6	50.5	5.0	197.0	10.3	7.2	2.3	69.9
Kujawsko-pomorskie	217.8	207.8	10.5	95.4	46.4	64.1	6.3	138.2	23.3	26.5	8.4	113.7
Lubelskie	101.2	130.7	6.6	129.1	26.4	43.3	4.3	163.9	25.8	20.2	6.4	78.3
Lubuskie	28.5	31.6	1.6	111.0	237.4	52.6	5.2	140.8	4.7	3.3	1.1	70.0
Łódzkie	172.9	204.6	10.3	118.3	41.9	97.7	9.6	233.1	27.2	32.6	10.4	119.9
Małopolskie	68.9	64.0	3.3	92.9	24.6	39.6	3.9	160.5	22.3	18.5	5.9	83.3
Mazowieckie	215.2	221.0	11.2	102.7	85.3	148.5	14.6	174.0	41.0	46.8	14.9	114.1
Opolskie	767.1	61.9	3.1	92.3	22.9	26.5	2.6	115.6	9.6	7.1	2.3	73.8
Podkarpackie	42.7	45.9	2.3	107.7	22.6	33.5	3.3	148.3	14.0	9.5	3.0	67.8
Podlaskie	106.4	90.3	4.6	84.9	28.6	43.5	4.3	152.1	26.9	29.4	9.4	109.2
Pomorskie	78.4	75.7	3.8	96.6	5.7	12.3	1.2	213.4	9.2	5.1	1.6	55.7
Śląskie	60.1	60.6	3.1	100.8	19.0	36.4	3.6	191.2	12.4	9.5	3.0	75.9
Świętokrzyskie	39.9	56.1	2.8	140.7	11.5	20.9	2.1	181.7	10.5	11.0	3.5	105.0
Warmińsko-mazurskie	112.2	88.5	4.5	78.8	81.6	106.4	10.5	130.5	29.2	16.5	5.3	56.6
Wielkopolskie	518.2	527.7	26.6	01.8	67.6	179.2	17.6	265.3	56.0	62.2	19.8	111.2
Zachodniopomorskie	67.2	66.1	3.3	98.3	36.7	61.5	6.1	167.7	10.8	8.8	2.8	81.1

Source: Own calculations on the basis of the Statistical Yearbook of Agriculture, CSO 2001, 2006.

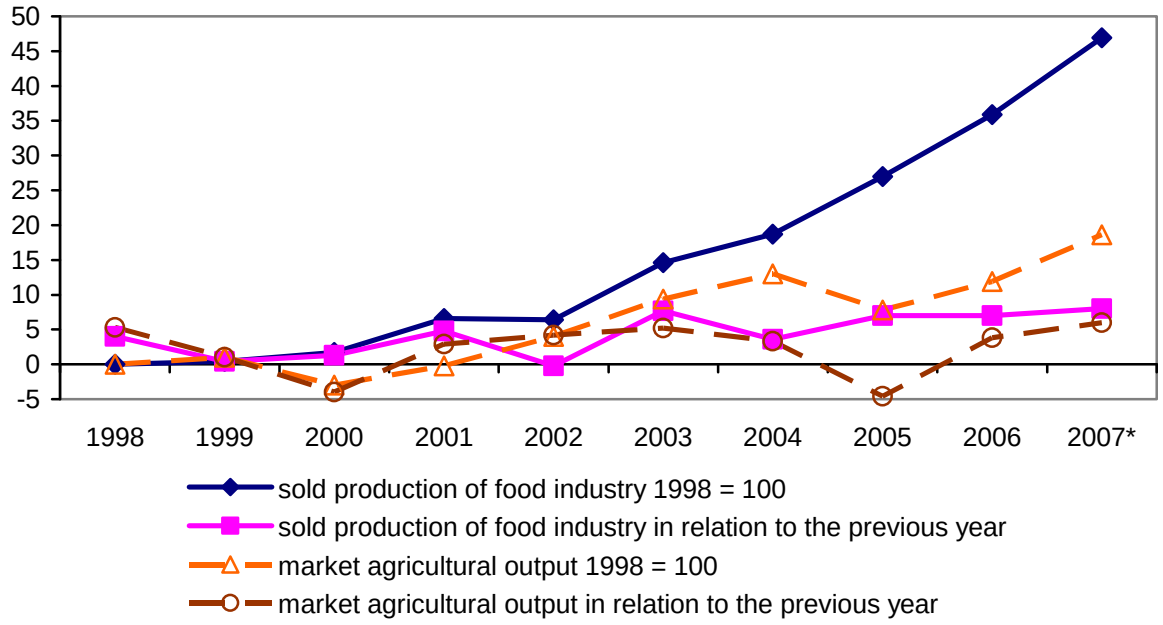
- In production of poultry for slaughter, the greatest share is in three voivodships: Wielkopolskie (approx. 18%), Mazowieckie (approx. 15%) and Warmińsko-Mazurskie (approx. 11%). In 2000-2005, in all voivodships production of those slaughter animals increased, with the greatest share in the Wielkopolskie Voivodship (2.5 times) as well as in the Łódzkie, Pomorskie and Śląskie Voivodship (2 times).
- The main producer of beef with 1/5 of the market is the Wielkopolskie Voivodship, and then there are: Mazowieckie (15%), Łódzkie (10%), Podlaskie and Kujawsko-Pomorskie Voivodships (approx. 9% each). In those voivodships production of cattle for slaughter has grown in the recent years, which made their position stronger in that area.

The Wielkopolskie Voivodship has been an unquestionable leader in meat production in Poland, from which in 2005 approx. 1/4 of meat produced in the country came.

III.2. Food industry development

Poland's accession to the EU was one of the main factors of overcoming the standstill, which occurred in the Polish food industry in 1998-2002. This was a factor for slowing down of the economic development in Poland, evoked to a large extent by the Russian crisis. In that period, the growth pace of sold production of food industry was only approx. 1.5% yearly, while in 1993-1998, it amounted to almost 10% yearly. Another recovery in that sector started already in the year preceding Poland's entry into the EU. In 2003, sold production of food industry (in constant prices) increased by 7.7%, and in the first months of 2004, the growth pace exceeded 10%. This rapid recovery was distorted in the first year after joining the European Union, and it was caused by fulfilled inflation expectations, which slowed down the increase of real income of people and demand of domestic market. At that time, the rapid growth of export increased food industry throughout 2005 by 3.6% despite stagnation of domestic demand. This slowing down of the sector development was of a temporary character and lasted only to mid-2005. Since then, we have observed further great recovery, lasting already 2.5 years, with a growth pace of sale exceeding 7% yearly (figures III.13 and III.14). This is an effect of both systematically growing export, and high increase in domestic demand evoked by increasing real income of people.

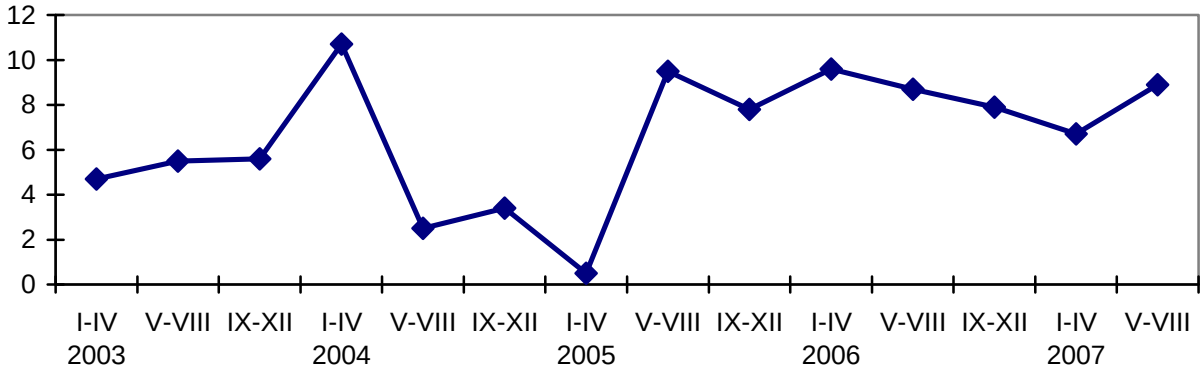
Figure III.13. Comparison of growth rate of sold production of food industry with development of market agricultural output (in relation to the previous year and to the state in 1998)



* own estimate

Source: Own calculations on the basis of the CSO data.

Figure III.14. Growth pace of sold production of food industry (in constant prices) in relation to the corresponding period of the previous year (in medium and large companies)



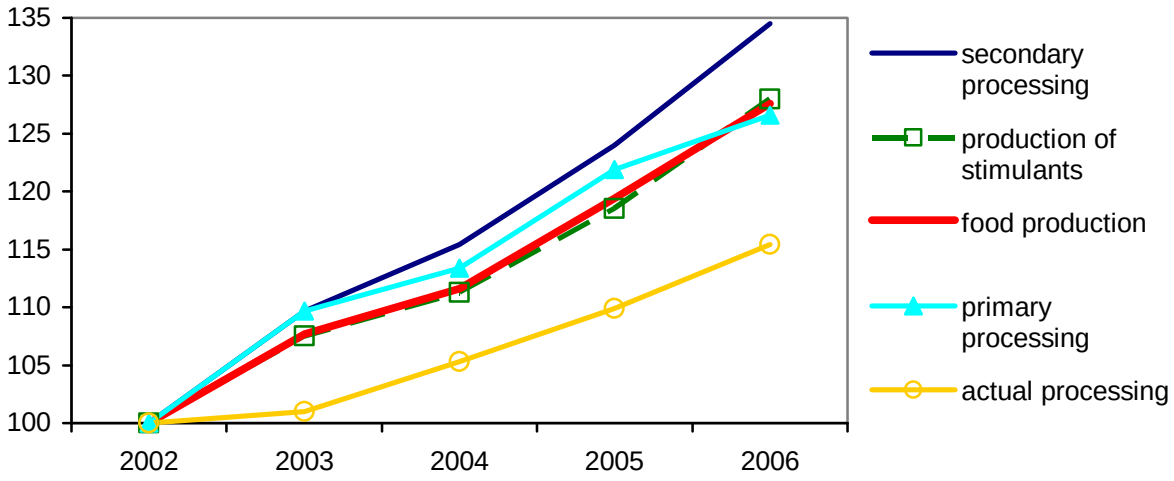
Source: CSO Statistical Bulletin 2003, No. 1-12; 2004, No. 1-12; 2005, No. 1-12; 2006, No. 1-12; 2007, No. 1-8.

After Poland's entry into the EU, another development acceleration of industrial production of food has been observed, with a pace that is only slightly slower than in the years of the system transformation. Currently, recovery has stable grounds, because it results from growing export and domestic demand, as well as industrialisation processes of processing, resulting in increased share of

food industry in management of market agricultural output. This is reflected by more than twice faster increase of manufacturing than supply of agricultural products. Currently, i.e. in 2007, production of food industry is by 37.5% higher than in 2002, while in the same period, market agricultural output grew only by approx. 14%.

After Poland's accession to the EU, secondary processing developed the fastest, i.e. production of multi-component food and deeply processed food. This was a continuation of development tendencies of the previous years. Accelerated growth pace of primary processing of agricultural products was a new phenomenon, and to a lower degree, also production of stimulants. Similarly to the entire period of transformations, production of standard goods is developing the most slowly (figure III.15).

Figure III.15. Production development of food industry
(2002 = 100, in constant prices)



Source: Own calculations on the basis of the CSO data.

In the years 2003-2006, production was developing the fastest (tables III.9-III.11) in the case of:

- components for the sector of biofuels, i.e. rape oil and dehydrated spirit,
- food and beverages of high flexibility of demand and great share of added value, i.e. non-alcoholic beverages, confection bread, chocolate and chocolate products, food concentrates, pasta, potato preparations, cheese, milk beverages, beer, soup and bouillon, etc,
- products of export oriented divisions, i.e. production of fish preparations, confection products, frozen fruit and vegetables, licence cigarettes, starch preparations, etc.,

- divisions subject to accelerated process of processing industrialisation, in particular slaughter of animals for slaughter, production of processing milk, industrial fodders, cream, etc.,
- divisions with particularly high dynamics of development, i.e. production and processing of poultry, forage for domestic animals, different types of convenient food (sauces, melted cheese, etc.).

Table III.9. Industrial[a] production of food of animal origin

Groups of products	Measurement unit	2003	2005	2006	Large and medium companies (I-VIII)	
					2006	2007
Industrial slaughters	thous. tonnes	1996.2	2119.6	2250.5	1347.0	1360.0
of which: pigs	thous. tonnes	1032.9	1025.5	1185.5	705.8	709.0
cattle	thous. tonnes	171.7	175.2	222.3	107.1	113.0
poultry (purchase)	thous. tonnes	786.0	916.5	888.5	533.0	536.5
Processing of poultry	thous. tonnes	964.9	1237.1	1304.6	820.6	828.0
Processed meat	thous. tonnes	801.5	825.0	863.0	541.7	572.0
of which: smoked meat	thous. tonnes	83.3	108.6	130.5	50.1	52.0
sausage	thous. tonnes	456.5	512.6	451.5	201.0	255.3
Poultry processed meat	thous. tonnes	119.6	126.2	96.3	55.9	63.6
Poultry products	thous. tonnes	28.0	25.1	30.0	20.5	20.5
Tinned poultry	thous. tonnes	33.4	34.0	33.4	22.6	23.7
Tinned meat	thous. tonnes	49.7	47.6	52.6	30.4	31.2
of which: ham and shoulders	thous. tonnes	13.9	15.3	20.6	10.0	11.6
Melted fats	thous. tonnes	55.2	63.5	62.4	34.7	41.2
Land fish processing	thous. tonnes	274.0	348.2	400.0	127.0	123.3
Fish meat and fillets	thous. tonnes	77.6	106.5	115.8	50.7	50.1
Salted and dried fish	thous. tonnes	15.0	23.0	22.0	8.1	7.2
Fish preparations	thous. tonnes	146.4	194.7	230.5	68.2	66.0
of which: smoked fish	thous. tonnes	23.6	52.1	64.3	27.8	27.0
tinned fish and preserved fish	thous. tonnes	55.4	57.1	64.5	24.6	25.0
pickle	thous. tonnes	54.0	67.7	80.5	15.8	14.0
Milk processing	thous. tonnes	7150	8381	8215	5576	5599
Liquid milk	mln l	1992.3	2290.9	2293.5	1629.2	1721.4
of which: drinkable milk	mln l	1332.8	1309.1	1304.5	.	.
Cream	mln l	233.7	313.6	349.5	215.1	226.1
Powdered milk	thous. tonnes	175.5	193.4	163.6	122.1	128.0
of which: skimmed milk	thous. tonnes	149.0	142.3	127.2	85.2	91.2
Butter	thous. tonnes	167.0	179.5	173.3	123.7	131.0
Cheese	thous. tonnes	548.2	605.5	645.7	410.8	437.3
of which: rennet cheese	thous. tonnes	195.2	239.0	257.3	186.7	185.0
melted cheese	thous. tonnes	61.9	65.9	79.4	47.9	57.5
fresh cheese	thous. tonnes	286.5	295.2	302.4	218.9	243.0
Condensed milk	thous. tonnes	44.4	47.4	49.6	29.2	33.5
Milk beverages	mln l	449.0	510.6	558.0	386.7	424.5
Ice-cream	mln l	181.1	211.6	194.0	.	.

[a] in industrial companies, i.e. employing more than 9 people

Source: Unpublished data of the CSO and own estimates.

Table III.10. Industrial[a] processing of products of plant origin
(in thous. tonnes)

Group of products	2003	2005	2006	Large and medium companies (I-VIII)	
				2006	2007
Processing of cereals	3935.0	4053.0	4153.2	1844.2	1723.9
Flour	2680.2	2734.8	2796.1	1234.3	1138.4
Groats and flakes	77.9	92.0	112.6	31.0	36.0
Compounded cereals	73.3	96.1	101.1	62.5	66.8
Mixtures	16.7	43.4	50.2	.	.
Isoglucose 42%	60.4	23.8	25.2	16.9	21.2
Glucose and syrup	132.8	264.4	295.3	157.1	177.0
Potato starch	150.5	111.7	73.7	1.9	3.6
Fodders for breeding animals	5600.7	5278.2	6341.2	3441.4	4010.0
Forage for domestic animals	181.2	225.2	254.3	156.0	160.3
Fresh bread	1556.4	1547.9	1551.5	467.9	491.5
Pasta	123.2	142.1	146.2	77.2	85.1
Raw rape oil	317.6	520.1	600.4	374.6	379.7
Refined oils	542.4	559.0	636.9	369.0	389.0
Margarine	351.3	347.8	362.7	353.0	255.0
Malt	307.3	314.7	329.7	.	.
Sugar	1906.0	2032.0	1579.0	22.1	182.0
Frozen fruit	309.7	328.7	377.8	262.1	241.0
Frozen vegetables	371.0	445.3	472.5	214.2	239.8
Concentrated juice	246.5	258.1	262.4	54.2	52.7
Tinned and pickled vegetables	243.3	276.5	285.7	79.8	99.3
Jam	64.3	71.4	62.1	34.8	33.8
Pastry products	191.7	188.5	185.4	.	.
Dry confection bread	224.1	329.8	362.5	.	.
of which: sponge-cake, waffles, biscuits	171.0	234.0	289.2	25.6	27.5
not sweetened products	28.4	52.1	72.6	.	.
Confection products	394.4	427.0	425.6	210.7	267.5
of which: chocolate and chocolate products	154.5	183.2	191.2	142.2	186.9
dragees and chocolate candy	50.7	40.4	39.0	20.6	25.8
candy	64.0	53.0	56.1	34.7	33.8
chewing gum	26.1	35.5	.	.	.
pills, paste, jelly products	68.4	86.9	92.7	13.2	21.0
Ketchup and tomato sauces	63.9	73.9	93.5	.	.
Mayonnaise and mustard	86.0	77.6	95.7	.	.
Sauces	72.1	100.6	125.3	.	.
Dry spices	17.1	17.8	12.0	.	.
Stimulants and homogenised products	29.1	17.6	27.4	16.8	17.1
Soup and bouillon	41.7	49.5	54.0	30.9	38.9
Yeast	78.2	74.2	74.9	47.5	48.2
Egg preparations	8.7	14.1	10.9	.	.
Crisps, chips and dried potatoes	182.0	231.8	236.0	.	.

[a] in industrial companies, i.e. employing more than 9 people

Source: Unpublished data of the CSO and own estimates.

Table III.11. Production of beverages and tobacco products

Groups of products	Measurement unit	2003[a]	2005[a]	2006[a]	Large and medium companies (I-VIII)	
					2006	2007
Roasted coffee	thous. tonnes	85.6	82.8	80.6	50.3	47.5
Packet tee	thous. tonnes	24.0	25.1	26.0	17.0	14.9
Coffee extracts and essence	thous. tonnes	7.6	6.7	6.6	4.1	5.1
Juice, nectar and fruit and vegetable beverages	mln l	1226.5	1291.4	1549.9	894.7	1058.7
of which: drinkable juice	mln l	707.9	672.3	595.4	333.2	338.1
nectar	mln l	126.9	223.9	344.9	205.7	220.7
Water	mln l	1967.1	2272.3	2788.0	1691.9	1866.7
Refreshing beverages	mln l	2396.8	2482.6	2761.1	1753.6	1724.1
Beer	mln l	2862.2	3157.2	3526.2	2618.0	2919.8
Grape wine and vermouth	mln l	42.2	27.7	23.0	7.3	6.9
Other wine	mln l	367.9	273.1	254.6	81.9	85.9
Vodka (100° of alcohol)	mln l	93.2	94.6	99.2	67.7	76.6
of which: pure vodka	mln l	79.6	79.0	83.3	58.2	65.7
Raw spirit 100°	mln l	92.0	137.1	166.5	41.7	48.3
Rectified spirit 100°	mln l	127.8	152.8	144.7	87.9	84.7
Dehydrated spirit 100°	mln l	53.4	106.0	101.7	102.1	29.9
Methylated spirit 100°	mln l	23.8	36.7	51.9	32.2	33.8
Vinegar 6%	mln l	74.2	70.8	68.6	22.8	23.9
Domestic cigarettes	bn pcs	62.1	63.1	62.5	34.2	} 71.9
Licence cigarettes	bn pcs	20.1	39.4	48.5	25.7	

[a] in industrial companies, i.e. employing more than 9 people

Source: Unpublished data of the CSO and own estimates.

In that period, there was an insignificant growth in production of main food products, such as processed meat, cheese, butter, vodka, groats and flakes, tinned and pickled vegetables, while production of bread, margarine, confection products, yeast, vinegar, roasted coffee, packet tee, domestic cigarettes, tinned meat, melted fats, drinkable liquid milk, ice-cream, cottage cheese and concentrated juice was very stable. After joining the EU, production of part of products covered by the quotation system decreased, in particular sugar, isoglucose and potato flour, and also fruit wine, candy, drinkable fruit and vegetable juice, skimmed powdered milk and dry spices.

In 2007, i.e. in the fourth year after joining the European Union, new phenomena include:

- slower growth pace of industrial slaughters, processing of fish and production of rape oil,

- smaller output of dehydrated spirit, fruit preparations and primary processing of cereals.

These are changes developed by a large fall in harvest of fruit, fluctuations in the market of pigs and cereals conditioned by the economic situation, as well as instability of the system supporting the sector of biofuels. The new phenomena include also accelerated pace of producing industrial fodders, chocolate products, strong alcoholic beverages and poultry preparations. There were also first symptoms of reversing the falling tendencies of production in the wine sector or confection sector. Changes in production in other divisions of food industry are a continuation of the development tendencies from the previous years.

Table III.12. Dynamics of development and structure of sale value[a] according to lines in 2003-2007

Lines	Dynamics	Structure (in %)	
	2003 = 100	2003	2007[b]
Meat	151.9	25.05	26.15
Fish	212.8	2.30	3.37
Dairy	153.0	13.36	14.04
Cereals	131.4	4.28	3.87
Bakery	155.9	5.85	6.23
Fodder	138.7	6.89	6.55
Pastry	138.3	1.70	1.50
Sugar	189.2	3.76	4.87
Confection	106.4	3.55	2.58
Oil	164.2	2.30	2.58
Potatoes	185.7	1.25	1.58
Fruit and vegetables	140.0	5.85	5.59
Juice	167.8	2.50	2.86
Non-alcoholic beverages	145.7	3.34	3.37
Other food	113.7	5.27	4.30
Spirit	153.0	2.09	2.22
Beer	110.5	6.37	4.84
Wine	109.7	0.84	0.64
Tobacco	122.3	3.45	2.86
Food industry	**145.7**	**100.00**	**100.00**

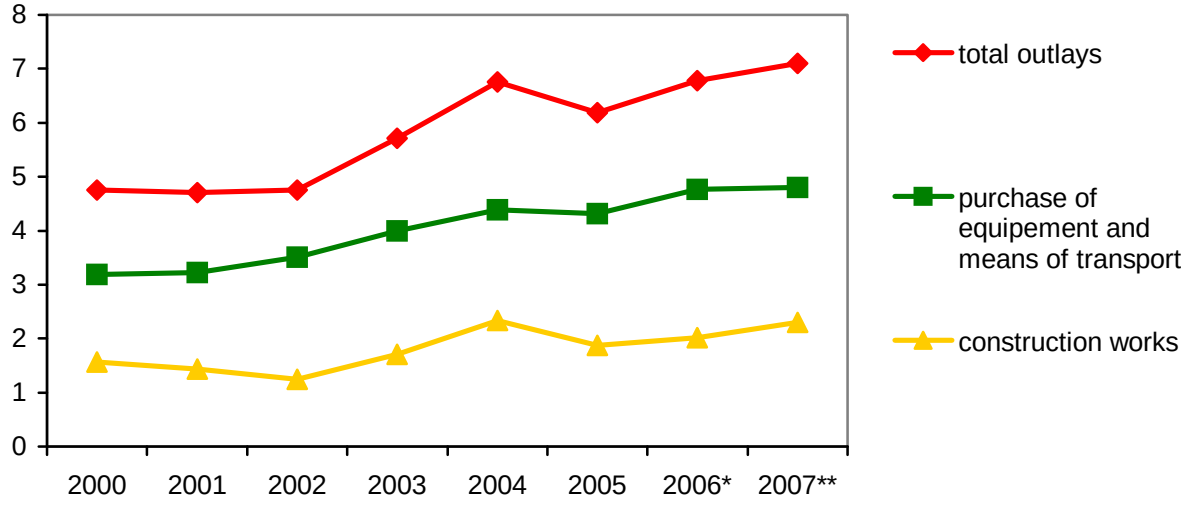
[a] in current prices, in industrial companies (over 9 employees); [b] figures in 2007 were estimated on the basis of references of chain indicators of dynamics in 2003-2005, 2006 and in the first half of 2007

Source: Own calculations on the basis of unpublished CSO data.

Diverse development dynamics of production with concurrent various dynamics of food producer prices (cf. chapter I.2.4) contributed to an increase of the turnover value (of sale in current prices) in case of all lines after joining the EU. The turnover value grew in each line (on average by 45%), but the greatest growth occurred in the fish sector (by 110%), sugar sector (by 89%), potato sector (by 85%), juice and oil sectors (by approx. 65%), and then in bakery, dairy, spirit and meat sectors (by approx. 52-56%). On the other hand, the slowest pace (by approx. 5-15%) was observed in relation to sold production of confection, wine and beer industries, as well as producers of other food. This was followed by changes in the line structure of food industry, in production of which, all divisions of processing of animal production increased their share as well as sugar, bakery, oil and potato industries, mainly at the cost of the confection, beer, wine and tobacco, food concentrates as well as cereal and mill industries (table III.12).

The lasting bases for further development of food industry are reflected by great investment activity of this sector's enterprises. This indicates that entrepreneurs optimistically estimate the possibility for an increase in (domestic and export) demand as well as competition potential of the Polish producers of food and beverages.

Figure III.16. Level of investing in passive and active part of fixed assets by food industry (in PLN billion, current prices)



* preliminary estimate on the basis of data from enterprises submitting reports to the CSO on the amount of investment outlays,

** forecast on the basis of data for the first half-year

Source: CSO Statistical Yearbooks 2002, 2004, and 2006.

Entry into the EU forced increased investment in food industry. Initially this resulted from the need of adjusting processing plants to the EU standards. This is reflected by a rapid increase in investment outlays in that sector directly before and in the first year following the accession to the EU. Within two years, they grew by approx. 50%, and more than doubled in the sensitive sectors (i.e. in processing of animal products). In that period, there was a high increase in expenditures on construction works adjusting the structures to the required standards. In 2003-2004, there was a lower increase in investment in secondary processing and in production of stimulants. These are divisions which were thoroughly modernised in the nineties.

Table III.13. Investment outlays in food industry
(in PLN billion, in current prices)

Specification	Average in 2000-2002	2003	2004	2005	2006	1st half-year	
						2006	2007
Production of food, beverages and tobacco products[a]	4.0	4.9	6.7	5.9	6.50	2.59	2.71
of which:							
processing of animal products	1.25	1.81	2.96	2.14	2.33	0.96	1.12
processing of plant products	0.65	0.90	1.38	1.28	1.36	0.55	0.52
secondary processing	1.08	1.22	1.42	1.55	1.62	0.57	0.68
production of stimulants	1.02	1.01	0.93	0.95	1.20	0.52	0.38

[a] applies to enterprises subject to financial reporting (approx. 3000)

Source: Own evaluation on the basis of unpublished data of the CSO.

The high level of investing continued also in the past three years. Indeed, there was a slight decrease in the investment value in 2005, mainly in the sensitive sectors, however, for two years investment outlays in food industry have been close to the record level observed in 2004, and in 2007, they will probably exceed PLN 7 bn. This second investment recovery occurs above all in the secondary food processing and in the sensitive sectors, but does not apply to production of stimulants and processing of plant products.

Increased investment activity linked with joining the EU is a common phenomenon, covering most lines of food industry. The following sectors are exceptions: tobacco, beer, and non-alcoholic beverages, the investment average value of which in 2004-2006 is similar as in 2000-2002. In those periods under comparison, increase of investment in meat, dairy, fish, fruit and vegetables, and spirit industries was twofold, while in fodder, bakery and sugar industries investments were growing constantly and systematically. However, the level of

investing in the primary processing of cereals, in confection and oil sectors, was not very stable, but with a growing tendency.

Table III.14. Investments in main divisions of food production[a] (in PLN million)

Specification	Average 2000-2002	2003	2004	2005	2006	1st half-year	
						2006	2007
Meat and poultry	665	1089	1810	1171	1288	527	597
Milk	496	663	982	823	875	376	427
Fish	72	61	164	145	167	58	92
Mill and pasta	145	206	216	168	264	114	111
Fruit and vegetables and potatoes	291	462	840	647	661	269	323
Confection and oil	203	228	328	466	441	155	84
Bakery	171	145	183	254	250	81	99
Fodder	178	181	208	248	324	101	151
Sugar and concentrates	456	535	676	770	787	292	304
Non-alcoholic beverages	278	357	350	278	257	92	130
Spirit	47	80	85	73	106	39	64
Beer	643	650	614	561	639	287	146
Tobacco	297	259	190	283	429	183	152

[a] applies to enterprises covered by the CSO statistics

Source: Unpublished data of the CSO.

The high level of investing results in further improvement of the sanitary, technical and technological state of processing plants. After joining the EU, the number of establishments entitled to trade in the common European market in the sensitive sectors increased considerably:

- by fifteen times in meat industry (to approx. 900),
- six times in poultry and dairy industries (to 211 and 235, respectively),
- almost four times in fish processing (to 226 establishments).

The Polish food industry is already considered as the most modern throughout the EU. It was restructured and modernised both in the period of adjustments to the market economy (in the nineties), as well as in the period of adjustments to the EU standards.

After joining the EU, there were not any rapid changes in the subjective structures of food industry. The concerns that under the influence of competition of food producers of developed European countries, there would appear the phenomenon of mass bankruptcy of the Polish food companies, or takeovers of our companies by concerns of a global reach, did not come true. In the recent years, changes of subjective structures which started at the end of the nineties,

have continued, consisting in returning to production concentration tendencies. The number of active enterprises is decreasing, mainly the small and micro ones (table III.15). A reversal of the earlier tendency of decreasing the share of large industrial companies in production and selling the entire food industry is a new phenomenon. After joining the EU, the share of those companies was close to 50% and is by approx. 5 percentage points higher than in 2003. The structure of the Polish food industry is close to the structure of companies in that sector in the EU (figure III.17).

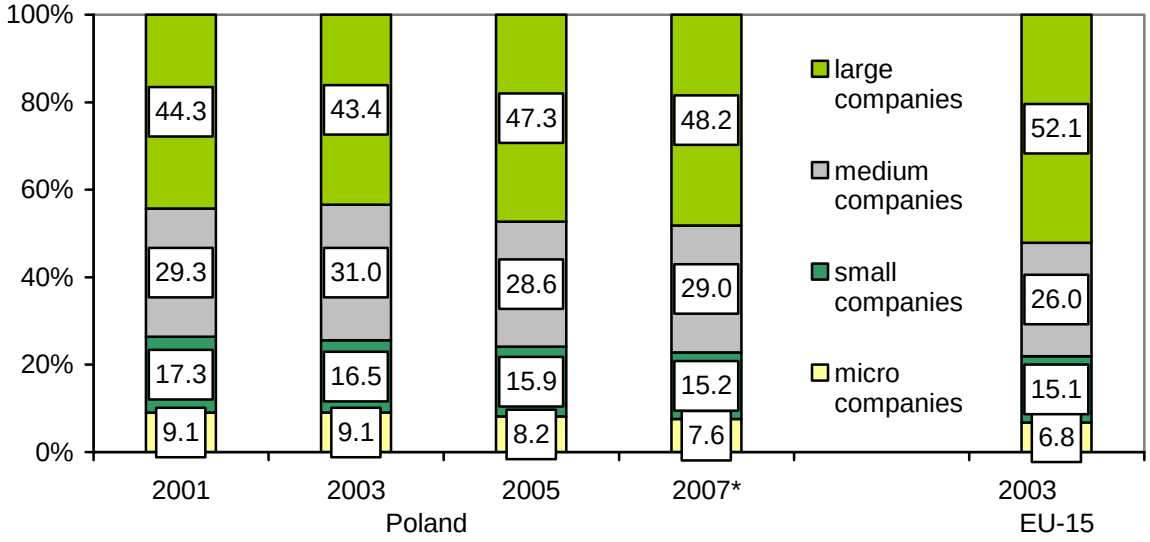
Table III.15. Active enterprises of food and beverage enterprises

Specification	Year	Industrial and local processing	Of which:			
			large	medium	small	micro
Number of companies	2001	21,222	312	1283	6163	13,464
	2003	19,516	270	1255	5353	12,638
	2005	18,354	275	1195	5201	11,683
	2007[a]	17,800	290	1210	5100	11,200
Number of employees in thous.	2001	478.0	164.5	135.2	104.3	74.0
	2003	459.2	154.4	137.0	98.4	69.3
	2005	458.2	160.6	129.8	96.3	71.5
	2007[a]	460.0	165.0	130.0	92.0	73.0

[a] own estimate

Source: Statistical Yearbooks of Industry 2002-2006 and own estimates.

Figure III.17. Structure of sale by food and beverages producers



* own estimate

Source: Statistical Yearbooks of Industry 2002, 2004 and 2005, own estimates, data of CIAA.

Table III.16. Number of companies and employment state in food industry companies

Industry	Companies[a] (in pcs)						Employment[b] (in thous. people)					
	all industrial		subject to financial reporting				throughout the industry		in companies subject to financial reporting			
	2003	2005	2005	2006	1st half		2003	2005	2005	2006	1st half-year	
					2006	2007					2006	2007
Meat	1568	1501	954	958	925	929	107.2	109.3	101.3	105.0	104.2	105.1
of which: poultry	189	195	140	142	137	141	17.6	20.3	19.4	19.9	19.5	20.1
Fish	144	143	95	105	97	108	10.8	13.0	11.3	12.6	12.2	13.4
Milk	346	300	267	262	258	254	47.0	43.6	43.0	42.2	42.8	41.8
of which: ice-cream	51	47	25	24	23	26	.	3.9	2.7	3.6	3.6	4.1
Mill and starch	192	178	145	128	128	121	9.7	9.7	9.3	8.5	8.4	8.2
of which: mill	184	167	134	117	117	110	.	8.4	8.0	7.2	7.2	7.1
Pasta	157	132	40	47	43	44	4.8	4.3	2.9	3.1	3.0	2.8
Bakery	2969	3021	391	408	379	384	68.2	71.3	28.7	28.5	27.0	28.0
Fodder	193	173	125	117	117	120	9.2	9.4	9.3	9.2	9.4	9.2
Pastry	138	127	58	54	51	60	10.5	9.5	8.3	8.4	8.2	9.6
Potatoes	18	13	11	11	9	8	.	4.5	4.4	2.7	3.9	3.5
Fruit and vegetables	341	341	229	227	224	218	36.2[c]	26.4	24.8	24.8	23.4	24.7
Juice	50	52	35	36	35	35	.	6.7	6.4	6.7	6.6	7.4
Non-alcoholic beverages	148	136	83	78	72	68	14.2	12.4	11.0	10.6	10.6	11.0
Confection	44	30	27	25	25	18	15.2	10.1	10.9	8.4	8.1	7.0
Sugar	146	135	84	80	79	76	17.6	18.0	17.4	17.1	16.5	17.4
Oil	22	28	16	18	15	18	2.8	3.0	3.0	3.3	3.0	3.3
Other food	210	199	133	121	116	123	16.6	16.6	15.6	15.5	15.4	15.8
Spirit	74	78	51	58	54	53	5.8	5.4	4.9	5.0	4.8	5.0
Beer	56	45	44	40	32	27	10.4	8.7	9.0	9.1	8.7	7.8
Wine	62	47	36	34	38	33	2.9	2.1	1.3	1.7	2.4	1.6
Tobacco products	14	15	11	12	11	11	6.3	6.3	6.8	6.6	6.5	6.5
Food industry	**6892**	**6694**	**2835**	**2819**	**2708**	**2708**	**395.4**	**390.3**	**329.6**	**329.0**	**325.0**	**329.0**

[a] excluding micro companies, [b] converted into full-time jobs, [c] jointly with juice and potato ones

Source: Unpublished CSO data.

Food industry in Poland and the EU is characterised by dispersion. It is diverse in particular lines and their concentration processes varies. In Poland – similarly to the EU – bread production as well as meat and fruit and vegetable production is the most dispersed, and then there is milk processing, production of non-alcoholic beverages, fodders and other food. After joining the EU, only the number of bakery, fish, poultry, spirit and oil companies has been growing. However, concentration processes progress the fastest in confectionary, beer, mill and potato industry. They are visible also in dairy, fodder, sugar, non-alcoholic beverages, fruit and vegetable and other food (concentrate) industries.

The analysis of the results concerning production, investment level, and the structure of food industry unequivocally indicate that the entry into the EU speeded up the development of that sector and created good bases for maintaining its competitiveness in the domestic and foreign markets. At the same time, structural transformations bringing the sector closer to standards and structure of the EU countries with developed food industry, are continued. This indicates also that the sector was well prepared for the integration with the EU, that it uses the chances created by opening the large European sale market for our producers and that the concerns and threats on the part of competition on the part of efficient companies of the old EU did not come true. Considering the improvement and stabilisation of economic and financial results of most food producers at the same time (cf. chapter IV.4), it may be concluded that the prospects for development of the whole Polish food economy are good, in particular in the period of the coming years.

IV. Results and economic and financial situation of agriculture and food industry

IV.1. Agriculture revenues from sale of main agricultural products

IV.1.1. General evaluation

In 2007 market agricultural output expressed in current prices, without supplementary payments, will amount to approx. PLN 47.9 bn and will be by 11% higher than in 2006 and by 12% than in 2004. The value of this output will be over PLN 11 bn higher than before Poland's accession to the European Union. With reference to 2003, and to the average in 2000-2002, the increase in the value of market agricultural output will be 31 and 38%, respectively. In 2007, the growth rate of the market plant production value will be twice higher than that of market animal production.

Market plant production may reach in 2007 PLN 18.6 bn, and excluding horticultural products – approx. 10.9 bn. It will be by 13 and 22% higher, respectively than last year. The value of market output of cereals and rape will increase the most. In relation to 2006, this will be 49 and 33%, respectively. This will happen because the increase in harvest is accompanied by the rise of prices. Relatively high revenues from sale of cereals will be only by 5% higher than in 2004, and by 17% higher than before Poland's accession to the European Union. On the other hand, revenues from production of potatoes in 2007 will be similar to the level last year, but still twice higher than in the years preceding Poland's accession to the European Union. Revenues from production of sugar beets will be in 2007 lower by approx. 6% than in 2006 and only close to the value they reached in 2003 and on average in 2000-2002.

Market animal production will be approx. PLN 29.3 bn. It will be by approx. 10% higher than in the previous year and by approx. 35% higher than in the periods preceding Poland's accession to the European Union, hence in 2003, and on average in 2000-2002.

In 2007, both market production of plants and animals was determined by prices. Their changes marked the scale and directions of the market output value. Thus, changes in production played a role strengthening the changes in prices rather than eliminating such changes as it is usually the case (excluding production of potatoes). In case of plant production, and in particular fruit, this was a considerable factor.

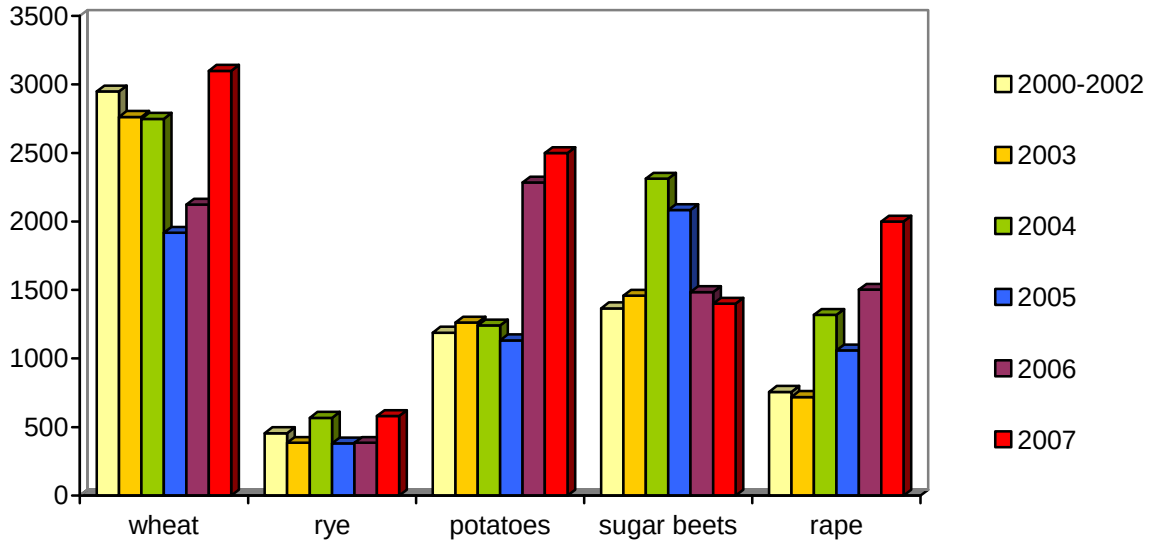
Table IV.1. Value of market output of main agricultural products (in current PLN mln)

Specification	Average in 2000-2002	2003	2004[a]	2005[a]	2006[a, b]	2007[a, c]	Indicators of changes			
							2007/2006	2007/2004	2007/2003	2007/2002
Total	**34,722**	**36,543**	**42,815**	**40,740**	**43,081**	**47,900**	**111**	**112**	**131**	**138**
Plant production	**13,078**	**14,609**	**16,904**	**14,439**	**16,458**	**18,600**	**113**	**110**	**127**	**142**
Basic plant production (excluding vegetables and fruit)	**7641**	**7744**	**9684**	**7849**	**8910**	**10,900**	**122**	**113**	**141**	**143**
Total cereals	4098	4094	4592	3248	3221	4800	149	105	117	117
of which: wheat	2950	2764	2750	1918	2124	3100	146	113	112	105
rye	456	384	568	381	385	580	151	102	151	127
Potatoes	1189	1262	1242	1133	2284	2300	101	185	182	193
Industrial plants	2354	2388	3850	3468	3405	3800	112	99	159	161
of which: sugar beets	1366	1458	2312	2084	1485	1400	94	61	96	102
rape	757	720	1330	1060	1502	2000	133	150	278	254
Horticultural products	**5434**	**6862**	**7220**	**6590**	**7548**	**7700**	**102**	**107**	**112**	**142**
of which: fruit	2312	3242	2680	2430	3003	2966	99	111	91	128
vegetables	2433	2724	3187	2665	3090	3276	106	104	120	135
Animal production	**21,643**	**21,934**	**25,911**	**26,301**	**26,623**	**29,300**	**110**	**113**	**134**	**135**
Cattle	1504	1375	1902	2186	2630	2600	99	137	189	173
Calves	325	304	304	373	436	400	92	132	132	123
Pigs	8329	7866	9087	8340	8581	8600	100	95	109	103
Poultry	2933	3526	4178	4473	4063	5500	135	132	156	188
Cow milk	6593	6562	7864	8475	8304	9300	112	118	142	141
Hen eggs	1514	1823	2042	1987	2176	2300	106	113	126	152

[a] excluding resources paid as supplementary area payments; [b] IAFE-NRI estimate; [c] IAFE-NRI forecast

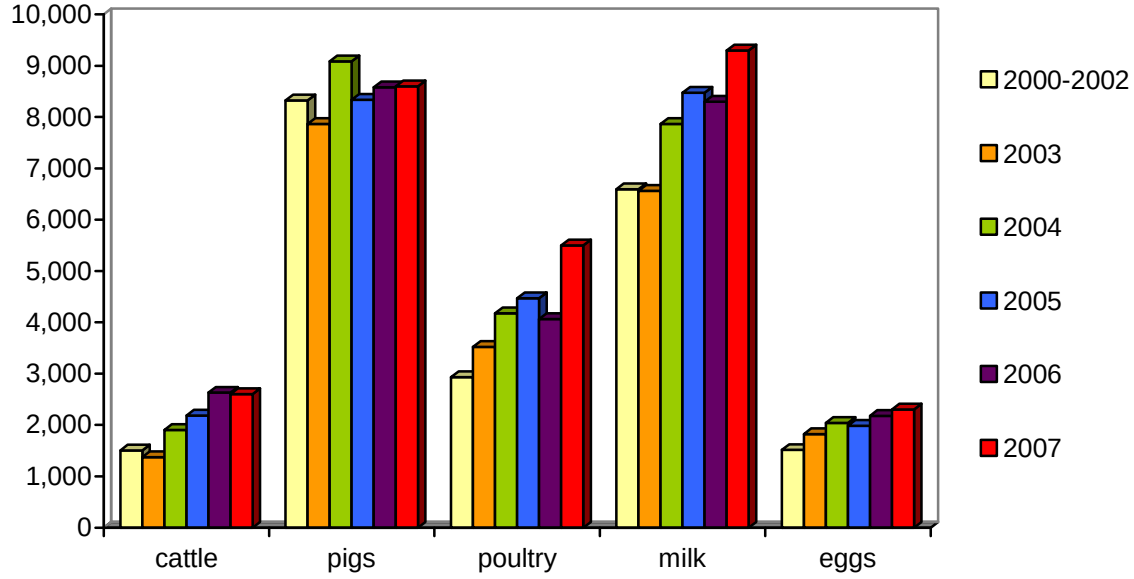
Source: CSO and own calculations.

Figure IV.1. Value of market output of basic plant products (in PLN million)



Source: According to table IV.1.

Figure IV.2. Value of market output of basic animal products (in PLN million)



Source: According to table IV.1.

In a few recent years, marketability of agriculture has been relatively stable. Although in 2006, the value of market agricultural output in current prices was 70.4% of global output and was by 4 percentage points higher than in 2004 and by 11 percentage points higher than in 2000, its share in the value of final output in 2000-2006 was at a relatively stable level, i.e. ranging from 86 to 88%.

Table IV.2. Procurement value of main products of agriculture (in current PLN mln)

Specification	Average in 2000-2002	2003	2004	2005	2006[a]	2007[b]	Indicators of changes			
							2007/2006	2007/2004	2007/2003	2007/2002
Total	**22,214**	**25,331**	**30,334**	**30,921**	**31,296**	**35,100**	**114**	**116**	**139**	**152**
Plant production	**7336**	**8334**	**9298**	**8535**	**9003**	**10,800**	**126**	**117**	**131**	**149**
Basic plant production (excluding vegetables and fruit)	**5762**	**5937**	**7122**	**6174**	**6379**	**8300**	**130**	**117**	**140**	**144**
Total cereals	3346	3396	3158	2783	3089	4600	149	146	135	137
of which: wheat	2511	2313	2003	1789	2014	2900	144	145	125	115
rye	280	306	306	243	295	450	153	147	147	161
Potatoes	287	350	323	275	303	300	99	93	86	105
Sugar beets	1366	1458	2311	2056	1485	1400	94	61	96	102
Oilseed crops	763	733	1330	1060	1502	2000	133	150	273	262
Animal production	**15,878**	**16,997**	**21,036**	**22,386**	**22,293**	**24,300**	**109**	**116**	**143**	**153**
Cattle	1146	1245	1578	1984	2452	2400	98	152	193	209
Calves	108	119	150	158	172	160	93	107	134	148
Pigs	5968	6395	7867	7429	7747	7700	99	98	120	129
Poultry	2807	3367	3955	4110	3505	4600	131	116	137	164
Cow milk	5285	5256	6787	7976	7820	8800	113	130	167	167
Consumer hen eggs	118	123	116	224	157	165	105	142	134	140

[a] IAFE-NRI estimate; [b] IAFE-NRI forecast

Source: CSO and own calculations.

In 2006, market plant production accounted for approx. 90% of final output and 59% of global output, and without supplementary payments – 78 and 50%, respectively. Market plant production, as compared to the global one, is relatively slight due to high internal use of this output (fodders, seed material, etc.). Potato production is characterised by lower marketability than average, whereas higher marketability applies to industrial plants. In the recent years, marketability of potatoes increased considerably, while marketability of industrial plants declined slightly. In 2000-2006, the share of market output in the value of global output of potatoes increased from 22 to 51%, and that of industrial plants declined from 100 to 96%.

In 2006, market animal production accounted for 86% of final output, and 82% of global output. Market production of milk is lower than average. In 2006, market production of milk accounted for 76% of global output. The share of market output of milk in global output has been relatively stable for a few years.

IV.1.2. Revenues from sale of basic plant products

Cereals. In 2007, the value of market production of cereals, without resources paid as supplementary area payments may amount to PLN 4800 mln. This is a value almost by approx. 50% higher than in 2006. Such a high growth in the value of this production in 2007 is mainly determined by prices, although also greater this year's harvest is not without significance.

The increase in prices occurred both in the first half-year, after low last year's harvest, and in the second half-year, after successful harvest of this year. In the first half of 2007, the average procurement price of wheat was 62.08 PLN/dt, and that of rye 59.31 PLN/dt. These prices were higher than in mid-2006, by 57 and 71%, relatively. High prices in that period compensated the loss of value in production of cereals caused by lower supply thereof. After this year's harvest of cereals estimated by the CSO at approx. 27.4 mln tonnes, i.e. by 25.7% greater than in the previous year[1], a decline in prices was expected. Such a decline did not occur, quite the contrary, there is a further growth in prices of cereals. Its scale is not very different from the one observed at the time before the harvest. In the third quarter, the procurement price of wheat was 68.94 PLN/dt, and that of rye 57.41 PLN/dt. The prices were higher than in the previous year by 55 and 56%, respectively.

[1] *Przedwynikowy szacunek głównych ziemiopłodów rolnych i ogrodniczych*, Informacja sygnalna GUS, wrzesień 2007.

Potatoes. In 2007, the value of market production of potatoes may be approx. PLN 2300 mln, hence it would be close to the level of last year. Such a situation results from an increase in prices in the first half-year that was high enough to level the fall in production arising from worse harvest last year, as well as a growth in production in the second half-year that was high enough (by 25%), which on the other hand covered the loss in value of that production connected with the fall in prices in that period. In September, the procurement price of potatoes was 19.92 PLN/dt, and the market-place price – 60.96 PLN/dt. These prices were lower than in September 2006 by 20 and 40%, respectively. Revenues from sale of potatoes are still almost twice higher than before Poland's accession to the European Union.

Industrial plants. In 2007, the value of industrial plants output will be approx. PLN 3800 mln, hence it will be by approx. 12% higher than in the previous year. However, the value of production of sugar beets will be lower than in 2006 by approx. 5%, and that of rape – higher by over 30%. The value of market production of sugar beets grew in a stepwise manner in 2004 due to an approx. 50% increase in prices. It resulted from adopting by Poland, of the EU system of payment for sugar beets. Since that time, the EU system has undergone modifications, consisting in successive decreasing of minimal procurement prices of beets. For instance in 2006, the average price of sugar was 128.88 PLN/tonne and was by approx. 25% lower than the price in 2005, which amounted to 175.3 PLN/tonne. Regardless of the harvest fluctuations, it is a significant reason for successive decline, since 2004, in the value of market production of sugar beets.

In 2007, the production value of sugar beets may be PLN 1400 mln. In 2007, both prices of beets and their harvest are lower. The average procurement price is 120-125 PLN/tonne, so it will be lower by a few percent than the one last year. On the other hand, according to the CSO estimates, the harvest of sugar beets in 2007 amounted to approx. 11.1 mln tonnes, i.e. by 3.6% less than in the previous year. This year's production value of sugar beets is close to the value of this production before Poland's accession to the European Union.

In 2007, the value of market production of rape may develop at a level of approx. PLN 2000 mln and will be higher by 33% than in 2006. The increase in the value of this production is determined by both higher this year's harvest, and the prices. According to the CSO, in 2007 harvest of rape and agrimony will amount to 2.1 mln tonnes and will be by 28% greater than the level achieved last year. Nevertheless, the development of the domestic market of biofuels and the resulting considerable increase in the use of rape oil in production of esters, as

well as the growing export demand for rape oil, contribute to an increase in procurement prices of rape. In 2007, the price will reach approx. 970 PLN/tonne and will be by approx. 5% higher than last year.

Rape is one of few products, the value of which, since Poland's accession to the European Union, has been growing successively. In 2007, revenues from this production will be over twice higher than in 2003, and than on average in 2000-2002.

IV.1.3. Revenues from sale of basic animal products

Cattle and calves. In 2007, the value of market production of cattle for slaughter may be approx. PLN 2600 mln. It is a similar amount as the one last year. With reference to 2003, and the average in 2000-2002, i.e. the period before Poland's accession to the European Union, the value of this production will be higher by approx. 89 and 73%, respectively. The value of market production of calves will amount to approx. PLN 400 mln in 2007, and will be by a few percent lower than in 2006. In relation to the periods before entering the European Union, i.e. in 2003 and the average in 2000-2002, it will be higher by 32 and 23%, respectively.

In the initial period after Poland's accession to the European Union, the increase source of cattle production value was a great increase in prices. In 2004, the average price of cattle reached 3.45 PLN/kg, of which in the second half-year it amounted to 3.82 PLN/kg and was by 17 and 50%, respectively, higher than in corresponding periods of last year. However, already in the second half of 2005, the scale of the rise in prices decreased considerably and amounted to only a few percent, against 10-40% already in the first half of 2005. At that time, the driver for the increase in value was an increase in production. The weakening growing tendency of this production was still observed in the first half of 2007[2]. In the second half of 2007, the situation was reverse. The growing tendency was replaced by a falling one. It is assessed that in the second half of 2007, cattle production will be lower than in the second half of 2006 by approx. 3-4%[3]. As a result, throughout 2007, the production level of cattle will be close to the one of last year.

Cattle production in the second half of 2007 was lower than in the previous year, however it was not the impulse for an increase in prices. This is caused by the fall in prices of cattle in other countries of the European Union, which are

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[2] See: *Rynek mięsa. Stan i perspektywy*, nr 33, IERiGŻ-PIB, ARR, MRiRW, „Analizy Rynkowe" 2007.

[3] See: *Rynek mięsa. Stan i perspektywy*, nr 33, IERiGŻ-PIB, ARR, MRiRW, „Analizy Rynkowe" 2007.

the main recipients of Polish cattle. In the third quarter, the average procurement price of cattle reached only 3.99 PLN/kg, against 4.10 in the third quarter of 2006. On the other hand, the average procurement price of cattle in the period from January to September amounted to 4.04 PLN/kg and was by 2% lower than in the same period of 2006.

From Poland's accession to the European Union till the end of 2006, the supply value of calves increased. Last year was the culminating moment, when the value of market production of calves reached PLN 436 mln, and was by 9% higher than in 2005 and by 30 and 25%, respectively, higher than in 2003 and on average in 2000-2002. The main reason for increasing the value of this production was the growth in prices of calves at that time. It occurred until mid-2006. Since then, prices of calves have been dropping successively. In 2007, this tendency is continued. The average price of calves in the period from January to September was 8.98 PLN/kg and was by as much as 18% lower than last year in the corresponding time. The fall in those prices derives from lower export demand.

Pigs. In 2007, the value of market production of pigs will be approx. PLN 8600 mln. This will be a similar level to the one last year, and only slightly higher than before Poland's accession to the European Union.

In 2007, the market of pigs experienced a growing phase of production in the first half-year, and its falling phase in the second half. In effect, throughout the year, the production will be only slightly lower than in 2006. Thus, revenues from this production are determined exclusively by prices. In the period from January to September, the average procurement price of pigs reached 3.45 PLN/kg and was by 3% lower than in the corresponding period of 2006. In the fourth quarter, the average procurement price of pigs will be approx. 3.70 PLN/kg and will be by approx. 10% higher than in the fourth quarter of 2006[4].

Poultry. In 2007, the value of market production of poultry will be approx. PLN 5500 mln. This means an increase in relation to the previous year by approx. 35%, and with reference to 2003 and the average in 2000-2002, by 56 and 88%, respectively. The reason for the increase in the value of this production in 2007 is both production that is greater than in the previous year, as well as higher prices. In 2007, production of poultry will probably be 1090 thous. tonnes of post-slaughter weight and will be by 5% higher than in 2006[5]. For the

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[4] See: *Rynek mięsa. Stan i perspektywy*, nr 33, IERiGŻ-PIB, ARR, MRiRW, „Analizy Rynkowe" 2007.

[5] See: *Rynek drobiu i jaj. Stan i perspektywy*, nr 32, IERiGŻ-PIB, ARR, MRiRW, „Analizy Rynkowe" 2007.

time being, prices of poultry are rising due to constantly growing export. In the period from January to September, the average procurement price of poultry (3.48 PLN/kg) was by 28% higher than last year at that time.

Eggs. In 2007, the value of market production of eggs may amount to PLN 2300 mln, i.e. by 6% more than in 2006. In 2007, there is a slight increase in production of consumption eggs and a few percentage growth in their prices[6].

The production value of eggs in 2007 is higher than before Poland's accession to the European Union, i.e. in relation to 2003 and to 2000-2002, by 26 and 52%, respectively.

Milk. In 2007, the value of market production of milk will be approx. PLN 9300 mln and will be by 12% greater than last year. It will be by over 40% higher than before Poland's accession to the European Union.

The relatively large change in the production value of milk in the current year is determined by milk prices. After two-year stagnation, the prices have been growing successively since the beginning of 2007. From January to September, the average price of milk was 1.01 PLN/litre and was by 9% higher than last year in the corresponding period. In the fourth quarter, the procurement price of milk may be by 20% higher than in the fourth quarter of 2006.

IV.1.4. Revenue sources of agriculture

When Poland acceded to the European Union the distribution channels for agricultural products changed (figure IV.3). In animal production the procurement share of large and middle-sized enterprises grew at the expense of reduced procurement of small entities (poultry and pigs) or direct sale (milk as well as pigs and cattle). This resulted from these sectors' adjustments to the veterinary standards of the European Union.

In crop output direct sale increased. This happened at the expense of procurement by small companies (cereals) or by large companies (potatoes).

At present sale to large and middle-sized companies is a prevailing distribution channel not only for industrial crops but also for poultry, and in particular for milk. In 2007 sale to large companies makes up about 77% of the total sale of poultry and 92% of milk's sale. Sale to these entities is also the main distribution channel for pigs (59%), cattle (48%) and cereals (53%). Direct sale has been the basic distribution channel for potatoes (about 87% of total sale). Small

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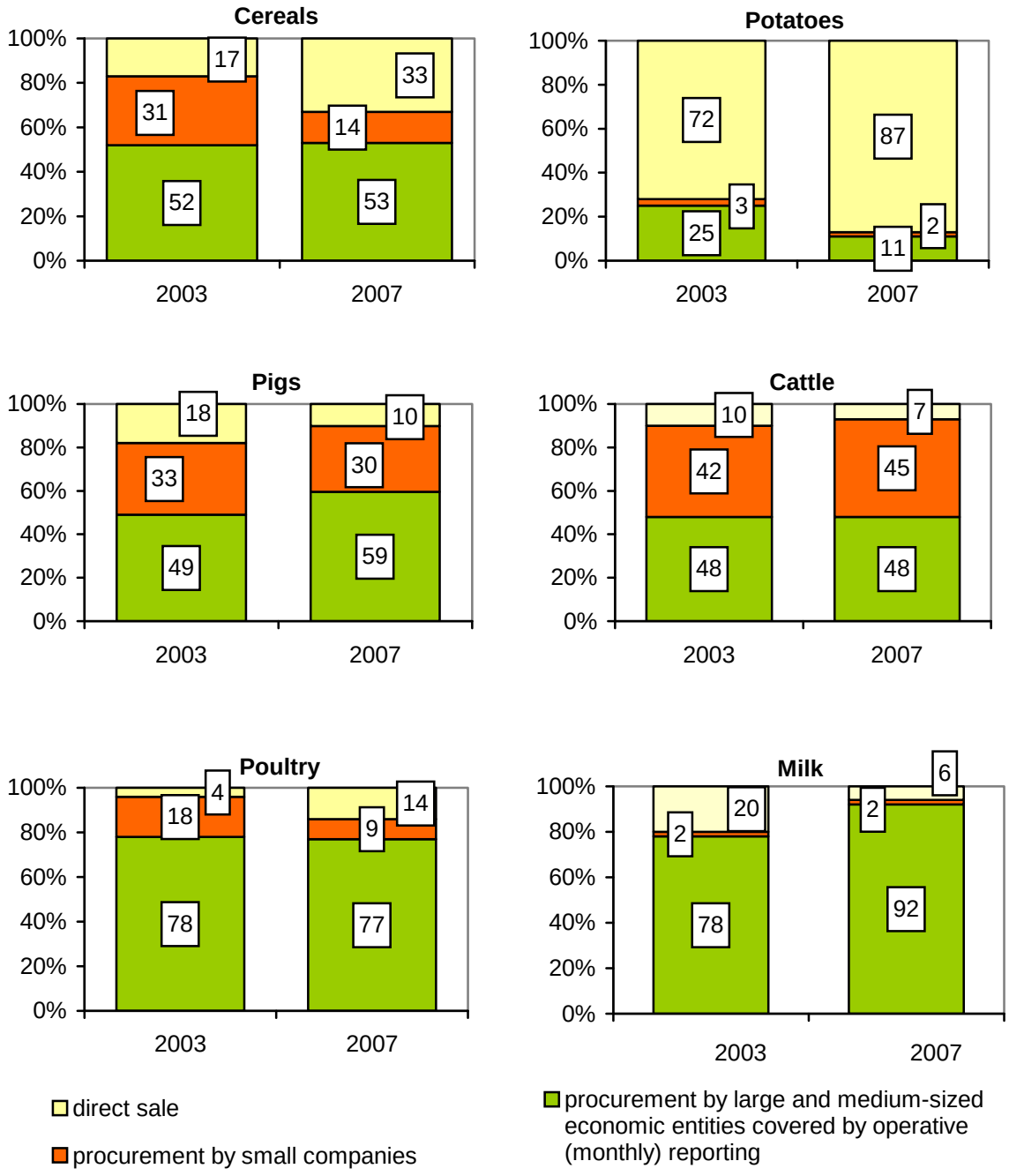
[6] See: *Rynek drobiu i jaj. Stan i perspektywy*, nr 32, IERiGŻ-PIB, ARR, MRiRW, „Analizy Rynkowe" 2007.

procurement entities are still an important distribution channel in the red meat sector. In 2007 their share in sale of cattle will total 45% and that of pigs – 30%.

Figure IV.3. Structure of the distribution channels for agricultural products (market agricultural output = 100)



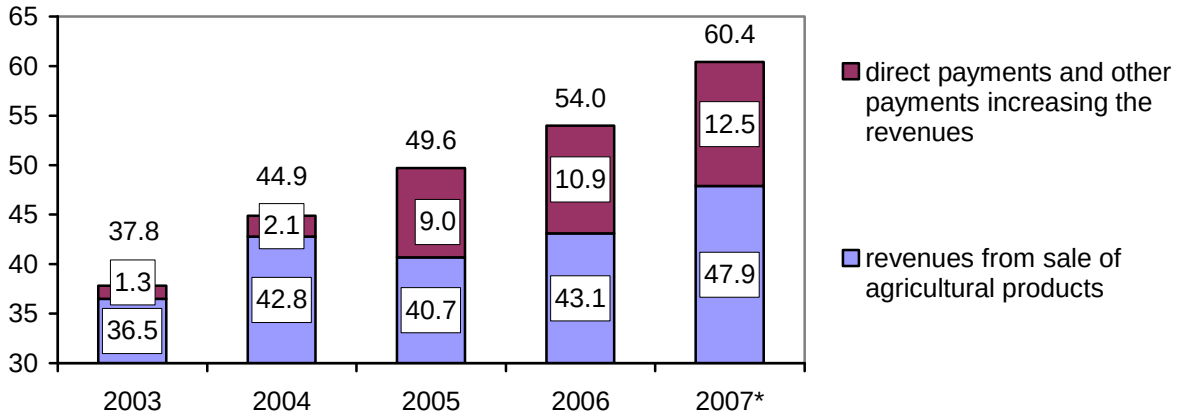
Source: Own study on the basis of CSO data.

Changes in the structure of the distribution channels for agricultural products are shaped by structural transformations of food processing.

IV.2. Expenditures of agriculture on production purposes

The growth in revenues from sale of agricultural products and a constant growth in subsidies increasing the revenues, mainly in form of direct payments, increase the economic potential of agriculture and improve the income situation of farms. After the accession to the EU this is a very dynamic phenomenon, which in the period from 2004 to 2007 increased farmers' cash income by PLN 22.6 billion, that is by 60% or annually by PLN 5.65 billion and by 15%. The largest increases in these revenues were observed in the first and fourth year after the accession to the European Union (figure IV.4).

Figure IV.4. Cash revenues of agriculture from sale and obtained subsidies directly increasing these revenues (in PLN billion)



* own preliminary estimate

Source: Own study on the basis of figure I.29 and table IV.4.

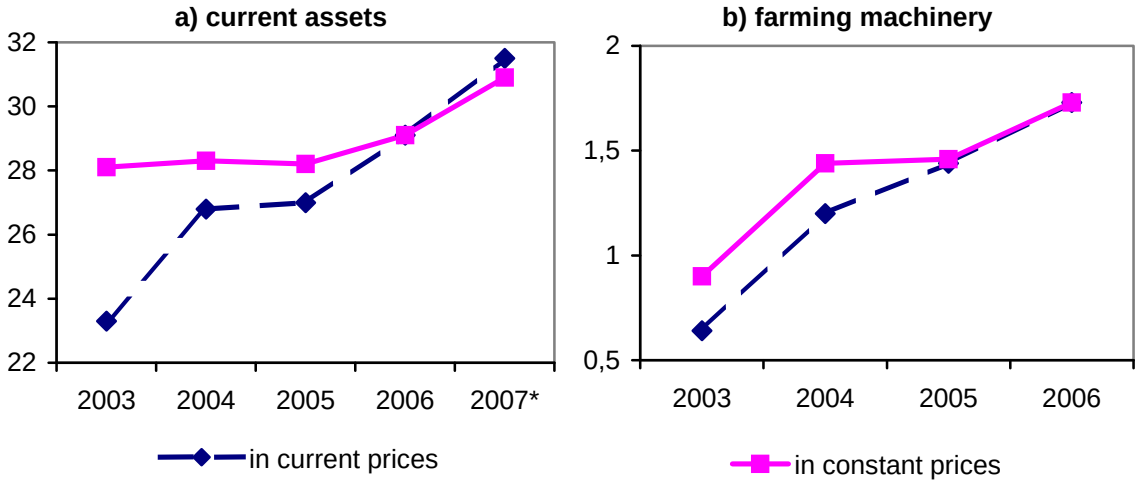
This so large increase in farmers' revenues should result in a strong growth of their demand for current means of production and investment goods. In fact such changes in farmers' revenues rather contributed to the above-described increase in prices of production means than to an increase in demand for these means. A phenomenon called Jánošík syndrome* occurred, which best describes a comparison of the values in current and constant prices of agriculture's expenditures on current means of production and machinery (figure IV.5). This comparison shows that:

- agriculture's current expenditures on the purchase of current means of production after the EU accession grew in constant prices by 10.5% only and in current prices they grew by as much as 35.5%, which means that the share of price growth (on average by 22.5%) in the growth of expenditures totalled about 70%,

* Translator's annotation: Jánošík was a famous Slovak outlaw. Here Jánošík syndrome may mean to take something from the rich and to give it to the poor.

- expenditures on the purchase of farming machinery only in the period from 2003 to 2006 grew in current prices almost three times, whereas in constant prices they grew about twice, which means that the prices of farming machinery increased more than those of current means of production (by 42% and 22.5%, respectively), but the share of price increases in the growth of the purchase value was a little smaller and totalled almost 50%.

Figure IV.5. Comparison of the values of supplies of current means and machinery to agriculture (in PLN billion, in current and constant prices)



* own preliminary estimate

Source: Own calculations made on the basis of Rynek środków produkcji i usług dla rolnictwa. Stan i perspektywy, nr 27, 32, IERiGŻ-PIB, ARR, MRiRW, „Analizy Rynkowe" 2005, 2007.

The increase in the agriculture's expenditures on the purchase of farming machinery was large, but at the same time the Central Statistical Office (CSO) estimates that in the period from 2002 to 2004 the investment outlays in agriculture were stable and totalled about PLN 2 billion per year in current prices. This amount grew no earlier than in 2005 and 2006 (to PLN 2.4 billion and about PLN 2.7 billion, respectively). These data indicate that investments in agriculture focused on the reconstruction and modernization of the technical equipment and that the large expenditures in this field were rather attributed to the possibility to support these investments with EU subsidies than to the improvement of agriculture's income situation.

As far as agriculture's supplies are concerned a very large diversification of the rate and directions of supply changes of the main groups of production means for agriculture was observed. A stable and quite a strong upward tendency is observed in the market in mineral fertilisers and plant protection products (tables IV.3 and IV.4, figure IV.6). The supplies of mineral fertilisers in the period 2003-2007 grew by 27%, that is by about 6% per year, whereas the increase in

NPK consumption per 1 ha is estimated by the Central Statistical Office at about 20% (from 99 kg of NPK to about 120 kg in the last three years). At the same time the consumption of lime fertilisers decreased (by about 40%) and expenditures on fertilisers grew by as much as 82%. In this market segment of production means the Jánošík syndrome was most evident, whereas in the market in plant protection products a constant increase in supply and consumption and a relative stabilisation of agriculture's expenditures on this group of production means (about PLN 1.5 billion per year) were recorded. These data confirm the earlier assessments indicating the relatively stable prices of plant protection products.

Table IV.3. Agriculture's supply with current means of production

Specification	2003	2004	2005	2006	2007[a]
Supplies of NPK fertilisers (in thousand tonnes)	2345	2740	2541	2679	2972
of which: nitrogenous	1207	1379	1321	1412	1529
Consumption of lime fertilisers (in thousand tonnes)	1530	1525	1456	874	950
Plant protection products (in thousand tonnes of active substance)	13,0	15,0	16,0	17,1	17,6
Services – prices of 2006 (in PLN billion)	6,7	6,8	6,9	7,0	.
– current prices	6,2	6,6	6,8	7,0	7,2
Fuels – solid (in thousand tonnes)	2750	2700	2525	2520	2520
– liquid (in thousand tonnes)	2010	2040	2020	2020	2020
– gas (in TJ)	4508	4400	4395	4354	4354
– electrical energy (in GWh)	1600	1550	1530	1530	1550
Industrial fodders (production) (in thousand tonnes)	5596	5464	5278	6341	6950

[a] IAFE-NRI forecast

Source: Rynek środków produkcji i usług dla rolnictwa. Stan i perspektywy, nr 27, 32, IERiGŻ--PIB, ARR, MRiRW, „Analizy Rynkowe" 2005, 2007; Rynek pasz. Stan i perspektywy, nr 17, 22, IERiGŻ-PIB, ARR, MRiRW, „Analizy Rynkowe" 2005, 2007; CSO Statistical Bulletin 2004, No 5; 2005, No 9; 2006, No 9 i 2007, No 9.

The upward tendencies in supply and agriculture's expenditures are recorded in the market in industrial fodders. This market is strongly dependent on the market in cereals and on the prices of this main agricultural product. The agriculture's demand for industrial fodders and their prices mainly increase in the years of the fast-growing prices of cereals. Such a situation has occurred no earlier than in the last two years, when supplies of industrial fodders increased from about 5.3-5.5 million tonnes in the years 2003-2005 to almost 7 million tonnes in 2007. Consequently the value of industrial fodders bought by farmers increased from PLN 5.5 billion in 2003 to PLN 7.2 billion in 2007 (by 30%). The growth in demand for industrial fodders was favoured by a relative stabilisation of prices, which grew significantly no earlier than in the second half of 2007.

Table IV.4. Value of means of production used in agriculture
(in PLN million in current prices)

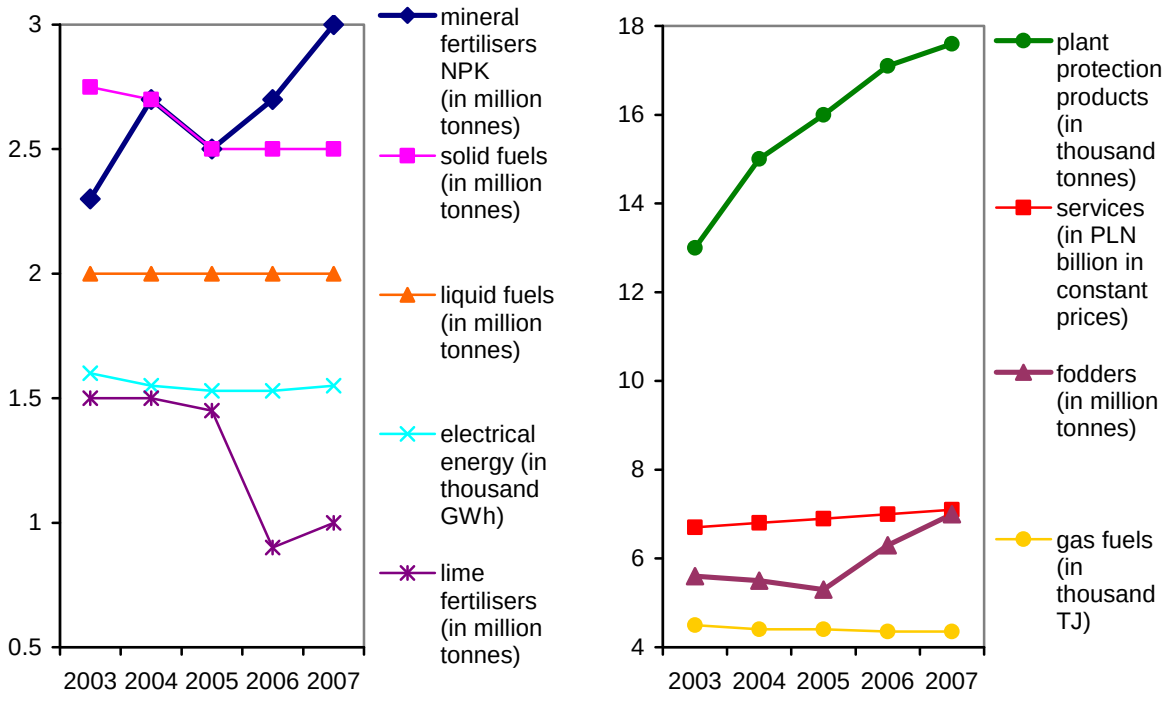
Specification	2003	2004	2005	2006	2007[a]
Value of means of production	23,291	26,758	27,007	29,138	31,560
of which: fertilisers	2192	3370	3192	3336	4000
protection products	1527	1339	1362	1373	1430
electrical energy	1404	1475	1472	1540	1590
fuels and lubricants	5906	6929	8082	8634	8370
purchased seeds	539	798	762	795	1110
purchased feeds	5523	6247	5337	6460	7860
services[b]	6200	6600	6800	7000	7200

[a] own estimate on the basis of table IV.3 and price growth indicators; [b] according to the report *Rynek środków produkcji i usług dla rolnictwa. Stan i perspektywy,* nr 32, IERiGŻ-PIB, ARR, MRiRW, „Analizy Rynkowe" 2007, calculated into current prices

Source: According to the CSO's estimate of costs of direct consumption of production means bought by farmers.

Constantly developing markets also include a market in services for agriculture. This market distinguishes itself in a very slow growth of supply and demand (by about 1.5% per year) and in a similar increase in prices. Therefore the value of the market in services for agriculture in service prices in the period 2003-2007 increased by about 15% (from PLN 6.2 billion to PLN 7.2 billion).

Figure IV.6. Supplies and consumption of means of production for agriculture

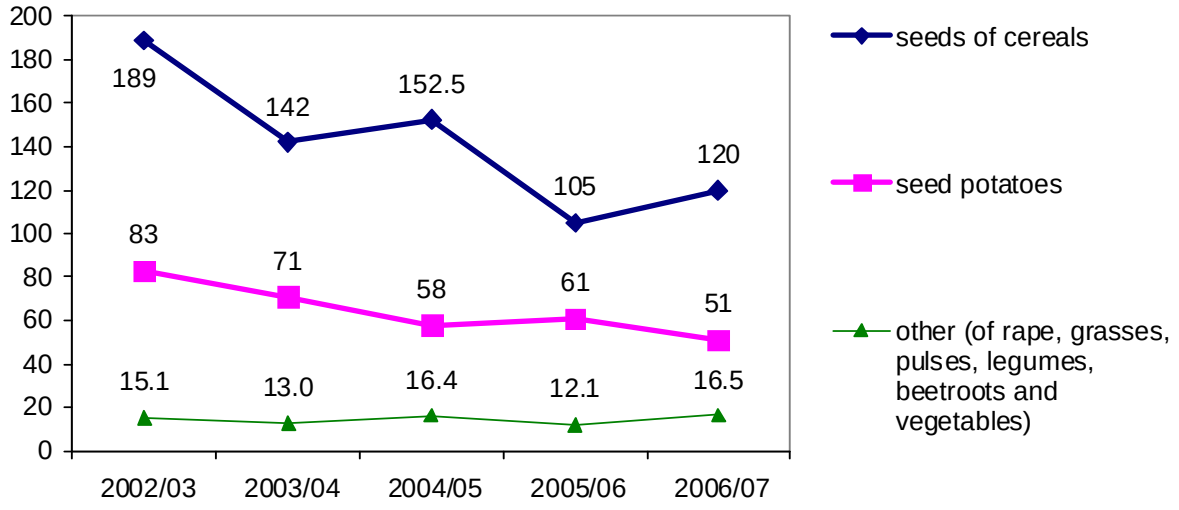


Source: Own study on the basis of the report Rynek środków produkcji i usług dla rolnictwa. Stan i perspektywy, nr 27 i 32, IERiGŻ-PIB, ARR, MRiRW, „Analizy Rynkowe" 2005 i 2007.

As far as supplies for agriculture are concerned the market in fuels has been quite stable for years. In this market a small increase in agriculture's consumption of liquid fuels is recorded, as well as a stable though also slow decrease in consumption of gas fuels and electrical energy and a faster increase in consumption of solid fuels. At the same time prices of all types of fuels grow. During the last four years the value of fuels consumed in agriculture has fallen in constant prices by about 1%, whereas in current prices it grew by 36%. The prices of all energy sources are constantly going up by about 8% per year and this phenomenon is typical not only of agriculture, but also of the entire Polish economy. It is mainly shaped by changes in the world prices of fuels (oil) and by the large degree of monopolisation in energy production and supply.

After the EU accession the downward tendency in supply and demand for certified seeds continues (figure IV.7). For many years the supply (and demand) of certified seeds of cereals and seed potatoes whose value in constant prices has fallen in the period 2003-2007 by 35% has been dropping. The upward tendencies were recorded only for supply of certified seeds of other plants (by 10%). The value of the entire market in certified seeds in constant prices fell after the EU accession by about 5%, but according to global accounts in current prices the value of these seeds' supply grew twice (from PLN 0.54 billion in 2003 to about PLN 1.1 billion in 2007).

Figure IV.7. Supply of certified seeds and seed potatoes (in thousand tonnes)



Source: Rynek środków produkcji i usług dla rolnictwa, op. cit., nr 27 i 32.

As already mentioned the accession to the EU led to a large growth in demand for farming machinery. Supplies of this machinery from domestic production and imports grew on average twice (table IV.5). In the period 2003-2006 of the six main types of machinery representing about 85% of the value of all

machinery bought by farmers the utmost growth was recorded for supplies of seeders and pick-up balers, whereas the increase in supplies of harvesters and tractors was close to the average level (almost twofold), the supplies of ploughs grew at a slower rate (by 40%) and the supply of planters dropped.

Table IV.5. Supplies of selected farming machinery and investments

Specification	2003	2004	2005	2006
1. Supplies (in thousand units) of				
– tractors	7.5	10.0	9.8	13.4
– moulboard ploughs	7.3	8.3	5.7	10.2
– seeders	2.0	3.5	7.3	8.1
– planters	5.7	4.2	3.0	4.0
– pick-up balers	3.1	5.3	9.0	8.6
– combine-harvesters	0.6	1.4	1.1	1.1
2. Value of supplies of the above-mentioned machinery[a] (in PLN billion)				
– current prices	0.6	1.2	1.4	1.7
– constant prices	0.9	1.4	1.5	1.7
3. Value of investments in agriculture[b] (in PLN billion)	2.0	2.2	2.4	2.7

[a] own estimate including the volume of supplies and retail prices of the six mentioned types of machinery; [b] in current prices

Source: Rynek środków produkcji i usług dla rolnictwa. Stan i perspektywy, nr 25 i 32, IERiGŻ--PIB, ARR, MRiRW, „Analizy Rynkowe" 2004 i 2007; CSO Statistical Yearbooks 2004-2006 and own estimates.

The different degree of the growth in demand and increase in prices in individual segments of the market in production means for agriculture has slightly changed this market's structure and the structure of agriculture's expenditures on production purposes. Although the largest share in this market is still of energy (about 30%), then of fodders and services (about 25% each), but in the period 2003-2007 the following shares grew: of machinery (from 2.7% to 5.2%), of fertilisers (from 9.2% to 12%) and of fuels and lubricants (from 24.7% to 25.2%), whereas the following shares dropped significantly: of plant protection products (from 6.5% to 4.3%), of electrical energy (from 5.9% to 4.8%) and of services (from 26% to 21.6%) fell. It is also important that after the EU accession the relative level of farmers' expenditures on the purchase of production means decreased. The share of expenditures on the purchase of current means of production and machinery in farmers' cash income fell from 63.3% in 2003 to 57.2% in 2006 and will probably drop to 55.5% in 2007 (cf. figure IV.4, tables IV.4 and IV.5). This means that in this period the share of agriculture's revenues has grown and agriculture can designate them for other investment purposes and in particular for improvement of living conditions of farmer families.

IV.3. Financial situation of agricultural enterprises and enterprises providing services for agriculture[7]

The Polish agriculture, dominated by private farms, is typical of a small number of legal persons farms and in particular of farms employing 10 and more persons[8]. The number of such enterprises has been dropping recently and in the period 2004-2006 it fell from 1196 to 1116, that is by 7%. The situation of enterprises providing services for agriculture is similar[9]. Although the number of these enterprises has been growing recently the number of enterprises employing 10 and more persons in the period 2004-2006 fell from 441 to 347, that is by over 21%. It should also be noted that as compared to other sectors of the national economy these are small enterprises. An average analyzed agricultural enterprise employs (in terms of full-time employees) about 30 persons and a service enterprise employs about 26 persons.

IV.3.1. Financial situation of enterprises in 2006

The year 2006 was another good year from the viewpoint of the financial situation, for the analyzed enterprises. The economy developed dynamically, employment grew, unemployment fell and the purchasing power of the population went up. All this led to an increase in domestic demand for agricultural products. Demand for farm and food products for export grew as well. The economic relations for agricultural producers, measured with the index of changes in prices of agricultural products sold and prices of purchased means for agricultural production, improved. The EU Common Agricultural Policy exerted a stronger and stronger positive influence on the situation, mostly on the income situation of the analyzed agricultural enterprises. Difficulties in recruiting employees and the growing demands in terms of wages and salaries stimulated the decrease in labour costs by increased level of work's mechanisation. As a consequence, in 2006 in the entire agriculture – despite the decrease in the volume of crop output by almost 10% as compared to 2005 and the increase in the volume

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[7] The presented study includes results of an analysis of the financial situation of agricultural enterprises and enterprises providing services for agriculture and employing 10 and more persons. The reference material is taken from F-01/I-01 reports collected by the Central Statistical Office.

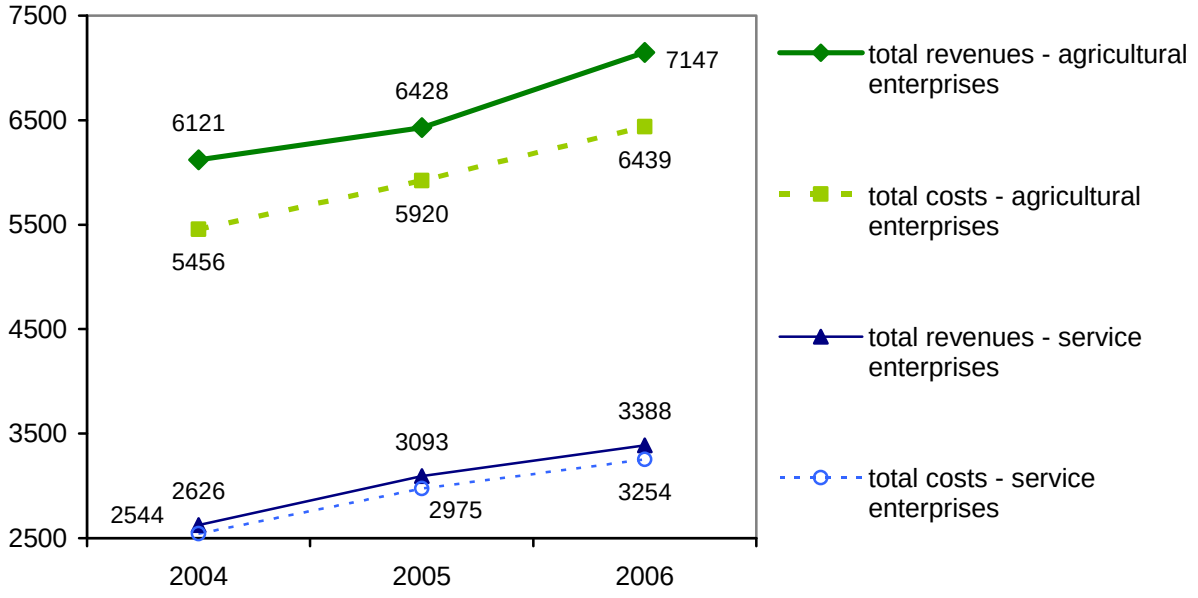
[8] In 2005 of the total number of 2,476,500 farms carrying on economic activity 2,472,800 were private farms and 3644 other farms, that is public enterprises, agricultural production cooperatives and commercial law enterprises.

[9] In August 2007 24,200 enterprises providing services for agriculture were recorded (by 2.5% more than last year).

of animal production by only 3%, thanks to the advantageous price indices – the value of agricultural goods production grew by 2.6%, whereas the income of an agricultural entrepreneur[10] increased as compared to 2005 by over 18%[11], mostly as a consequence of a large increase in grants and subsidies, decrease in the labour costs as well as reduction of taxes burdening the production.

In the presented situation the operating revenues of the analyzed agricultural enterprises in 2006 grew as compared to 2005 by 9.9% and on average per enterprise by 11.4%, whereas the total revenues grew by 9.7% and 11.1%, respectively. It should be noted that the growth dynamics of the other operating revenues (48.5%), of which in particular in the item subsidies (62.8%) was the largest, a smaller growth dynamics was recorded for financial revenues (11.2%) and the smallest one was recorded in the basic group of revenues, that is of revenues from sales and equivalent (8.2%). At the same time the costs of operating activity of the total farms grew by 7.2%, on average by 8.7% per enterprise, whereas the total costs grew by 7.1% and 8.5%, respectively. The increase in groups of costs – apart from the other operating costs, which even slightly decreased – was balanced.

Figure IV.8. Revenues and costs in agricultural and service enterprises calculated per enterprise (in PLN thousand)



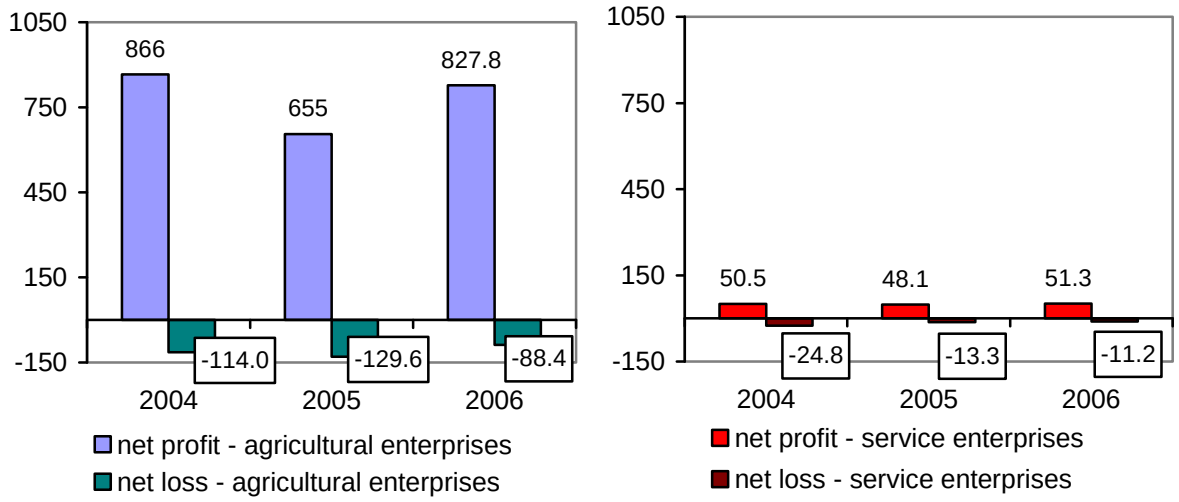
Source: Own calculations on the basis of non-published data from the CSO.

[10] Income forming remuneration for own labour and labour of the family, involved capital and from farm management.
[11] Z. Floriańczyk, *Wyniki ekonomiczne rolnictwa polskiego w roku 2006*, reproduced material.

The presented situation of agricultural enterprises positively influenced the activity of enterprises providing services for agriculture. In 2006 the operating revenues on average per enterprise grew as compared to 2005 by 9.6% and the total revenues grew by 9.5%. However, at the same time, in service enterprises, in contrast to agricultural enterprises, also the costs grew dynamically in the analyzed period. In annual terms the operating costs and the total costs grew by 9.4%.

Consequently agricultural and service enterprises significantly improved their financial results on average. As compared to 2005 the amount of net profit obtained by agricultural enterprises grew by 26.8% and the amount of losses decreased by 25.3%, whereas in service enterprises it was 6.6% and 15.8%, respectively. In total on average per enterprise the total net profit (after deduction of losses) grew from PLN 478,400 in 2005 to PLN 663,100 in 2006, that is by as much as 38.6% and was even by 5.4% larger than in the year 2004, which was very favourable for agriculture, whereas in service enterprises the average total profit per 1 enterprise has had an upward tendency since 2004 and in 2006 it was higher by 23.8% than in 2005. However, its level (PLN 115,500) was significantly lower than in agricultural enterprises.

Figure IV.9. The level of profits and losses in agricultural and service enterprises in total (in PLN million)



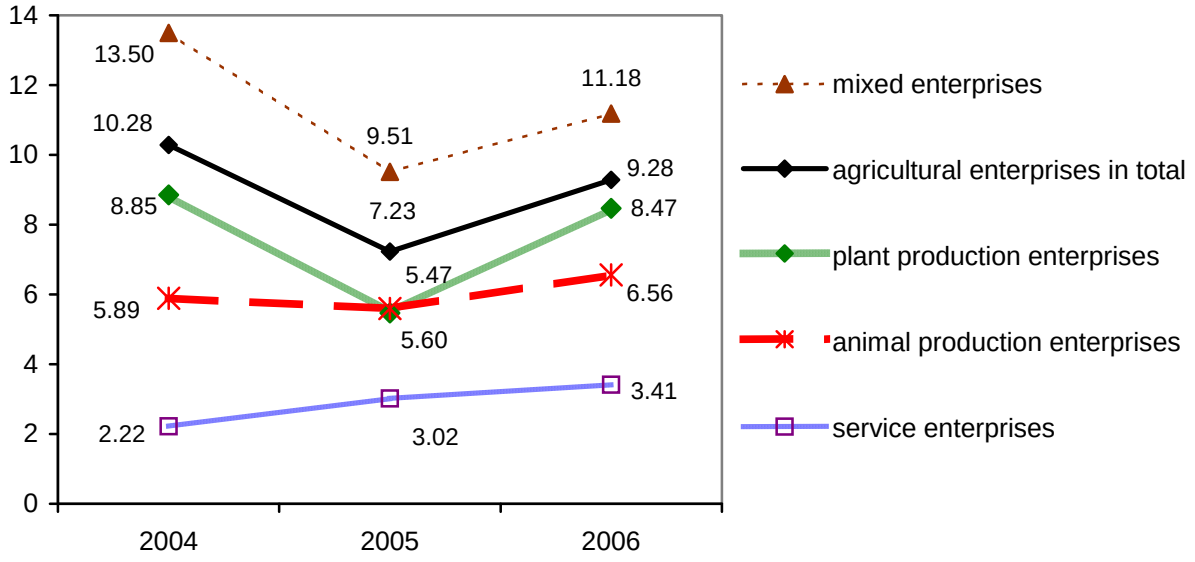
Source: Own calculations on the basis of non-published data from the CSO.

The presented situation is reflected in financial effectiveness rates of the analyzed enterprises. In agricultural enterprises in 2006, after a quite significant decrease in profitability of revenues in 2005 its significant increase was recorded.

The largest improvement of both gross and net profitability, despite the unfavourable weather conditions and decrease in crops, was recorded by plant

production enterprises and the smallest one was recorded by animal production enterprises (figure IV.10), whereas the highest level of profitability in the analyzed years is however typical of "mixed" enterprises and the smallest is typical of those oriented at animal production. Plant production enterprises have larger revenue profitability than animal production enterprises, however they are also typical of significantly larger fluctuations in its level, which results from a larger influence of the climate conditions on their activity.

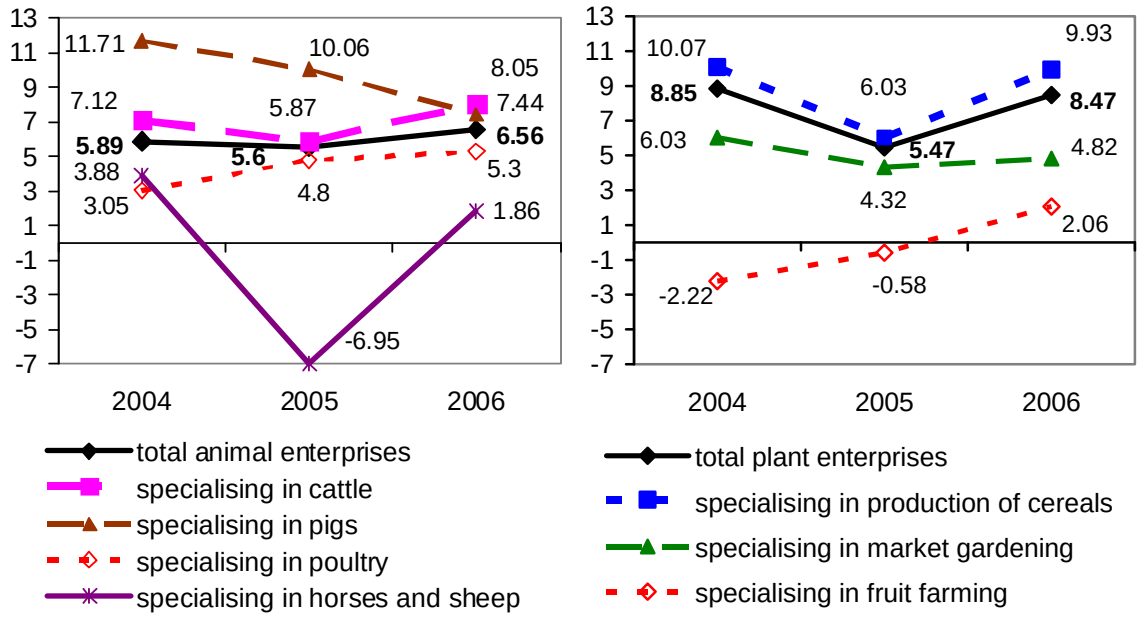
Figure IV.10. Profitability of revenues in agricultural and service enterprises (in percent)



Source: Own calculations on the basis of non-published data from the CSO.

Profitability of revenues is significantly diversified depending on the specialisation (in individual classes of the Polish Classification of Activities). The highest growth in profitability in 2006 and its highest level was recorded in cereal production enterprises, whereas its significantly smaller growth and level was recorded in vegetable production enterprises. The most difficult situation is of enterprises specialising in production of fruit. However, also these enterprises recorded in 2006 a significant improvement; for the first time the profitability ratio, both gross and net reached a positive value. As far as animal production enterprises are concerned a similar, high profitability was recorded for enterprises specialising in cattle and pig rearing and a little lower one – in production of poultry. However it should be noted that profitability of pig rearing enterprises has a downward tendency and profitability of cattle and poultry rearing enterprises has an upward tendency, whereas a very small profitability was recorded for enterprises focused on horse and sheep rearing (figure IV.11).

Figure IV.11. Profitability of revenues in plant and animal production enterprises (in percent)



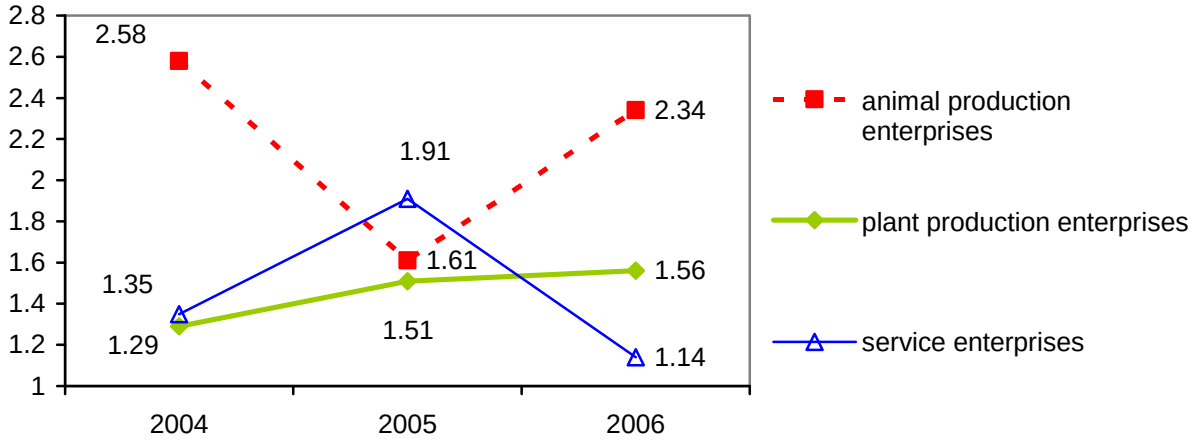
Source: Own estimates on the basis of non-published data from the CSO.

Good results of enterprises are demonstrated also by the improvement of their current liquidity. Since 2004 ceaselessly all groups of agricultural enterprises have noted an improvement of this indicator. The highest liquidity ratio is recorded for "mixed" enterprises oriented at plant and animal production (2.77), whereas the smallest one is recorded for enterprises specialising in animal production (1.77). Service enterprises in 2006 improved their liquidity ratio as compared to 2005 (from 1.51 to 1.68), but it is still lower than in 2004 (1.72).

Worthy of note is the distinct growth of pro-development tendencies in the analyzed agricultural enterprises. The investment rate in 2006 in agricultural enterprises was clearly higher than in 2005 and totalled 1.56 in plant production enterprises and 2.34 in animal production enterprises[12]. The growth of investment outlays in 2006 was clearly higher in animal production enterprises than in plant production enterprises. A different situation in this respect was recorded in service enterprises. The investment rate in these enterprises in 2006 as compared to 2005 decreased from 1.91 to 0.75, which means that these enterprises in 2006 did not even reconstruct their fixed assets fully.

[12] Because of data verification difficulties a precise index for enterprises specialising in plant and animal production has not been calculated. The estimation made indicated that for the entire population this ratio totals about 1.8.

Figure IV.12. Investment rate in agricultural and service enterprises



Source: Own estimates on the basis of non-published data from the CSO.

The analyzed enterprises continue pursuing a cautious conservative development strategy, which is typical for the sector of small and medium-sized enterprises. Although the relation of long-term liabilities to depreciation grows slightly (for agricultural enterprises: in 2005 – 4.29; in 2006 – 4.68; for service enterprises: 0.73 and 0.81, respectively) the relation of long-term liabilities to fixed assets is still very small; in 2006 in agricultural enterprises it totalled 0.34 and in service enterprises it was 0.07.

IV.3.2. Financial situation of agricultural and service enterprises in the first half of 2007

The number of total analyzed agricultural enterprises in the first half of 2007 as compared to the first half of 2006 remained almost unchanged (increase from 1094 to 1099), of which that of plant production enterprises increased from 445 to 454 and that of animal production enterprises grew from 148 to 149, whereas that of "mixed" enterprises fell from 501 to 49. However, the number of analyzed service enterprises still decreases from 342 to 325.

The financial situation of enterprises in the first half of 2007 was strongly diversified depending on the profile of enterprises. The plant production enterprises had the best results (despite small crops of cereals and fodder plants in 2006). The financial situation of these enterprises in the analyzed half-year was significantly better than in the first half of 2006 and obviously better than in the first half of 2005. These enterprises recorded a clear growth of equity and revenues, improvement of revenues profitability, improvement of current liquidity ratio and improvement of the relation between short-term liabilities and current

assets as well as growth of the investment rate etc. However, in the group of these enterprises a significant differentiation of the financial situation depending on the specialisation in individual crops was observed. The best situation was recorded in cereal production enterprises. Although in these enterprises in the first half year, that is in principle during the period preceding the harvest, a significant loss was recorded and the revenue profitability ratios, ROE and ROA were negative, they were however much better than in the first half of 2006 and 2005. In these enterprises the current liquidity was better and the investment rate grew. A good situation was observed in market gardening enterprises. These enterprises obtained in the first half of 2007 a better profit and better financial rates than in the first half of 2005 and 2006. However, in this group they were smaller than in cereal producing enterprises, whereas a very alarming situation was recorded in the group of fruit production enterprises. In the first half of 2007 these enterprises, after a clear improvement of the financial situation in 2006 again recorded a distinct deterioration, even as compared to the first half of the very unprofitable year 2005. The rapid deterioration of the financial result and of the revenue and equity profitability as well as deterioration of the return on equity were most alarming.

Table IV.6. Financial rates of agricultural and service enterprises in agriculture in the first half of 2007 as compared to the first half of 2006

Specification	Enterprises					
	plant production		animal production		service	
	2006	2007	2006	2007	2006	2007
Total revenues[a] (in thousand PLN)	2367	2677	4647	5148	1666	1905
Financial result[a] (in thousand PLN)	-352	-354	-136	-273	-3	-0.5
Profitability of						
– net revenues	-14.9	-13.2	-2.9	-5.3	-0.17	0.02
– equity	-8.4	-7.4	-1.7	-3.3	-0.17	0.03
Current liquidity ratio	1.6	1.8	1.7	1.6	1.57	1.6

[a] calculated per 1 enterprise

Source: Own calculations on the basis of non-published data from the CSO.

In animal production enterprises the financial indicators in the first half of 2007 were poorer than in the first half of 2006, but they were better than in the first half of 2005. In these enterprises in the analyzed half-year as compared to the previous years the revenues were significantly growing, but at the same time the costs grew even faster. This is in particular the case for pig rearing enterprises and horse and sheep rearing. This results from the unfavourable relations

between the prices of products manufactured in these enterprises and the production means bought by them.

The above-mentioned financial situation of agricultural enterprises and the analysis of the production situation of agriculture and the situation on the main agricultural markets indicates that these enterprises should obtain good or even better financial results throughout 2007 than in 2006. The improvement of the financial situation of enterprises will be favoured by good production results and the improvement of the relations between the prices of agricultural products and the prices of production means in the second half of 2007.

The forecast of the improvement of the financial situation refers most of all to plant production enterprises, and in particular to cereal production enterprises. The crops of basic cereals, rape and maize were much larger than in 2006 – by 26, 28 and 30%, respectively. A very difficult financial situation may be only recorded in enterprises specialising in the production of fruit. The fruit yields in 2007 were by 48% smaller than in 2006 and even a significant increase in prices may not level the effects of the so large decrease in production.

The financial situation of animal production enterprises at the end of 2007 is more difficult to forecast. Some improvement of the financial situation in enterprises focuses on cattle rearing is expected. This is shown by the increase in the prices of milk, increase in prices of milk cattle and a small increase in the prices of beef. However, in pig rearing enterprises improvement of the financial situation is rather unlikely. In the second half year the increase in pork prices will make it only possible to compensate for the poorer financial results of the first half-year.

In service enterprises the financial situation in the first half of 2007 was better than in the corresponding period of 2006. A little better are all indices reflecting this situation. However it should be stressed that this situation is very differentiated in individual enterprises, since the sum of profit and the sum of losses of the first half are relatively high (PLN 28.1 million and PLN 28.0 million, respectively) and higher than in the first halves of the previous years. It may be expected that these enterprises will finish the year 2007 with a better financial result than in 2006 and that it will be another year of the financial situation's improvement in this group of enterprises. The increase in demand for services in agriculture and a distinct growth in the prices of services are signs of it.

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The presented analysis shows that the financial situation of agricultural enterprises and enterprises providing services for agriculture is on average favourable and provides good conditions for their further development. All the groups of agricultural enterprises had at the end of 2006 relatively high rates of economic effectiveness. However it should be stressed that "mixed" and plant production enterprises had better results and animal production enterprises had significantly smaller results. The first half of 2007 indicates that these disproportions not only continue but may even grow. Also in groups of plant and animal production farms a significant differentiation of the financial situation depending on the specialisation is noticeable. In the group of animal production farms a definitely most difficult situation is this of enterprises rearing horses and sheep, whereas in the group of plant production enterprises it is fruit farming enterprises. Also in the first half year their financial situation, in particular of market gardening enterprises was difficult and raises doubts that the year 2007 may be less profitable for these enterprises than 2006.

The reasons behind the persistence of the difficult financial situation in enterprises dealing with horse and sheep rearing and those dealing with production of fruit (although due to their small number they do not influence much the financial results of the entire population of agricultural enterprises) require a more thorough analysis.

Service enterprises have poorer financial results than agricultural enterprises; their situation improves year by year.

When stressing the good financial situation of all groups and the basic classes of agricultural enterprises as well as of the service enterprises group it should be indicated that these are significantly differentiated in respect of financial effectiveness. Each of the groups and classes of enterprises includes loss-bearing enterprises. Even in the class of cereal farms, which have the best results, some of the enterprises are unprofitable. These enterprises must undergo a thorough restructuring, or otherwise they will go bankrupt. However, in the market economy this is a normal phenomenon, provided its scale is not large. The already carried out analysis shows that if these tendencies do not change the phenomenon of the growing number of bankruptcy cases may occur in the group of market gardening enterprises and in enterprises rearing horses and sheep.

IV.4. Results and the financial condition of food industry enterprises[13]

In 2006 2819 companies manufacturing food products, beverages and tobacco products, which employed 328,900 persons submitted financial reports. As compared to the previous year this was by 16 enterprises fewer, but they employed by 1.2% more persons than in the previous year. In the first half of 2007 2708 companies employing 329,000 persons complied with the financial reporting obligation. In this industry sector we have been recording a small increase in employment for a couple of years.

For two years we have been recording a higher dynamics of sale in the food industry. In 2006 it grew (in current prices) by over 7% to PLN 148.3 billion and in the first half of 2007 it was by 13% larger than in the corresponding period of the previous year. Also the growth rate of exports of food products and beverages was high. The value of these products' supplies to foreign markets, implemented directly by producers in the period 2005-2006 grew annually by over 1/5 and in the first half of 2007 this rate slightly decreased. Direct sale to foreign markets in the current year exceeded PLN 10 billion and was by 12% larger than in the first half of the previous year. The share of direct exports in turnover of the companies in the last two years as compared to 2004 has grown by 3.5 percent point to 13%.

Producers of food, beverages and tobacco products generate a large financial result. Its value during the last years was by about three to four times larger than on average in the years 2001-2004 and in the first half of 2007 it exceeded PLN 3 billion. The profit after tax became the main source of cash revenues. In the last years it has been generating over 50% of cash, as compared to 30% in 2003.

For several years the net profitability of the food industry has been fluctuating around 3.5-4% of net revenues. In the first half of 2007 it totalled as much as 4.6% and was by 0.35 percent point larger than in the previous year. Cash revenues neared 8% of net revenues. This is another year of so high profitability ratios in this industry sector.

The effectiveness of the use of funds involved in the food sector improves, which is demonstrated by among others the systematically growing ROE rate. In the first half of 2007 it was high, since it totalled 15.5% and was by 2.6 percent point larger than at the end of the last year.

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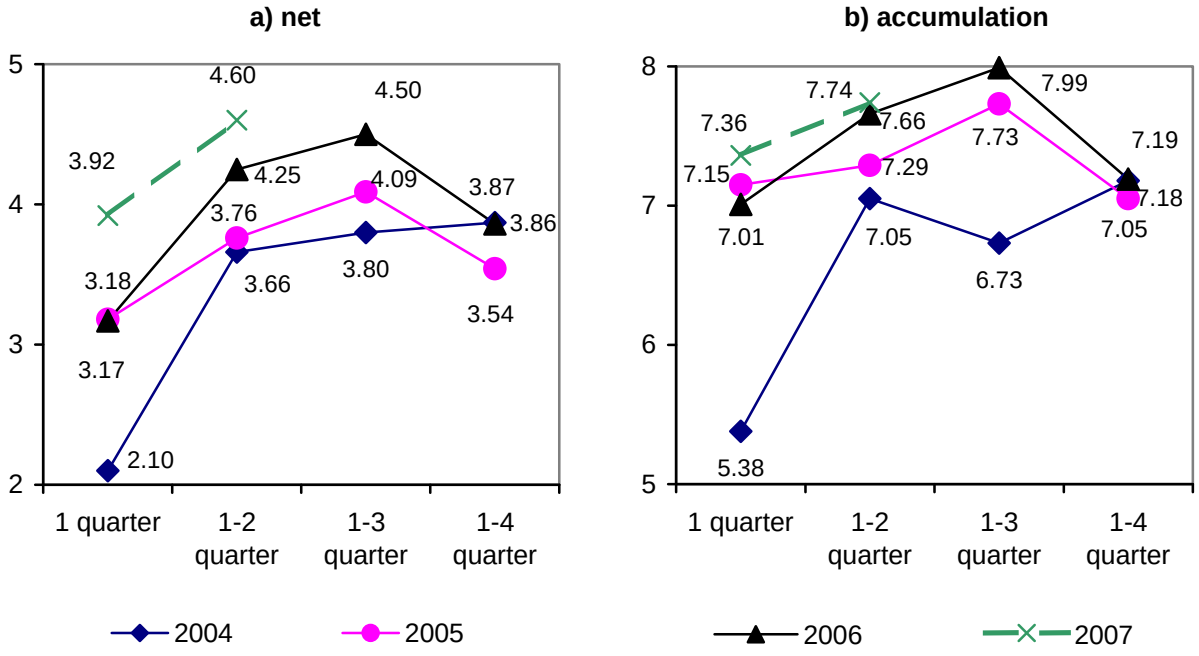
[13] The analysis of the economic and financial situation of manufacturers of food products and alcoholic beverages was carried out on the basis of data contained in F-01/I-01 and obtained from companies employing more than 9 persons of permanent staff, who have submitted financial reports.

Figure IV.13. Profitability of the food industry (in percent of net revenues)



Source: Own calculations on the basis of non-published data from the CSO.

The improvement of the results and the financial conditions in the food industry was a frequent phenomenon, encountered in majority of sectors. A small decrease in the profitability ratios was recorded only in the brewery, sugar and oil sectors but in the two first sectors profitability is still high. As a result of these changes the range of indices between the most profitable sector and the least profitable sector fell to 11.8 percent points.

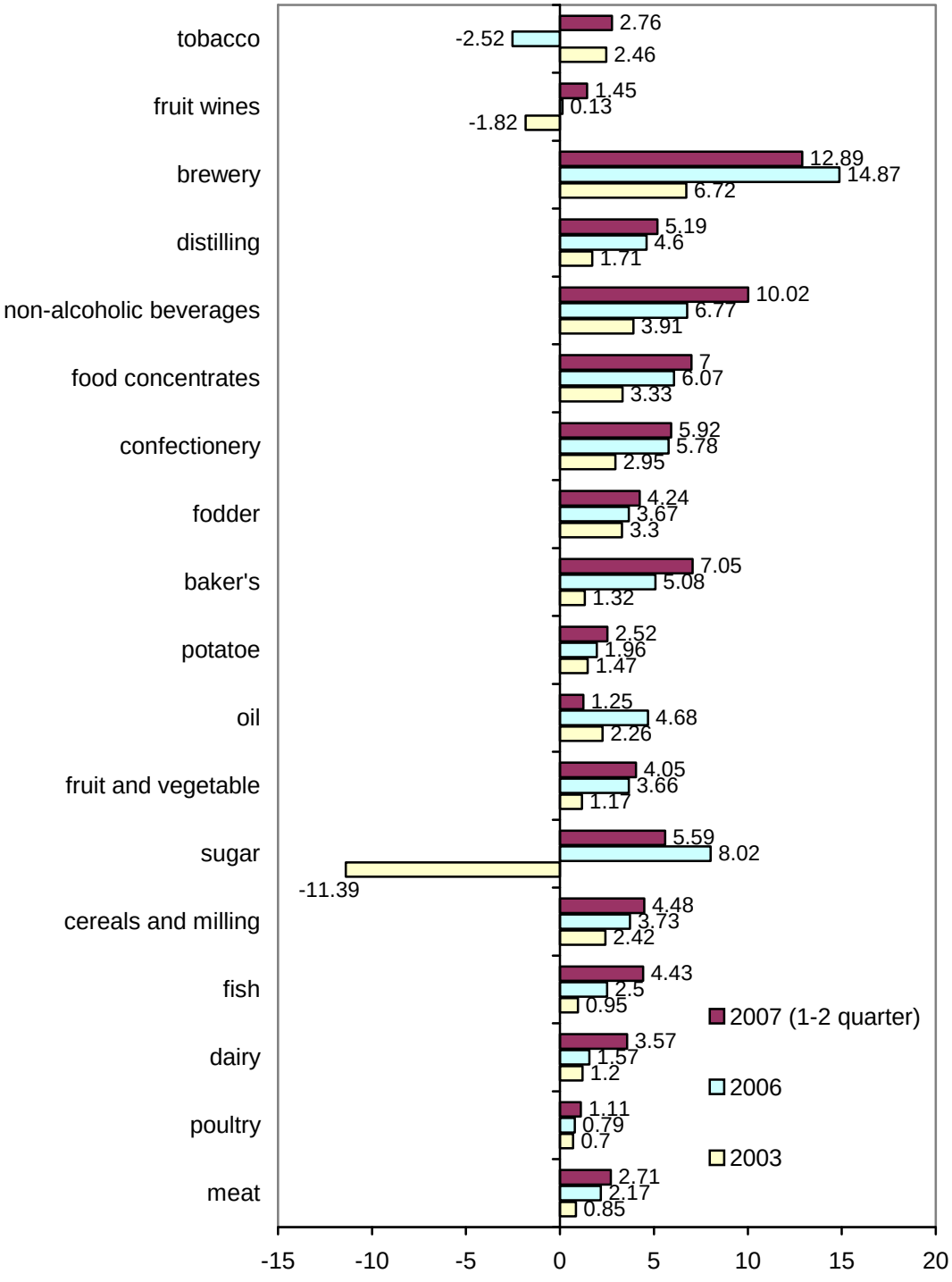
High profitability sectors (that is with net level over 5%) include: the distilling and brewery sectors, almost all sectors of secondary processing, with the exception of the feed sector and the sugar sector (typical of a very large changeability of results). No sector of the animal products processing has been included to this group.

We record a systematic decrease in charging the sector with costs of foreign capital servicing. At present the level of financial costs is small. In the first half of 2007 they made up 1.52% of net revenues in the food processing, as compared to over 4% at the start of the current decade.

The financial liquidity of food producers improves successively. The current financial liquidity ratio on 30 June 2006 significantly exceeded the minimum level (1.2) determined by financial institutions and totalled 1.34 as compared to 1.3 at the end of 2006. This means that the value of current assets in food

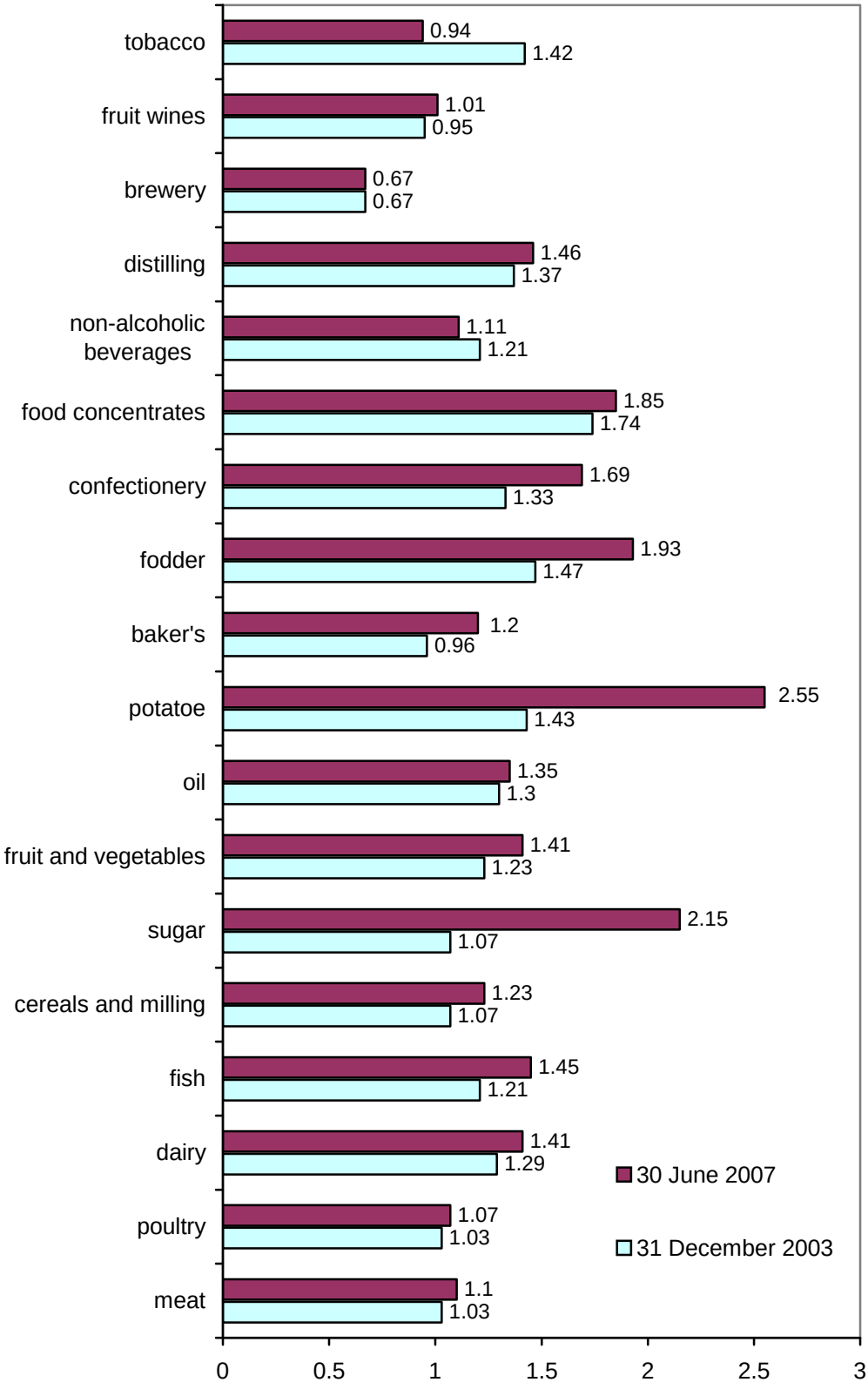
companies in the half of the current year was by 34% higher than the amount of their short-term liabilities and that the companies had no problems with timely fulfilment of their commitments.

Figure IV.14. Net profitability (in percent of revenues) in individual sectors of the food industry



Source: Own study on the basis of non-published data from the CSO.

Figure IV.15. Current financial liquidity ratio in individual sectors of the food industry



Source: Own study on the basis of non-published data from the CSO.

There is a large differentiation of the current financial liquidity of individual sectors of the food industry. All sectors of secondary processing have a safe financial liquidity – with the exception of non-alcoholic beverages producers, where the index of the current financial liquidity has recently gone down to 1.11. A high rate of the current financial liquidity is also recorded for plant products processing sectors. A good financial condition is a constant phenomenon in production of spirit and vodkas as well as in milk and fish processing. The low index of the current financial liquidity in the brewery industry is no sign of this sector's problems with financing of the current activity, since it results from capital connections between affiliated entities and settlements between them. The lack of financial liquidity is a stable phenomenon in production of fruit wines and – lately – also in the tobacco sector. Low financial liquidity is recorded for meat and poultry processing, although it has improved lately and, in addition to it, turnover in own shops in the meat sector are significant and are a systematic source of cash.

Figure IV.16. Structure of current assets financing in food companies (in percent)

Source: Own calculations on the basis of non-published data from the CSO.

In food processing the structure of current activity's financing is changing. The share of equity as a source of financing grows: on 30 June 2007 it financed 26% of current assets, that is by 1 percent point more than in the previous year. The importance of trade and tax liabilities, which as of 30 June 2007 financed 55% of the current assets is decreasing. The share of short-term loans and bank credits in the financing of the current activity was stable and totalled 19%. The

liabilities of food producers to suppliers and the state treasury are still the main source of financing for the processes of food and alcoholic beverages production.

Table IV.7. Level of the food industry indebtedness

Period	Short-term credits and loans (in PLN million)	Relation of credits and loans to current assets	Relation of the other liabilities to current assets
2003	8618.1	0.26	0.58
2004	9870.0	0.27	0.55
2005	8351.7	0.22	0.57
2006	8401.1	0.20	0.57
first-second quarter of 2006	6666.5	0.19	0.56
first-second quarter of 2007	7512.2	0.19	0.55

Source: Own calculations on the basis of non-published data from the CSO.

Over the last years the producers of food, beverages and tobacco products have shown a high investment activity. Their expenditures on the purchase of current assets in 2006 exceeded PLN 6.5 billion and the outlays borne in the first half of 2007 indicate that in 2007 they will approximate the ones from the last year. The high investment activity of food producers in the last years has contributed to the growth in indebtedness of the sector in respect of long-term credits and loans, which in 2004 exceeded PLN 5 billion and in 2006 grew to PLN 5.6 billion and was by 1/10 larger than in the previous years. This may result from the increase in the investment scale in the sector. Also the relation of the long-term debt to depreciation grew; it was almost twice as large as the value of annual depreciation write-downs.

Table IV.8. Level of investment and indebtedness in the food industry

Period	Investments (in PLN million)	Long-term credits (in PLN million)	Relation of the long-term indebtedness to depreciation
2003	4938.2	4164.6	1.73
2004	6687.9	5005.6	1.87
2005	5924.0	5073.8	1.64
2006	6511.3	5637.0	1.99
first-second quarter of 2006	2589.8	5287.2	1.90
first-second quarter of 2007	2706.7	5744.7	2.00

Source: Own calculations on the basis of non-published data from the CSO.

The current economic and financial situation of individual branches of the food processing may be assessed as follows:

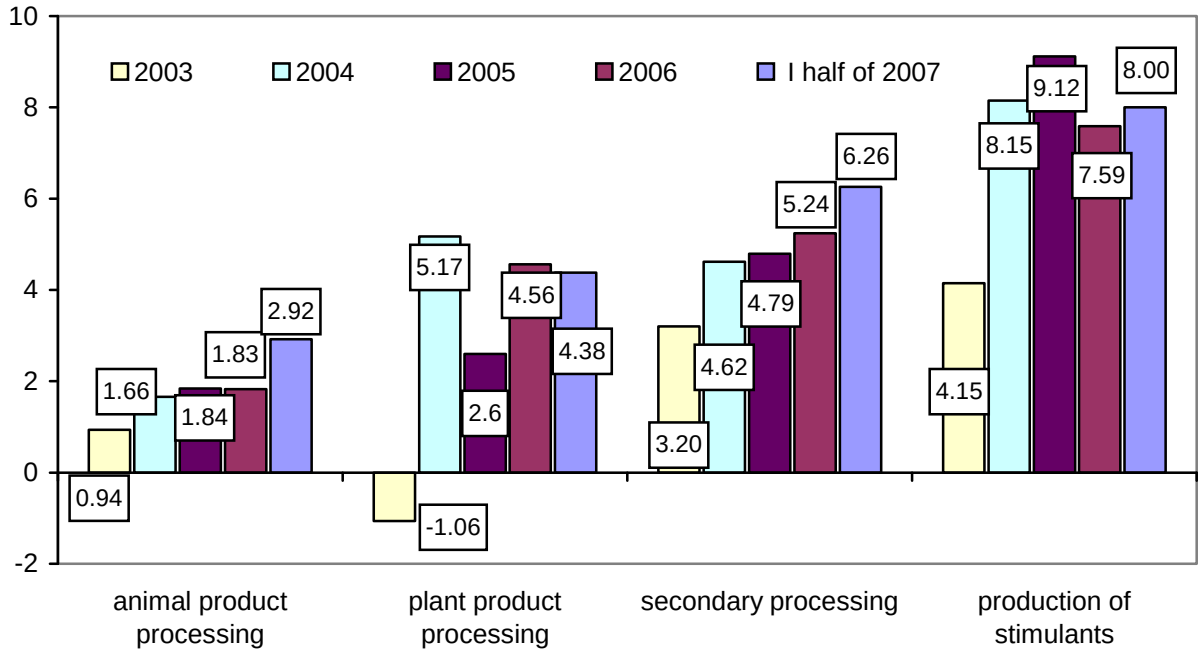
- High profitability and a safe and stable financial condition are recorded for secondary processing. Profit after tax totalled over 6% of net revenues and the accumulation of own resources in the first half of 2007 totalled 9.7% of the revenues and was by 2 percent points larger than in the entire food industry. Also the ROE rate in the entire secondary processing and in its individual sectors was high. The sale's charging with foreign capital servicing costs is small, because financial costs make up less than 1% of net revenues. This processing is characterised by a large share of equity in the current assets financing (37%) and a high current financial liquidity (1.6). The debt in respect of short-term credits whose amount totals 14% of the current assets value, as compared to 19% in the entire food processing, is very small. Also a little smaller is the burden in respect of the long-term indebtedness. All sectors of secondary processing achieve a high profitability over 4% and each of them (with the exception of non-alcoholic beverages) has a safe financial liquidity. In fodder, sugar and food concentrates industries the share of equity in current activity's financing is large (over 40%), whereas in bakery and in production of non-alcoholic beverages own resources finance 17% and 10% of the current assets, respectively, that is decidedly below the average level in food processing. The long-term indebtedness in particular of producers of non-alcoholic beverages, fresh bread and food concentrates is large, but they have no problems with this debt's servicing, since cash accumulation is high and totals over 10% of the turnover. A relatively small burden in respect of long-term indebtedness is encountered in the confectionery sector.
- The largest profitability and a not too safe financial condition are recorded for producers of stimulants. They achieve the largest profitability ratios, measured with both the share of the financial result in net revenues and in the value of the equity. In the first half of 2007 the net profit made up 8% of net revenues and over 21% of the equity's value. Sale's charging with foreign capital servicing costs is small but slightly larger than on overage in the food industry. The index of the current financial liquidity of stimulants producers is low, since the value of current assets is by 4% lower than the amount of short-term liabilities. The foreign capital's involvement in financing the current activity of stimulants producers is large. This results from the very large trade and tax commitments of beer producers, and lately also of tobacco products manufacturers. The share of own resources in current assets financing of producers of spirit, spirit beverages and wines is significant.

As compared to other branches of processing the smallest is the burden in respect of long-term liabilities whose value is by 20% higher than the amount of annual depreciation. There is a large differentiation of economic and financial indicators in individual sectors of this processing. A large profitability is recorded in brewery and distilling sectors and in the two other sectors it fluctuates at 3-3.5% of net revenues, which may be still assessed as satisfactory, as the level of own resources accumulation shows. Producers of spirits, alcoholic beverages and wines have a safe financial liquidity. The low level of the current financial liquidity in the brewery sector and lately also in the tobacco sector (sectors with a high concentration of production) results from capital connections and large liabilities to affiliated units and is no sign of the lack of financial liquidity. Problems with timely fulfilment of short-term commitments may be encountered in production of non-alcoholic beverages, where the current financial liquidity ratio dropped under the minimum level. The burden in respect of long-term liabilities in the tobacco and spirit sectors, where the amount of these liabilities does not exceed the annual depreciation's value is very small.

- A safe and stable economic and financial situation is also recorded in plant products processing. Net profitability of this processing branch in the first half of 2007 exceeded 4% of the revenues, but the ROE rate was not large, since it totalled only 9.2%, that is by 6.3 percent point less than on average in the food sector. In plant products processing, as compared to the other processing branches the sale's charging with financial costs is the largest. They make up 4.4% of net revenues and are almost three times larger than on average in the food industry. This processing is typical of a large (37%) share of own resources in the current assets financing, given a larger significance of credits than in the entire food industry and given a decisively smaller importance of trade and tax liabilities. This processing has also a safe financial liquidity and its ratio as of 30 June 2007 totalled 1.6. Most branches of this processing's sectors have a high profitability, which at the net level exceeds 4% of net revenues, with the exception of oil manufacture and potato processing, where in the first half of 2007 it totalled 1.25 and 2.52%, respectively, whereas a safe current financial liquidity is recorded in all sectors of this processing, because its rates significantly exceed the minimum level. In the potato and sugar industries the share of equity in current assets financing is high (over 50%). The role of these resources in the cereals sector, in which 19% of these assets is financed by own resources and the main source of financing of this constituent of assets are bank credits is the smallest. Also in the fruit and vegetable industry the role of bank credits is large and the trade and tax

commitments finance a significant part of the current activity in the oil manufacturing and in fruit and vegetable processing. A large burden in respect of long-term indebtedness is recorded in fruit, vegetable and cereal processing and in sugar industry, whereas a particularly small, or even minimum burden was recorded in the potato processing.

Figure IV.17. Net profitability of the main sectors of the food industry



Source: Own calculations on the basis of non-published data from the CSO.

- The economic and financial situation of the animal product processing is constantly improving. At present we can assess it as relatively good, since net profitability in the first half of 2007 approached 3% and the ROE rate exceeded 16% and was by 0.5 percent point higher than in the food industry. The improvement of the management efficiency takes place with a simultaneous charging of sale with financing costs, which at present are very low and the lowest as compared to the other branches of food processing. This processing distinguishes itself by a relatively small (19%) share of equity in current assets financing, that is half the size than in secondary processing and in processing of plant products. The main financing source of the current economic activity is trade and tax commitments and the share of bank credits approaches the average level in the food industry. Animal products processing is strongly burdened with long-term liabilities, more than the entire food processing. Their amount is over twice as large as the value of annual depreciation. In this sector of processing the best economic and financial results

are obtained by fish and milk processing, in which the profitability totalled 4.4 and 3.6%, respectively and the current financial liquidity ratio significantly exceeded the minimum level. Profitability of meat processing was slightly smaller; however it was not small and the ROE rate in this sector reached a level similar to the average one in the entire food industry. The meat sector is typical of a small rate of the current financial liquidity, but the large network of own shops ensures a constant supply of cash and makes it possible to maintain financial liquidity. The poorest economic condition is recorded for poultry processing, whose profitability fluctuates at the level of 1% of net revenues and the value of current assets in the middle of 2007 was by only 7% larger than the amount of short-term liabilities. Only in fish and milk processing the share of equity in current assets financing is significant and the main sources of financing this part of assets in all sectors are trade and tax obligations. Bank credits finance from 13% of current assets in the dairy industry to 26% of current assets in meat processing. The burden in respect of long-term liabilities of all sectors of this processing, with the exception of dairy industry is extremely large. These liabilities are over twice as large as the annual amount of depreciation. Only in milk processing they exceed this amount by 1/3.

Summary and conclusions

1. The Polish food economy, alike our entire economy still benefits from the accession to the European Union. It is noticeable that benefits for the agricultural sector from this accession even increased in the third and fourth year after joining EU. This acceleration and accumulation of benefits results from three phenomena:
   a) The entire Polish economy still well uses the available competitive advantages and the freedom to enter the markets of other developed EU countries. This is manifested by maintenance of a large rate of Polish export's growth, of which also of export of agricultural products and food industry products.
   b) The accelerated economic development which source is also integration with the EU develops the domestic distribution market. The fast GDP growth (ca 6% per year) together with the competition of EU labour markets necessitate and favour growth in wages and salaries and reduction of unemployment. The income situation of domestic consumers improves, which increases domestic demand and retail sale of goods and services of which also sale of food and beverages.
   c) Poland's opening to the European market directly contributed to the increased influencing of the world market in food on the Polish agricultural and food sector. The increase in the world demand for food and agricultural products, resulting from a fast economic growth of some countries (in particular of China and India) led to an increase in world prices of agricultural products. Its results became already observable in the domestic agricultural market. As a consequence of this the multi-year tendency of agricultural and food products' becoming relatively cheaper was stopped or even revered, which is mostly observable in the Polish market in cereals, dairy products and poultry meat. The increase in these prices became one of the main factors – apart from the growing EU subsidies – of improvement of agriculture's income situation.

2. Since Poland's accession to the EU a source of prosperous economic situation in the food economy has been the maintenance of the high growth rate of exports. This is confirmed by the following:
   - export of the sector in 2007 will be almost 2.5 times larger than in 2003,
   - annual growth in exports amounted to EUR 1.2-1.8 billion,

- the growth rate of exports is still double-digit, but in 2007 it will be twice as low as in the period 2004-2005, although due to the poor harvest of cereals in 2006 and of fruit in 2007 the export potential of agriculture decreased significantly and the strong zloty reduced profitability of exports.

The import growth, which totals on average over 20% per year is lower than of exports. Therefore a significant improvement of the exchange balance from just under EUR 0.5 billion in 2006 to over EUR 2 billion in the years 2006-2007 was observed.

The Polish agricultural and food export more and more focuses on the markets of other EU countries. Their share in this export grew from 65% to almost 80% and in imports – from 61% to 66%. The share of exports in the value of food industry sale increased from 13.7% to about 21% and in foreign markets as much as about 50% of this industry production's growth is located.

3. The acceleration of the economic growth and growth of wages and salaries and a small inflation were the main reasons for another increase in demand for food and beverages. Since 2005 retail sale of food has been increasing at a rate of 8-10% per year. This phenomenon results from:
   - improvement of the food conditions, which is related to increased consumption of meat, cheese and milk desserts, as well as fish, vegetables and plant fats,
   - fast increase in demand for more processed beverages and food,
   - permanent reduction of self-supply and direct sale and the growing share of market forms of supply, in particular with a share of industrially processed products.

   These phenomena also denote an increase in demand for value added of processing and trade and demand for gradual reduction of simple forms of food supply.

4. For many years a typical feature of the agricultural and food sector has been agricultural products and products of food industry becoming relatively cheaper. This tendency has been lately disturbed twice, that is directly after EU accession and for the second time in 2007. This second disruption of the tendency in agricultural and food products going cheaper took place because of a large increase in prices in world markets. This caused that – despite the increase in domestic production – the average prices of agricultural products in 2007 will be by 15-17% higher than in the previous year and the increase in the prices of food will total about 5% for retail sale or about 7% on the

level of processing. The prices of means of production for agriculture will increase by about 6% then. The increase in the procurement prices of cereals, poultry and milk is particularly large. Due to the very poor harvest the increase in prices of fruit is large and in 2008 the prices of pigs will also grow. The increases in prices are becoming an important factor of growth for cash revenues and farmers' income. They also mean that the condition of balance in the world, European and domestic market in food will be shaped by higher prices than the existing ones and that the era of relatively small agricultural prices ends.

5. So far the EU accession has not accelerated the development of agricultural production, in particular of plant production. The value of global production is by only 2-3% higher than before the EU accession. Similarly small were increases in production of the main articles, that is cereals, pork, milk and fruit. Production of sugar beets dropped slightly and production of potatoes and other root plants dropped significantly. Only the production of rape increased significantly, that is twice and production of poultry, eggs and vegetables grew significantly. The EU accession reverted the existing downward tendency in beef production and the total animal production in 2007 was by 9% higher than the average one from the period 2001-2003.

   The large changeability of plant production, in particular of cereals and fruit as well as production of pigs for slaughter still continues. At the same time we observe a decrease in internal use, both of production and consumption. This results in a faster growth of market and final output than of global output. The scale of market turnover of agricultural products grows quite quickly.

6. Poland's accession to the EU dramatically changed the economic results of the Polish agriculture. This mostly results from the fast-growing various subsidies to the agricultural sector, which without subsidies to KRUS (Agricultural Social Insurance Fund) and subsidies to preferential credits grew from PLN 1.8 billion in 2003 to PLN 14.7 billion in 2006 and probably to about PLN 17.5 billion in 2007. Also revenues of farms from the sale of agricultural products as well as expenditures on the purchase of means of production and services for agriculture have grown. The value of market output in realisation prices grew from PLN 36.5 billion in 2003 to PLN 43.1 billion in 2006 and about PLN 47.9 billion and of expenditures from PLN 23.3 billion to PLN 29.1 billion and PLN 31.6 billion, respectively. The balance of additional cash flows of households as compared to 2003 was positive and grew from about PLN 3.6 billion in 2004 to PLN billion 9.2 in 2006 and probably almost PLN

15 billion in 2007 (table 1). This was followed by a more than a twofold growth of agricultural income. According to economic accounts the income of an agricultural entrepreneur in 2003 was estimated at PLN 8.5 billion and according to the last accounts in 2006 it totalled PLN 21 billion (PLN 17.8 billion in 2005).

Table 1. Additional cash flows of farms
(in PLN billion, increase as compared to 2003)

Specification	2004	2005	2006	2007
1. Subsidies to agriculture[a]	0.8	7.5	8.4	9.9
2. Increase in sales revenues	6.3	4.2	6.5	13.2
3. Increase in expenditures on production means	3.5	4.7	5.7	8.3
4. Increase in cash income	3.6	7.0	9.2	14.8

[a] only direct payments and other subsidies increasing income of farmers, minus subsidies to procurement of milk, cereals and to fuel paid in 2003

Source: Own estimates.

Also financial results of agricultural enterprises are signs of a radical improvement of the economic condition of agriculture. After the EU accession they achieved a net profit (in percent of revenues) in 2004 of 10.3%, in 2005 of 7.2% and in 2006 of 9.3%. The results obtained in the first half of 2007 indicate that in this year it will not be smaller than in 2006. These enterprises also have a safe financial liquidity, which totalled 1.7 in the middle of 2007.

7. The improvement of agriculture's income situation did not lead to the expected large revival in the market in agricultural means of production or a dramatic increase in investments. Only the agriculture's demand for farming machinery, mineral fertilisers, plant protection products and industrial fodders significantly grew. Supplies of mineral fertilisers in 2007 are by 27% larger than in 2003. The consumption of plant protection products constantly grows by about 5-8% per year, whereas the growth in supply and production of industrial fodders took was observed not earlier than in the last two years (by 30% in total). Also a small increase in demand for services for agriculture (by 2-3% annually) is recorded. After Poland's accession to the EU the consumption of all the main energy carriers in agriculture is very stable and during the last two years the consumption of calcium fertilisers has fallen dramatically.

The increase in prices of agricultural means of production, a particularly large increase in prices of mineral fertilisers (and machines) causes a stable increase in the value of expenditures on purchase of the current means of

production. Their value increased by 35%. In the agricultural environment a phenomenon called Jánošík syndrome was observed.

After the accession to the EU there was no significant increase in agricultural investments. Their value in current prices grew from PLN billion 2.2 in 2003 to about PLN 2.7 billion in 2006. Investments in agriculture were financed with a large share of EU subsidies, which in the period 2004-2006 totalled PLN 4.2 billion.

8. The Poland's entrance to the EU contributed to acceleration of the development of food processing and to improvement and stabilisation of the economic condition of food industry. This results from both the increase in the domestic demand and exporters' and from improvement of the processing efficiency. The production growth started in the year preceding Poland's entrance to EU already. After this pre-accession revival a temporary weakening of the sector's development took place, which lasted by mid 2005. Another revival, which has lasted over two years already, has stabilised the sale growth rate in the amount of 7% per year.

   In 2007 the food industry production in constant prices is by 37.5% larger than in 2003. In this period secondary processing producing highly processed food developed at the fastest rate, whereas production of standard food developed at the slowest rate. Also a clear acceleration of production of stimulants and in agriculture's primary processing took place. The latter phenomenon denotes a clear progress of the industrialization process of food processing and production.

   After the accession to the EU no phenomena threatening the Polish food producers occurred. There was no deluge of food produced in other EU countries, there was no mass bankruptcy cases of enterprises in this sector and acquisitions of our companies by global concerns. Only slow changes in entities' structures oriented at concentration take place. At the same time the economic strength of companies clearly grew and stabilized. Financial results of the sector increased almost twice and the profitability ratios stabilized at a relatively high level (about 4% of sales value and 12% of equity). This results in:

   - a stable increase in equity and current assets; in the period from 2003 to 2007 these values grew by about 40% and 100%, respectively,
   - improvement of the current financial liquidity (from 1.19 to 1.34),
   - maintenance of a safe and low level of long-term indebtedness, which does not exceed 1/6 of the equity value.

This sector's investment value is by over 50% larger than the average from the years 2000-2002 and in 2007 it will reach the amount of about PLN 7 billion. Large investments made it not only possible to adapt the establishments well to the EU standards and to quickly increase the number of establishments authorized to trade with the European Union in sensitive sectors, but also to improve clearly the technical and technological condition. In this respect the Polish food industry is regarded as the most modern in the entire EU. Progress in this area makes Poland find itself in a narrow group of net food exporters, part from France, Holland, Denmark, Belgium and Ireland.

9. Poland's accession to the EU led to a clear economic revival in the entire agricultural sector and in particular in the food industry. The range of production and export growth was large. The results and the financial condition of the entire agricultural sector improved significantly. These phenomena are well grounded, since the Polish producers of food are competitive in the European market and the acceleration of Poland's economic growth leads to an increase in the domestic demand for food industry products. This means that within 5-7 years maintenance of a quite large rate of the Polish food industry's development is feasible. It is also favoured by the Common Agricultural Policy, which increases the transparency and stabilizes the domestic agricultural market and makes the food producers independent on the current political decisions. Also Poland's inclusion to the common European market and the expected trade liberalization processes are important and it will make it easier for processors to access the external sources of raw materials supply. A new phenomenon is growth of the world agricultural prices and of food prices. The price increases are larger than in the domestic market and this strengthens our competitive advantages not only in the EU market but this also improves our position in the global market.

   The Polish food producers will more and more often encounter difficulties and restrictions related to the growing labour costs, further strengthening of the domestic currency or with competition of food produced in countries with low production costs. In a short run a barrier to Polish producers is the quota system for production of milk, sugar, starch and isoglucose and for small entrepreneurs the barrier to entrance have been and will be the more and more advanced and bureaucratized systems and procedures for quality management, consumer, competition or the natural environment protection. Also a weak point of the Polish food industry is a low degree of vertical and horizontal integration.

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