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INSTITUTE OF AGRICULTURAL
AND FOOD ECONOMICS
NATIONAL RESEARCH INSTITUTE

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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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Collective work

*Redaction
dr Marek Wigier*



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The authors are the researchers
of the Institute of Agricultural and Food Economics
– National Research Institute (IERiGŻ-PIB)

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Economy Following Poland's Accession to the European Union**

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Dear Readers,

We are honoured to present the publication containing the most important conclusions drawn from the implementation of tasks within the framework of the multiannual programme “The Economic and Social Conditions of the Development of the Polish Food Economy Following Poland’s Accession to the European Union” in 2006. This programme was established under Resolution No 126/2004 of the Council of Ministers of 18 May 2004 and will continue to be implemented by the Institute of Agricultural and Food Economics – National Research Institute (IERiGŻ-PIB) until 2009. The programme includes twenty-one tasks in seven main areas, namely:

- The Polish food economy in the first years of EU membership;
- The impact of the EU structural funds on rural development in the first years of membership;
- The monitoring and analysis of changes in the Polish food chain;
- The place of Polish agriculture in the global food market;
- Polish agricultural holdings in the first years of membership;
- Regional differences in agricultural development and their effect on economic and social problems of rural areas;
- The standard gross margin account for selected agricultural products and the classification of agricultural holdings according to EU rules.

This study summarises research conducted by the IERiGŻ-PIB staff involved in the implementation of the multiannual programme. Complete results of this research were presented in separate publications released in a series of Multiannual Programme Reports, a monthly bulletin “The Agricultural Market” and “The Land Market” analysis, published by the IERiGŻ-PIB. All these studies are available, free of charge, on our website at www.ierigz.waw.pl. Furthermore, scientists employed at the Institute published summarised results of research conducted within the framework of the multiannual programme in a number of periodicals such as *Zagadnienia Ekonomiki Rolnej*, *Przemysł Spożywczy*, *Wspólnoty Europejskie*, *Nowe Życie Gospodarcze* and presented these results in the form of seminar and conference papers.

We hope that our research carried out under the multiannual programme will contribute to a more comprehensive understanding of economic and social effects of integration of the Polish food economy into the common European market and facilitate faster identification of opportunities and threats related to this process. Thus, research results and conclusions will allow to counteract any negative consequences of rural and agricultural transformation, as well as exploiting the opportunities offered to this community within the common agricultural policy.

Prof. Andrzej Kowalski

IAFE-NRI Director

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Introduction

Poland's joining the European Union has changed the economic and social conditions of the functioning of the Polish food economy. Although Poland's economy and administration had already started the necessary preparations including appropriate changes in legislation prior to accession, not all CAP instruments could be introduced before 1 May 2004. Eventually, CAP mechanisms such as direct payments, production quotas, subsidies on products, exports and domestic consumption, the new intervention scheme, quality standards and different customs duties affected the functioning of the internal market. The Polish food economy has gained free access to the European market of more than 420 million consumers, but it has been exposed to competition on the part of food producers from the EU-24. On 1 January 2007, due to Bulgaria's and Romania's joining the European Union, the common market expanded to include another 28 million consumers.

There have been essential changes in investment subsidies and credits for agriculture and related activities. Between 1994 and 2003, the ARiMR (Agency for Restructuring and Modernisation of Agriculture) subsidised interest on investment and working capital credits and guaranteed credit repayment. Such activities contributed to faster transformation of the Polish food sector, improved competitiveness and efficiency as well as increasing agricultural income. Throughout the period in question, the ARiMR granted 290,000 subsidised investment credits for a total of PLN 16.8 billion, and subsidies on interest reached PLN 5.6 billion. Following Poland's accession to the European Union, structural and regional policy programmes co-financed from public funds (e.g. the EU and national budgets) offered greater possibilities to stimulate changes in agriculture, the food industry and in rural areas. In 2004-2006, the total financial commitments (including the SAPARD programme – PLN 3.8 billion) exceeded PLN 25 billion.

The growth in real transfers of financial resources resulting from the implementation of the market and structural policies before and after EU accession has been impressive. Financial transfers increased from ca. PLN 1.8 billion in 2003 to approx. PLN 14 billion in 2006. From the beginning of May 2004 to the end of 2006, the total public transfers exceeded PLN 36 billion. Direct payments (some PLN 20 billion)¹ accounted for the highest share of funds for rural areas, while the remaining PLN 16 billion represented payments within the framework of structural programmes.

¹ The total payments in 2004, 2005 and 2006.

The integration of the Polish food sector into the EU food markets has resulted in gradual alignment of prices for agricultural raw materials, products and inputs. Domestic prices have risen (although cereal prices have shown a downward trend), thus reducing the purchasing power of the population. The opening up of the food market brought about a temporary increase in prices for agricultural inputs and food products, observed to a varying degree in specific markets. After two years of EU membership current assets were 22% more expensive than at the end of 2003; furthermore, their prices have been slowly rising. On average, prices for agricultural machinery went up by 60%. One important factor affecting prices for fixed assets has been increased demand resulting from structural programmes. Agri-food price indices were higher than those in other sectors of the economy, which pushed up the inflation rate. In 2005, prices for agri-food products ceased to grow. At the end of 2006, retail prices for food products and beverages were some 7% higher than at the end of 2003, wholesale prices increased by ca. 5%, whereas purchase prices for agricultural raw materials went up by approx. 12%. Despite the price rise, there has been a downward trend of food prices relative to retail prices for other goods and services.

The food economy has benefited from integration into the European Union. One direct effect was an upswing in the domestic market, even though Poland's joining the EU failed to stimulate agricultural production. The average levels of total agricultural output in 2001-2003 and 2004-2006 were similar. Some recovery was only observed in beef cattle farming as well as in poultry and egg production, primarily driven by increased export sales. At the same time, there was an increase in the share of commercial output in agriculture (by 6-8% annually), followed by stronger market orientation of production. Starting from 2003, the sold production of the food industry went up at an annual rate of 7-9%, fuelled by growing exports and rising domestic demand.

The increase in industrial production stemmed from improved competitiveness, a result of the industrialisation of production. Processing plants (primarily in sensitive sectors) made investment related to the necessary adjustment to EU standards. However, the real investment boom started in 2003 and has continued since then. Investment increased by PLN 1 billion annually, up to nearly PLN 6 billion. Between 2004 and 2006, the number of plants authorised to export to EU markets rose fourteen times in the meat industry (to 856), five times in the poultry and dairy industries (to 218 and 272 respectively), three times in the fish processing industry (to 195). The introduction of quality management systems (HACCP, GHP, GMP) gained momentum. The SAPARD programme played

a prominent role in this process since it enabled the implementation of nearly 1,800 investment projects in companies operating in the food industry.

In 2005 and 2006, economic and financial indicators stabilised at relatively high levels in most branches of the food industry, there was an increase in revenues (by some 4% annually), net profits (after tax) exceeded PLN 4 billion. Therefore, integration into the EU contributed to the improved financial standing, substantial investment, increased production quality. But despite the above-mentioned upward trend, food prices continued to be lower than those prevailing in the EU-15, thus strengthening the competitiveness of the Polish agri-food sector in international markets. In 2005, the competitiveness of the food economy was particularly compromised by the low level of vertical integration of agriculture with the processing industry, as well as of horizontal integration in both agriculture and the processing industry. However, these are structural problems which may only be resolved within a few years. The process is only slightly stimulated by measures such as support for agricultural producer groups or the requirement that public co-financing for investment in the food industry is only granted when long-term contracts have been signed with farmers.

As a result of the increased competitiveness of the food economy, joining the Single European Market and the adoption of the Common Customs Tariff, there has been an improvement in the conditions of access to food markets. Compared to 2001-2003, in 2004-2006 food trade went up ca. 1.7 times (1.9 times in the case of exports and some 1.4 times for imports). On account of structural changes, Poland became a major net exporter of agri-food products, recording export surplus of €0.5 billion in 2003 (for the first time from the early 1990s). In 2005, surplus in food trade reached €1.7 billion, and it jumped to €2.1 billion in 2006. The improved competitiveness of the economy is also reflected in the growing share of manufactured products in total agri-food exports. In 2006 it was already more than 82%. Due to the 10 new Member States' joining the EU, the total value of agri-food trade with the EU-24 has been rising, and it has exceeded 76%.

One direct consequence of integration was an increase in agricultural income. However, it was only temporary. It resulted from production subsidies, changes in the value of total agricultural output and fluctuations in production costs. In 2004-2006, the overall amount of direct payments paid to farmers was some PLN 20 billion, whereas LFA payments totalled PLN 3.5 billion. The above-mentioned payments pushed up agricultural income. In 2004, income also increased as a result of the growing volume of exports and a rise in prices for most agricultural raw materials and food products. In 2005, this effect diminished due

to factors such as the appreciation of the zloty, the reappearance of the downward trend of agricultural prices, a slightly lower value of crop production (although compensated with growth in the value of animal production) and increased costs of hired labour (by ca. 20%). Therefore, in 2005 the level of agricultural income declined by some 12% compared to 2004. In 2006, agricultural income was roughly the same as in the previous year. However, agricultural income of Polish farms continues to be some one-third lower than in the corresponding groups of farms in the EU-15 countries. Nevertheless, Poland's leading agricultural holdings, which account for approximately 10% of the value of commercial output in agriculture, performed better than farms in other EU Member States, comparable in terms of production and economic structures.

Integration into the EU and the available structural funds have contributed to the widening gap (polarisation) between agricultural holdings. Investment projects co-financed by the EU are usually implemented by owners of farms characterised by above-average economic potential, farmers with higher or secondary education, holders of farms where production is already in compliance with EU standards at the start of investment projects. At the other extreme, small farms switch from farming to other economic activities, mainly small services provided to the rural community, tourism and rural tourism, as well as agriculture and forestry-related services. Owners of such agricultural holdings do not wish to continue farming activities in the future.

Poland's accession to the European Union has provided valuable insights into the problems of rural areas. The new approach is reflected in operational programmes supporting the development of multifunctional rural areas. In 2004-2006, the SOP for Agriculture was accompanied by the Integrated Operational Programme for Regional Development, the SOP for Transport and Maritime Affairs, the SOP for Human Resources Development, the SOP for the Improvement of the Competitiveness of Enterprises, the SOP for the Environment. Under the SOP for Agriculture, a total of PLN 1.6 billion, i.e. 23% of the available appropriations, were earmarked for sustainable rural development. However, investment needs are much greater. Support for the development of technical and social infrastructure is urgently needed in order to effectively activate rural areas, attract investors and create new jobs. Another activation instrument should be measures aimed at protecting the environment and preserving cultural heritage. After all, sustainable development represents the right to satisfy the needs of the current generation without jeopardising the needs of future generations. Furthermore, support for the development of multifunctional rural areas should also be included in economic policy in the years to come.

The high absorption of structural funds within the framework of the PROW, SOP and SAPARD programmes contributes to structural changes in rural areas and agriculture as well as increasing the competitiveness of the food sector. At the stage of contracts signed with the beneficiaries it approaches 90%, but due to the long-term character of certain investment projects (some of which may last many months), as well as administrative and procedural matters, the utilisation rate of the appropriations for 2004-2006 varied between measures, ranging from a dozen to several dozen percent. The high absorption of public resources indicates that prospective beneficiaries' needs are still enormous. Experience gained during the preparation and implementation of the 2004-2006 structural programmes shows that in 2007-2013, apart from the necessity to improve the very implementation process of structural measures, it is indispensable to concentrate financial resources on investment and innovative measures and to depart from measures aimed at social protection. This may well be the last opportunity to use the EU funds for promoting investment in the food sector.

On accession to the EU, Poland joined one of the regional arrangements which influence global food markets. Therefore, Poland's interests in this respect should be integrated into the common European voice. In its support for the liberalisation of world food trade, Poland should strongly emphasise the relevance of continued support for the food sector and rural areas. Priority should be given to subsidies supporting investment aimed at increasing competitiveness and production quality, protecting the environment and cultural heritage of rural areas, multifunctional countryside and sustainable rural development. Considering such challenges, it is very likely that more matters in this area will be left to the discretion of EU Member States in the future.

1. The Polish food economy in the first years of EU membership

1.1. The assessment of the condition of the Polish food economy following Poland's accession to the EU

Two years after Poland's joining the European Union, the Polish food economy continues to benefit from integration. Since accession, the economic and production situation of agriculture and agri-food processing industry has shown improvement. It resulted from significant agricultural income aid, mostly under the direct payment scheme (including LFA payments), and from access to the large and developed European market (i.e. nearly 500 million wealthy consumers) for Polish food producers.

The improvement in the economic situation of agriculture is permanent, although the most important change was primarily observed in the first year of EU membership. Farmers not only received substantial income aid (some PLN 7.7 billion), but also gained from a considerable rise in purchase prices for agricultural products, resulting in an increase in the value of commercial production in agriculture by ca. PLN 6 billion. In the first year of EU membership, the income effects of increased purchase prices more than compensated for a significant rise in prices of agricultural inputs (particularly in the case of mineral fertilisers and machinery) and for the loss of previous national subsidies (to the purchase of cereals and milk as well as to agricultural fuel).

The price and income effects of integration into the EU were fading quickly. Following the temporary shock and an upsurge in purchase prices, from mid-2004 there was a gradual decline in prices and two years after EU accession they were roughly the same as at the end of 2003. In mid-2006, the income effect was only observed in sugar beet growing and (especially beef) cattle farming. Pig and poultry producers mostly benefited from lower prices for cereals and fodder. At the same time, integration contributed to increased prices for agricultural inputs. Two years after EU accession, current assets cost 22% more than at the end of 2003 (e.g. prices for fertilisers went up by one-third, for agricultural fuel – by some 40%) and continued to rise slowly. Even higher growth rates were recorded in the case of prices for agricultural machinery (an average of 60%). Poland's accession to the European Union was followed by the so-called “Janosik syndrome”, i.e. the fact that producers of and traders in agricultural inputs seized a certain share of the increased agricultural income.

The rise in agricultural prices resulted in additional revenues from the sale of agricultural output. Compared to 2003, they went up by PLN 6.5-4.5 billion. However, a major part of such agricultural income was taken over by suppliers

of agricultural inputs, primarily due to the growing prices for means of production. Net additional inflow was positive (a surplus of some PLN 6.5 billion), which only resulted from direct payments. The dependence of agriculture on EU subsidies and payments has been increasing, thus stabilising the income situation. The improved income situation of agriculture failed to trigger an investment boom or an upswing in the market in agricultural inputs, which is rather unfavourable for the intensification of production. Nevertheless, increased income improved the economic situation of farming families and rural communities. The improved income situation is also reflected in the performance of agricultural enterprises. Net profitability of such companies went up from -3.6% in 2003 to the record-high of 9.3% in 2004/05, and then fell to 1.3%.

The opening up of the large European market for Polish food producers brought about a steady and substantial increase in agri-food exports. From the date of EU accession to the first quarter of 2006, the annual growth rate of agri-food exports ranged between 30% and 40%. The value of exports of agri-food products is likely to have exceeded €8 billion in 2006, i.e. a twofold increase on 2003, with export surplus of ca. €2 billion, more than four times higher than agri-food trade balance prior to accession. The rise in foreign trade turnover, particularly strong in the case of EU Member States, was widespread, observed in all branches of the food economy. It alleviated the consequences of the lower growth rate of domestic demand in the first years of EU membership, stemming from higher food prices and integration-related price shocks. But the slowdown was only temporary as reduced food prices and increased income of the population brought about another upturn in the domestic market (from mid-2005).

EU accession improved the economic conditions for animal production, primarily due to a fall in cereal and fodder prices. It triggered faster development, mostly a result of continuing high growth rates of poultry production, a stronger increase in the wholesale trade in milk, the shortening of the downward phase of the pig cycle and a marked upturn – following years of recession – in beef cattle production. After EU accession, there was an increase in the share of commercial production in the total and final agricultural output, which implied declining internal intermediate and final consumption as well as the development of links between agriculture and the market.

Poland's joining the EU has had no major effect on the level and changes of crop production. Agricultural production is characterised by significant upward and downward fluctuations in the output of the basic crops, still exceeding 10% annually. In the last three years, fluctuations in the crop production even showed

an increase, particularly in the case of rape and cereals, which indicates a strong dependence of those crops on weather conditions.

The high indicators of fluctuations in crop production support the notion that the inclusion of agriculture in the area payment scheme has reduced the incentive to increase the intensity of crop production, particularly with regard to cereals. It is also reflected in the stagnation of the market in agricultural inputs for crop production. In recent years, growing demand has only been observed in the case of plant protection products, demand for certified seed has been low and further declining, and the upturn in the market in mineral fertilisers in 2004 was only temporary, followed by a reduction in deliveries and demand from the beginning of 2005.

Production quotas frequently cause a phenomenon known from the shortage economy where efforts to use quotas reduce the impact of economic factors and the need for farming efficiency. After EU accession, the food sector witnessed developments such as high production of the so-called C sugar, exported at low world market prices, and marked differences between the growth rate of milk purchase and industrial processing in 2005 (by 10.5%), and the growth rate of production of the main milk products (usually by 5-8%).

The food industry benefited from the European integration as a result of the following:

- ⇒ immediately before EU accession and in the second year of membership there was an upsurge in production, reflected in a rise in output by 6-8% in annual terms,
- ⇒ after EU accession, there was a marked improvement in the financial standing since net profit more than doubled (up to ca. PLN 4.5 billion), equity went up (by over 20%), current liquidity increased (to 1.3 in the first quarter of 2006),
- ⇒ the period of integration into the EU witnessed an upturn in investment activity, related to both the necessary adjustment of production plants to EU standards and strong competitive pressure in the open EU market; the investment level in the food economy continued to be high also in 2005,
- ⇒ there was a dramatic improvement in the standard of processing plants, particularly in sensitive sectors where the number of plants authorised to trade in the EU market, thus prospective exporters, increased several times after EU accession.

Poland's joining the EU brought about greater stability of the business environment for operators in the food economy. Agricultural prices depend not only on very unstable domestic supply relationships, but also on the situation in the neighbouring countries and the EU agricultural and commercial policies. There-

fore, agri-food markets have become more transparent and predictable, whereas price fluctuations have declined. This concerns developments such as seasonal fluctuations in cereal prices and pig prices in specific phases of the pig cycle.

The condition and performance of the Polish food industry in 2004-2006 indicate that this sector of the food economy was well-prepared to integration into the European Union. Due to the restructuring and modernisation of this industry throughout the transition period and the adjustment of processing plants to EU standards, faster in 2003-2004, it was possible to exploit the opportunities existing in the large market of wealthy consumers in Western Europe. After Poland's accession to the European Union the related threats appeared to be less severe than it had been expected and Polish food producers strengthened their position in the common European market. Consequently, there was an improvement in the economic performance of the whole sector, thus increased prospects of further growth.

Two years after Poland's joining the EU, the process of bringing processing plants into compliance with EU standards was coming to an end. EU accession stimulated the widespread implementation of quality management systems (HACCP, GHP, GMP) aimed at food safety. Progress in adjusting food processing plants to EU standards resulted from increased investment activity in this industry. In 2003, investment in the food industry went up by more than 20%, and the following two years saw a rise by 50% compared to 2000-2003. The investment level continued to be high in 2005 and 2006.

Recent years have witnessed an upsurge in production in the food industry. It could be observed also in the year preceding Poland's accession to the European Union. The high growth rate of the sector continued in early 2004. The first year of EU membership was characterised by the stabilisation of domestic demand for food products, due to both a rise in food prices (by some 7-8%) and a fall in real income of the non-farming population. Food production was then only driven by growing export sales. The situation in the domestic market changed in mid-2005, which resulted in another upturn in production of the sector; the growth rate of output again exceeded 5-6% in annual terms and production was fuelled by ever-growing exports and increasing domestic demand.

The developments triggered by EU accession, i.e. increasing exports, production growth and the industrialisation of the processing industry, brought about a marked improvement in the financial standing and performance of the food industry, stabilised at relatively high and safe levels. In 2004-2006, net profits of food processing companies exceeded PLN 4 billion annually, net profitability was over 3.5%, whereas return on equity reached ca. 12-13%. The above indica-

tors doubled in comparison with the previous years when the zloty had been appreciating and the producer price index in the food industry had been lower. The improved performance of the sector stemmed from more efficient use of production factors and the continued restructuring of enterprises.

The Polish food economy has strengthened its position in the common European market since Poland's accession to the European Union. Characterised by an increased share in food deliveries to EU markets and developing trade relations with EU Member States, Poland ranks among major EU producers of cereals, meat, milk, sugar and rape.

The most severe problems of the food sector are structural in nature as they result from excessive fragmentation of agriculture and the main processing industries and producers' tendency to compete rather than cooperate. Furthermore, the institutional environment of agriculture and the food processing industry is not always efficient.

1.2. The impact assessment of the common agricultural policy on agricultural markets

On becoming part of the common European market, the Polish cereal sector was burdened with effects of previous market regulations. Every year, fluctuations in supply result in dramatic changes in the Polish cereal market. The impact of EU accession varied between specific stages of the marketing chain. Although it had been expected that direct payments would increase the income of cereal producers, in actual fact the profitability of cereal production declined. The fall in profitability mostly affected efficient producers, whereas payments supported production in small agricultural holdings, typically characterised by low yields. The new regulation scheme ensures greater market (thus income) stability in the long term, but it cannot eliminate temporary market fluctuations. The fall in cereal prices is favourable for processors (the milling and animal feed industries) and for recipients of end products (consumers and producers of animals for slaughter). In the long term, both processing plants and consumers may expect market stabilisation at low prices. As regards cereal producers, it implies the need to increase productivity. As a result of the inclusion in the EU foreign trade regime, the Polish market is open to EU products and protected against imports from third countries. Access to EU markets and available export refunds increase export opportunities not only in years of bumper harvest.

As regards the market in sugar, integration into the EU was less favourable in 2006 than in the previous year. There was a fall in selling prices for sugar and in the processing margin, which resulted in the deterioration of the economic and

financial standing of the sugar industry. Profitable exports of sugar to the European Union Member States showed a decline. Increased prices for sugar beet pushed up the profitability of production. Direct payments to sugar beet production only accounted for 5-7% of net agricultural income. Therefore, they had no major impact on farmers' decisions due to production quotas.

Direct payments have been pushing up agricultural land prices and slowing down land concentration in dairy farms. At the same time, they compensate for lower purchase prices for milk only in the case of barns with more than 20 milk cows, which should stimulate restructuring in the sector. The CAP reform implies dramatic changes in the development strategy for agriculture, e.g. the discontinuation of support for all agricultural holdings regardless of size and productivity.

The ceilings for cattle and sheep premium rights, negotiated by Poland, are included in complementary area payments. Between 2004 and 2006, complementary area payments also supported agricultural holdings without cattle or sheep. It is difficult to assess the impact of complementary payments on the income of holdings engaged in beef cattle farming, particularly considering the fact that cattle farming in Poland continues to be oriented towards dual-purpose production. The adoption of CAP instruments brought about changes in beef market regulations applicable in Poland. The intervention buying-in and export subsidies for meat were discontinued. CAP instruments had a marginal effect on supply, demand and prices for beef in the domestic market as Poland did not use storage aid for bovine meat and only benefited from export refunds to a limited extent. The opening up of outlets stimulated intra-EU deliveries, which had a major impact on domestic supply and prices, primarily in the beef market.

The organisation of the EU market in fruit and vegetables differs from other market organisations. Firstly, the market is very liberal, and secondly, it is largely based on strong producer organisations, the main beneficiaries of EU funds. Due to factors such as the underdevelopment of producer organisations in Poland, the effect of the CAP on the market in fruit and vegetables was very limited.

Positive influence of the CAP on the market in potato starch was reflected in increased income of growers of starch potatoes, a marked improvement of the economic and financial standing of the potato industry and a rise in exports of starch products. Negative aspects included a reduction in potato starch production, a fall in area under starch potatoes by ca. 30%, more than twofold growth in imports of starch products and the under-utilisation of processing capacity (a mere 65%).

As regards the market in beverages and prepared foodstuffs, the impact of the CAP may be considered insignificant due to the marginal share of the cost of agricultural raw material in total production costs, and particularly in the final price of prepared foodstuffs.

At the outset, since the European Community was not self-sufficient in terms of basic agricultural products, the common agricultural policy instruments were aimed at increasing production. As the goal of self-sufficiency was attained and agriculture even started generating surpluses, the common agricultural policy evolved from efforts to encourage the conversion of production to adopting the principle that the common agricultural policy instruments must in no way promote growth in agricultural output.

Direct payments, introduced in the early 1990s, were reformed in June 2003. The two pillars of the reform of the common agricultural policy were decoupling, i.e. cutting the link between payments and production, and the establishment of a single payment. Therefore, support was supposed to be paid independently of production. However, the above-mentioned principle of decoupling was very soon abandoned in Regulation of 29 September 2003, although it repeated that all farmers would be eligible for direct payments regardless of production. Special “support schemes” were established for farmers producing durum wheat, protein crops, rice, milk products, seed, arable crops, sheep meat and goat meat, beef, grain legumes, cotton, tobacco, hops as well as for olive growers. Such a payment regime should ensure increased stability of agricultural income, but at the same time leave farmers free to choose what to produce taking account of the market situation.

Farmers eligible for direct payments must maintain their farms in good agricultural condition and comply with public health, animal welfare and environmental standards.

Among the common agricultural policy instruments, direct payments are distinguished by widespread use rather than effectiveness or impact on specific agricultural markets. Furthermore, direct payments have a significant effect on agricultural income, even greater in countries characterised by lower income from agricultural activities.

Direct payments particularly affect the cereal market. Although the payments are insufficient to cushion against fluctuations in production, within a few years they will contribute to the stabilisation of the cereal market at relatively low prices. As regards large and highly productive farms, it will lead to further concentration of production, improved efficiency, but perhaps also to certain exten-

sification of cereal cultivation. In small agricultural holdings, where yields tend to be lower, direct payments will contribute to maintaining cereal production. Therefore, due to reduced prices, the beneficiaries of payments to cereal producers will appear to be the milling and animal feed industries, consumers and producers of animals for slaughter. Producers of agricultural inputs already benefit from the “Janosik effect”.

Direct payments have no essential impact on the sugar and starch markets. At present, such crops are very profitable for growers, the influence of payments on income remains marginal, and production quotas represent the only limitation.

It is difficult to accurately evaluate the effect of direct payments on the milk market. It seems that payments combined with the response to the apparently inevitable reduction in the profitability of milk production will affect the price level. Furthermore, while hindering land concentration, they will also contribute to the slowdown in the concentration of milk production.

Presumably, as has already been mentioned, the market in meat is affected by direct payments paid to cereal producers rather than by those received by producers of animals for slaughter.

The production of beverages and prepared foodstuffs is largely insensitive not only to direct payments, but also to the remaining instruments of the common agricultural policy. It results from the fact that the costs of raw materials, undoubtedly affected by the CAP, account for a marginal share in total production costs.

It can be concluded that direct payments serve their purpose of maintaining and – to a lesser extent – stabilising agricultural income. Direct influence of such payments on specific agricultural markets varies from a limited effect to no impact at all. A slightly stronger, although not crucial, may prove to be indirect influence, e.g. through slowing down changes in the agrarian structure, the specialisation and concentration of production.

1.3 The assessment of changes in the competitiveness of Polish food producers in the common European market and in markets of third countries

Fifteen years of transition and several years of adjustments to EU integration have fundamentally changed the Polish food economy and contributed to the marked improvement in its economic and production situation after Poland's accession to the European Union, thus confirming adequate preparation of the sector to operating in the Single European Market (SEM) and in markets of most

non-EU countries. It resulted from both significant agricultural income aid (primarily in the form of direct payments) and access to the common market for Polish producers.

Following Poland's joining the European Union, the economic and production situation of the Polish food economy has considerably improved. It primarily stemmed from access to the large and developed European market for Polish producers, which enabled a rapid increase in exports of Polish food products and an improvement in the position of Polish food producers in the enlarged EU. This is reflected in the following developments:

- ⇒ Between 2003 and 2005, the value of agri-food exports went up by more than 78%. The growth rate of imports was lower, ca. 54%.
- ⇒ The expansion of trade with other EU Member States was even faster. The share of the EU-24 in Polish agri-food exports jumped from approx. 65% in 2003 to as much as 74% in 2005, whereas in the case of imports the respective share rose from some 61% in 2003 to 64% in 2005.
- ⇒ As a result, in 2003-2005 agri-food trade surplus increased 3.7 times, while in trade with the EU the surplus went up 4.2 times.

Foreign trade statistics for 2006 confirm the above tendencies. Compared to the previous year, the value of agri-food exports and imports increased by 21.5% and over 19% respectively. Therefore, the balance on agri-food trade rose by more than 29%. At the same time, the share of EU Member States in Poland's total agri-food exports grew by 2.7 percentage points, whereas the respective share in imports declined by 1.7 percentage points.

The rapid expansion of foreign trade in agri-food products after Poland's accession to the European Union resulted from the elimination of tariff and non-tariff barriers to trade with both the EU-15 and EU-9 countries. The only limitations preventing certain Polish enterprises from exporting their products to other EU Member States stem from non-compliance with sanitary, veterinary, environmental or animal welfare standards applicable in the EU. However, production potential of plants authorised to export to the EU is sufficient to meet importers' ever-increasing demand for Polish agri-food products. Attractive in terms of price and quality, Poland's export offer arouses growing interest on the part of other EU Member States. Exports to markets of third countries have been rising at a much lower rate (the loss of certain "Eastern markets" has been particularly heavy).

In recent years, increasing exports have had a major effect on the development of the food industry. There has been a steady upward trend of the share of exports in sold production of the this industry, between 2003 and 2005 it went

up by 4.3 percentage points (from 13.7% to 18.0%), which indicates the growing importance of foreign markets. Thus, the rise in export demand accounted for nearly 37% of growth in effective demand for agri-food products in 2003-2005.

Between 2004 and 2006, a particularly strong export orientation, measured by the ratio of foreign trade to total sales of agricultural products, was observed in the following branches of the food industry: fish processing, potato processing (including starch production), the manufacture of fruit and vegetable juices and beverages as well as of other preparations of fruit and vegetables, the manufacture of pet food, the manufacture of pastry, chocolate and other confectionery products, the manufacture of sugar, the processing of tea and coffee, the manufacture of spices, food supplements and dietetic food. At the same time, most of the above industries relied on imported raw materials.

As regards agricultural production, in 2004-2006 a strong export orientation was found in activities such as the growing of fruit and vegetables, the farming of cattle and calves as well as of sheep and goats. Export of horses also played a significant role. The above-mentioned sectors, except the growing of fruit, were characterised by substantial export surpluses. The growing of fruit, despite considerable export sales, recorded a trade deficit related to significant imports of fruit from other climatic zones. The remaining groups of agricultural products represent much lower export orientation.

In 2004-2006, branches of the food industry characterised by low competitiveness and orientation towards the domestic market included the following: the manufacture of preparations of red meat and poultry meat, the manufacture of ice cream, the manufacture of preparations of cereals and of pasta, the manufacture of fresh bread, the manufacture of prepared animal fodder, the wine and brewing industries as well as the manufacture of beverages.

In most branches of the food industry, producer (i.e. farmer and processor) prices are lower in Poland than in developed EU Member States. The primary source of Poland's price advantages is several times less expensive labour. Furthermore, prices for energy, land and other production factors are also lower. Significant price advantages of Polish food producers engaged in farming activities concern most agricultural products. According to 2005 figures, prices for basic cereals were ca. 12-14% (on average) lower than EU prices. Domestic prices for pigs were a mere 4% lower than EU prices, but in the case of piglets the difference in prices was already 18%. Poland's most significant price advantage is found in cattle production. In 2005, average domestic beef prices were nearly 25% lower than EU prices. As regards chicken prices, those were more than 23% lower than average EU prices, whereas prices for egg for human con-

sumption were only lower than average EU prices by less than 4%. In 2005, domestic purchase prices for milk were ca. 10% lower than in EU Member States. According to 2006 figures, Poland's price advantages remained almost unchanged. Poland enjoyed lesser price advantages in the markets in basic cereals and milk, whereas price differences increased in the case of pigmeat, piglets and chickens.

The Polish agri-food processing industry is also highly competitive in terms of prices. Poland enjoys considerable price advantages in most agri-food markets. However, a comparison of food producer prices prevailing in the Polish and German markets reveals a steady downward trend of price differences. Nevertheless, Poland's advantages continue to be significant in the case of most prepared products, particularly preparations of meat and fish, margarines, sugar confectionery and preparations of cereals, while price differences have markedly narrowed in the markets in pigmeat and most milk products. At the same time, there has been gradual strengthening of the Polish zloty. Therefore, broader quality and distribution of export products have been growing in importance as competitive advantages.

Competitiveness in the EU market and in world markets is not tantamount to price competition. Products are also distinguished by other vital characteristics, e.g. quality, innovativeness and uniqueness of products, the ability to identify and satisfy the needs of individual customers, comprehensive promotion measures, the creation of corporate image based on confidence and on the quality of customer service. In the future, the above-mentioned factors may determine whether Polish products are still accepted by consumers from other countries.

Export subsidies are aimed at "removing" excess agri-food products from the internal market. Thus far, they have been applied to exports of sugar, isoglucose, milk powder, butter, cheese, fresh or frozen beef and veal, potato starch, groats and pasta, flour and wheat, half-carcases, canned food, sausages and offal of swine, live poultry, poultry meat and eggs. The amount of export refunds on the above-mentioned products totalled PLN 117 million in 2004, PLN 382 million in 2005 and PLN 335 million until 15 August 2006. Export subsidies contribute to maintaining market balance in periods of excess food production. From the point of view of agricultural producers and processors, the scheme increases their competitiveness. They derive direct benefits from export subsidies as such payments help maintain higher prices in the internal market than the level which would result from the interplay of supply and demand.

Changes in the agri-food sector which followed Poland's accession to the European Union also revealed barriers reducing its competitiveness. The most

important constraints on the development of the Polish food economy included production quotas for milk, isoglucose and potato starch, and in the 2006 season also limitations on sugar production. The above-mentioned sectors witnessed a fall in production and exports as well as increased imports of raw materials.

Another possible barrier to the development of this sector represents the gradual strengthening of the national currency. It may reduce Poland's price advantages and differences in labour costs. Consequently, Polish food producers may become less competitive in the EU market, and farmers will be affected to a greater extent than food processors. Furthermore, the appreciation of the zloty increases the competitiveness of imported goods, an additional threat to sectors which enjoy lesser price advantages.

Changes and the increasing scope of EU regulations represent a major threat to Polish food producers, particularly to small businesses. Food producers must meet more and more requirements concerning consumer, competition and environmental protection as well as the related documentation, which is another barrier to market entry and undermines the position of Polish and EU producers in world markets.

In the short and medium term, Polish food producers can expect greater competitive advantages than barriers to and limitations on the growth in competitiveness. Exports of Polish agri-food products are likely to grow further as they are not only inexpensive, but also healthy and safe, which results from more natural production methods in a less polluted environment. In later years, however, Poland's competitive advantages may diminish.

2. The impact of the European Union structural funds on rural development in the first years of membership. The general concept of rural development support from structural funds and the Cohesion Fund in 2007-2013

2.1. The analysis of the implementation and outcomes of the PROW (Rural Development Programme) and SOP programmes (The Sectoral Operational Programme for the "Restructuring and modernisation of the food sector and rural development")

The inclusion of Poland in the common agricultural policy and the common commercial policy of the European Union as well as the availability of structural funds for agriculture and rural areas have significantly changed the economic and social conditions for the food economy. In addition to new legislation and market regulations, there are more opportunities to subsidise economic entities

operating in the food economy as well as institutions contributing to its transformation and development. Public transfers (from the EU and national budgets) to the food economy increased from some PLN 1.8 billion in 2003 to approx. PLN 14 billion in 2006, and from the beginning of May 2004 to the end of 2006 total transfers of public funds exceeded PLN 36 billion. The highest share in transfers to rural areas represented area payments (ca. PLN 20.3 billion), as well as payments under structural programmes, i.e. the SAPARD and PROW programme, the SOP for Agriculture and the SOP for Fisheries.

Thus far, the Polish food industry has made good use of public funds available in the pre-accession period and in the first years of EU membership. This is reflected in the improved quality and competitiveness of production. Investment went up from approx. PLN 4-5 billion in 2000-2002 to some PLN 6 billion a year between 2003 and 2006. Prior to accession, investment projects were first financed from beneficiaries' own resources combined with preferential credits granted by the ARiMR, and then from 2002 also under the SAPARD programme, with PLN 1,708.9 million, i.e. 35.3% of the total appropriations, earmarked for investment purposes. Within that budget, enterprises signed 1,342 contracts for the implementation of projects aimed to improve the processing and marketing of agricultural and fishery products in industries processing meat (689 contracts), milk (325 contracts), fruit and vegetables (241 contracts), fish (87 contracts) and other agri-food products. As at the end of 2006, the total amount of co-financing (based on payment claims) exceeded PLN 1,663 million. Most subsidies (59% of support funds) were allocated for the purchase of new machinery and equipment for processing agricultural products. A vast majority of assisted projects were oriented towards adjustment to EU rules and compliance with sanitary and veterinary standards. The HACCP system was implemented in 513 plants. However, 60% of businesses received support up to PLN 1 million, and assistance granted to 4% of companies ranged from PLN 5 million to PLN 10 million (the maximum amount).

After Poland's joining the EU, apart from the implementation of contracts signed under the SAPARD in the pre-accession period, investment in the food industry was also financed within the framework of the Sectoral Operational Programme for the "Restructuring and Modernisation of the Food Sector and Rural Development". In 2004-2006, appropriations for the co-financing of investment projects in the food industry amounted to PLN 1,807.0 million, i.e. 26.3% of the total public resources under the programme. Until the end of 2006,

contracts for a total of PLN 1,820 million were concluded with 1,089 businesses. Therefore, all the appropriations available under this measure were exhausted.

Most investment projects co-financed within the framework of the SOP are implemented in industries processing meat (35% of the total number of projects), milk (23%), fruit and vegetables (21%) and poultry meat (11%). The structure shows that 90% of contracts signed under the SOP concern sectors previously co-financed under the SAPARD programme, although subsidies were also available to plants processing potatoes, hops, honey, flax, hemp and protein products. Furthermore, nearly one-third of projects are being implemented by previous beneficiaries of the SAPARD programme. Even though the preparation and implementation of an investment project involves difficulties and effort, companies consider such investment worthwhile. Considerable interest in the programme is reflected in the fact that as early as October 2005 total appropriations available under the measure were exceeded by 60%, which stopped the receipt of applications.

Most investment projects co-financed under the SOP (70%) are implemented by small and medium-sized enterprises, with net sales not exceeding PLN 50 million. Only less than 20% of projects are implemented by plants characterised by net sales of more than PLN 100 million. However, average public assistance per project is limited, ca. PLN 1.7 million. In financial terms, the measure is attractive to enterprises. Nearly 50% of beneficiaries have already implemented at least two projects.

Broken down by purpose, most projects implemented under the SOP (over 45% of the total number) are aimed at improving sanitary and hygienic conditions and the quality of production. But the most expensive investment projects are oriented towards adjusting production to market needs, finding production niches and introducing new technology. The structure of eligible costs is dominated by the purchase and installation of processing machinery and equipment (nearly 50% of total costs eligible under the SOP) and by the construction, renovation or modernisation of buildings (22%).

Faced with the need to cope with competition in the internal and international markets and to meet administrative requirements, companies operating in the food industry were forced to implement quality management systems. In the financing of investment projects own resources were combined with support from structural funds. According to 2006 statistics, more than 50% of all enterprises operating in the food industry completed the implementation of good hygiene

practice (GHP) and another 30% of businesses were at the implementation stage. At the same time, good manufacturing practice (GMP) was applied in ca. 45% of firms in the sector (while it was being implemented in approx. 30% of enterprises), and the HACCP system was applied in some 30% of the total number of businesses (slightly more than 20% of companies were at the implementation stage). After 1 May 2004, the highest implementation rate of compulsory quality management systems was recorded in small enterprises operating in the food industry. The number of firms which had implemented this system doubled or even tripled depending on the sector. Moreover, the implementation of quality assurance systems resulted in a rise in the number of companies authorised to export their products.

The amount of assistance granted within the framework of the SOP significantly varies between regions. Average support ranges between PLN 640,000 in the Śląskie voivodship and more than PLN 3 million in the Podlaskie voivodship. In general, however, voivodships where the food industry enjoys a strong position (with large dairies and meat processing plants) were characterised by higher amounts of co-financing. In a vast majority of signed contracts beneficiaries applied for lower amounts of support than the available co-financing, ranging from an average of PLN 6.5 million in the Podlaskie voivodship to PLN 5.6 million in the Warmińsko-Mazurskie voivodship to PLN 1.3 million in the Śląskie or PLN 1.9 million in the Lubuskie voivodship. In most projects (65%) the co-financing was PLN 1 million or less, and only in 3.5 % it exceeded PLN 10 million. Therefore, the maximum contribution established at PLN 20 million appears to have been unnecessary.

Investment projects implemented in the food industry and co-financed from public funds have resulted in increased quality and competitiveness of production. Companies operating in the food sector primarily focused on investment aimed at quality assurance and control, improving health conditions, introducing new technology. However, enterprises showed little or no interest in measures oriented towards developing new outlets, innovative activities or investment aimed at better use or recycling of waste and by-products.

The SOP for Agriculture and PROW programmes represent important tools of the structural policy for agriculture. As the attainment of the defined economic objectives is planned for several years, it contributes to the stabilisation of the structural policy. The total appropriations of both programmes allocated only for agriculture (excluding the modernisation of the food industry, measures for sustainable rural development and technical assistance) amounted to more than PLN 17.6 billion. Even without non-investment funds, i.e. LFA payments,

structural pensions, direct payments and support for agri-environmental projects, the budget of ca. PLN 8.3 billion remains significant.

At present, despite months of delay at the beginning of implementation, farmers' evaluation of both programmes is positive. Furthermore, public opinion was largely shaped by the perception of the SAPARD programme. It showed that structural support was actually available. In 2004-2006, greater investment opportunities and increased agricultural income, resulting from the rise in prices for raw materials, direct payments and LFA payments, have attracted more interest in agricultural investment. At least for some farmers (approx. 300,000-400,000) farming has become a profitable activity. Their significant interest in investment subsidies suggests that most appropriations will be utilised.

Most investment projects implemented by farmers (more than 60%) under "Investments in agricultural holdings" and the "Setting up of young farmers" concerned farms oriented towards the cultivation of cereals, dairy cattle farming and pig farming. These are also the most popular activities in Polish agriculture. Until the end of October 2006, investments in agricultural holdings (including investment projects implemented by young farmers) were made by a total number of over 40,000 farmers. Beneficiaries tend to be educated as 60-75% of farmers (depending on the measure) have a university degree or secondary education, including two-thirds with agricultural education (according to the 2002 agricultural census, a mere 6.5% of farmers had such education). It inspires optimism that most farms applying for investment support already produced in compliance with EU standards at the moment of submitting applications (in the case of farms owned by young farmers this share was several percentage points lower).

At the same time, investment projects aimed at adjustment to EU standards are being implemented by more than 70,000 agricultural holdings. The measure proved to be so popular among farmers that at the beginning of 2005, after less than six weeks from launch, the receipt of applications was stopped due to the possibility of exhausting the available financial resources. Enormous interest in the measure was also fuelled by easy eligibility criteria. Subsidies of nearly PLN 1.8 billion, i.e. ca. 68% of the total appropriations, were paid to beneficiaries. The most popular type of investment (91% of farmers' applications) represented projects aimed at building storage facilities for natural fertilisers (farm manure). Although from the point of view of farmers such investment is unproductive, assisted projects protect the environment and enable the farmers to apply for support in subsequent years (the cross-compliance requirement).

Investment is usually undertaken by owners of farms characterised by above-average economic potential. In 50% of agricultural holdings making investment in agricultural activities, the standard gross margin exceeded 16 ESU (according to the 2002 agricultural census, SGM was more than 16 ESU in a mere 3.6% of all farms in Poland). Therefore, most beneficiaries of support measures are owners of commercial farms, wishing to continue agricultural activities in the future. However, eligible investment costs (an average of PLN 197,000 per project) and the related subsidy (PLN 105,000) represent nearly one-third of the maximum public contribution. Perhaps farmers are still reluctant to undertake major investment. Furthermore, financial means of many agricultural holdings in Poland continue to be limited. Most assisted projects are aimed at improving the organisation of production (50% of the total number) and competitiveness (16%), increasing agricultural income (14%) and reducing the costs of agricultural production (11%).

As many as 84% of projects concern the purchase of machinery and equipment. It indicates that such investment represents the simplest form of using the assistance. Given such opportunities, however, farmers prefer to avoid long-term investment and the related problems, e.g. implementation procedures. Another very important reason for making such investment is the lack of modern machinery and equipment in many agricultural holdings. Investment programmes in agriculture result in improved technical equipment of agricultural holdings and increased competitiveness.

For decades, rural areas and agriculture were seen as one inseparable system of interrelations, economic and social interactions. As a consequence, economic policy for rural areas was tantamount to agricultural policy. The countryside is agriculture. Only growing structural problems in agriculture and the apparent social, economic and infrastructural backwardness of rural areas compared to towns and cities gave rise to the idea of sustainable development. In a broad sense, sustainable development means pursuing a development policy ensuring the sustainability of social, economic and cultural structures in the long term. With regard to rural areas, it involves multifunctional character of the countryside, the creation of conditions for multiple environment-friendly economic activities, the development of social and cultural functions, ensuring a favourable living and working environment for the rural population.

Poland's accession to the European Union enabled a rise in investment aimed at promoting multifunctional rural areas. In 2004-2006, the SOP for Agriculture was accompanied by the Integrated Operational Programme for Regional Development, the SOP for Transport and Maritime Affairs, the SOP for Human

Resources Development, the SOP for the Improvement of the Competitiveness of Enterprises, the SOP for the Environment. Under the SOP for Agriculture, a total of PLN 1.6 billion, i.e. 23% of the total appropriations, were earmarked for sustainable rural development. Investment needs are much greater, but the allocation seems reasonable considering the budget constraints. Within the framework of the SOP for Agriculture, the priority “Sustainable Development” is comprised of six measures and a pilot programme (LEADER); in financial terms, the largest measures include agricultural aquatic resources management (31% of the appropriations), the diversification of agricultural activities (25%) as well as village renewal and preserving the cultural heritage of rural areas (21%). Funds allocated for the Leader only account for 4.4% of the appropriations. Such allocation of financial resources indicates the lack of clear priorities and goals in promoting sustainable development. Although assistance is needed in all areas, the use of appropriations should be concentrated for the best possible results, whereas issues of infrastructure, aquatic resources management, land consolidation or forestry production should be included in other programmes.

As at the end of 2006, support for sustainable rural development within the framework of the SOP for Agriculture attracted nearly 16,000 applications. Funds applied for under this measure exceeded the available appropriations by 55%. Contracts were signed with 9,800 beneficiaries, of whom 4,900 received final payments (which accounted for ca. 21% of the total appropriations for this priority). Assistance is targeted at farmers, forest inspectorates, private forest owners and Marshal’s offices.

Investment projects aimed at ensuring alternative incomes for farmers mainly concerned small services provided to the rural community (ca. 40% of projects), tourism and rural tourism (29% of projects) as well as agriculture and forestry-related services (23% of projects). Other categories co-financed under the SOP attracted very little interest. The structure of projects indicates that the rural population mainly needs more off-farm jobs, therefore it is advisable to provide greater support in this area in the future. Another argument for developing non-agricultural activities is the fact that owners of small farms (with the economic size of 4 ESU or less) represented as many as 73% of beneficiaries of the above-mentioned measures. Those farmers wish to discontinue farming activities as even at present their holdings tend to be social rather than commercial in nature, which is likely to further strengthen in the future. At the same time, one should bear in mind that investment in tourism and leisure, small services or processing involved more capital (average eligible costs per project were ca. PLN 170,000) and was mostly undertaken by agricultural holdings of 15-25 ESU.

Under the measure “Restoring forestry production potential”, virtually all projects concern state-owned forests (99%). It demonstrates that they are much more important to forestry in Poland than in Western European countries. Surprisingly, the European Commission refused to include the State Forests in the afforestation programme. Land ownership is irrelevant to the environment, but the end result is the same. Most subsidies (60% of contracts) support introducing appropriate measures to prevent natural disasters (e.g. improved fire protection system including the construction and modernisation of firebreaks and roads, fewer contracts concern the purchase of arboricultural equipment and the modernisation of nurseries).

Despite the undertaken investment projects and support measures, one of the most pressing problems in rural areas remains the underdevelopment of technical infrastructure. Without adequate roads, water supply and sewage systems or electronic media, it is impossible to effectively activate rural areas, attract private investors and create new jobs. Investment also needs to be made in the development of social infrastructure (e.g. the educational and healthcare systems). Only combined effects of all those measures will provide increased employment opportunities. Community leaders can play a prominent role in the process. Their active approach and skills make them more open to change. Another important activation instrument should be measures aimed at protecting the environment and preserving cultural heritage. After all, sustainable development represents the right to satisfy the needs of the current generation without jeopardising the needs of future generations, which primarily concerns the environmental impact of economic growth. Support for the development of multifunctional rural areas should be given priority in the economic policy in the years to come.

The effects of Poland’s membership in the EU indicate that Polish agriculture, rural areas and the food economy have been changing. Satisfaction and initiative have been replacing the pessimism and powerlessness which could be observed prior to accession. It is increasingly frequent for the rural population to make efforts to improve the financial situation, modernise production methods and equipment, increase the quality of rural life etc. It is widely recognised that the previous status quo cannot be maintained and that changes are necessary in areas such as education and expertise, production quality and specialisation, increased concern for the environment and landscape, multifunctional development and innovation. Farmers wish to use Poland’s potential and specialise in

organic production. At the same time, however, they want to build modern, commercial and specialised farms, able to cope with competition in international markets.

The structure of agricultural holdings is becoming increasingly polarised. “Medium-sized” farms are being replaced by commercial holdings or semi-subsistence farms with other, non-agricultural income sources. Young persons and owners of small farms frequently decide to discontinue farming activities and start small businesses. Learning to exploit the opportunities in the European market and to benefit from support measures, they are often successful in restructuring and modernising their work methods and technical equipment. The absorption of financial assistance measured by the utilisation of public funds at the stage of contracts signed (at more than 95% both in the PROW and SOP programmes) proves that investment needs continue to be enormous.

Despite a great number of training courses concerning EU funds and preparing applications, farmers and enterprises frequently see administrative procedures as red tape and seek assistance from specialised companies and centres for agricultural advisory services in applying for subsidies. According to surveys conducted by PENTOR, compared to 2005 there was an increase in the share of respondents (from 63% to 78%) convinced that applying for support involved completing very complicated documents. At the same time, 61% of farmers believed that the available information on EU financial aid was insufficient or imprecise.

Beneficiaries encounter problems at the stage of submitting applications, project implementation and the clearance of accounts. Red tape is epitomised by collecting copies of enquiries. It is time-consuming and makes it difficult to cut costs. If the investment project is implemented months after submitting the application, the collected offers are no longer available. The cost structure changes as well, thus affecting project implementation and clearance of accounts. Another example of bureaucratic procedures is the requirement to submit valid certificates issued by the Social Security Office, the tax office, local authorities etc. The issue of one document is often tantamount to holding another document so presenting it seems unnecessary, but at the same time certain certificates frequently expire due to time-consuming administrative procedures. Furthermore, some elements of the business plan seem pointless (e.g. the organisational structure of the company, the marketing plan, collecting long-term contracts which are often non-existent, only invented to meet bureaucratic requirements).

The lack of simple procedures for making amendments to contracts results in major difficulties in project implementation. The rapidly changing conditions (e.g. fluctuations in prices for building materials, machinery and equipment, services) call for flexible adaptation. However, it requires a number of additional actions so beneficiaries of public support prefer to avoid such problems, which sometimes results in sub-optimisation.

Simplification is also necessary in the case of monitoring surveys and implementation reports. Although they serve a useful purpose, they should not be reporting for reporting's sake. This task is particularly difficult for farmers and small businesses, sometimes implementing major innovative projects with limited human resources.

According to enterprises, definitely the most difficult stage of investment is collecting technical documentation, particularly the investor's cost estimate, the construction permit, certified copies of the notification of intended construction works together with "no objections" confirmation. Aware of the related problems, especially difficulties with the clearance of accounts, many companies decided not to apply for financial assistance for the construction or modernisation of production facilities. Preparing and submitting a payment claim is extremely complicated and time-consuming. The number of annexes, lists and other requirements is excessive. The conducted surveys also revealed frequent delays on the part of the ARiMR with regard to the reimbursement of costs and obtaining information on the clearance of accounts.

A significant barrier to applying for financial assistance by farmers is the lack of own resources for investment. At the same time, many farmers are reluctant to borrow from credit institutions as they are concerned about credit repayment. The situation is different in the case of relations between enterprises and credit institutions.

In 2004-2006, the structural policy for rural areas and the food economy was characterised by a most accurate identification of major development problems of the Polish food economy and rural areas, a well-ordered, stable and predictable scope, certainty that the objectives will be realised, a transparent structure of programme financing, a wide variety of measures and easy access to some financial resources. Undoubtedly, these represent important strengths of structural measures targeted at rural areas and the food economy.

The weaknesses of the structural policy for rural areas and the food economy in 2004-2006 include their short-term character, the overlapping of measures and funds spread too thinly (a great number of programmes – 25), the focus on

maximising the utilisation of the EU financial resources, insufficient support for the development of modern economic structures, entrepreneurship and sustainable development, the adoption of European priorities in Poland's structural policy, the creation of new administrative barriers, delays in signing contracts and effecting payments, the lack of support measures for the fight against unemployment in rural areas.

It was impossible for the necessary structural transformation in agriculture and rural areas to take place in 2004-2006, nor should it be expected in 2007-2013, the next implementation period of the rural development programme. Structural changes involve generational changes. The above-mentioned organisational and administrative obstacles should be eliminated, as far as possible, in the new programme for agriculture and rural areas for 2007-2013. Although it is impossible to change the "conservative" nature of the PROW and make it an investment-oriented programme (if only for the 2004-2006 commitments), suggestions included in this report should be used in order to help farmers and enterprises. An effective programme is not necessarily restrictive, but it needs prudent planning.

2.2. The concept of rural development support from structural funds and the Cohesion Fund in 2007-2013

The PROW-2013 is not a comprehensive programme for rural development. Other programmes affecting the development of rural areas are co-financed by the European Regional Development Fund and the European Social Fund. The long list of issues which should be addressed in such programme includes the following:

- ⇒ increasing the impact of major economic centres on rural areas through greater accessibility for the rural population,
- ⇒ integrating rural areas into national and international transport and communication infrastructure,
- ⇒ developing and improving local infrastructure,
- ⇒ fostering rural entrepreneurship and increasing investor attractiveness of rural areas,
- ⇒ investing in human capital and promoting equal educational opportunities for the rural population,
- ⇒ improving the quality and availability of public services in rural areas.

The creators of the Polish PROW-2013 were faced with an extremely difficult task of assessing thirty-seven measures and selecting those which should be financed from the EU budget in 2007-2013. Undoubtedly, the choice was not made any easier by the fact that all the measures listed in Council Regulation

(EC) No 1698/2005 would contribute to rural development. At the same time, there are no reliable tools for evaluating the effectiveness of all measures on the basis of a single method and rejecting low-ranking instruments. As a result, the PROW-2013 largely reflects subjective assessments of the programming team members and their superiors who had a final say in programme development.

Another difficult task represented the allocation of the available resources between specific measures. The programmers of the PROW-2013 needed to bear in mind certain decisions taken during the development and adoption of the 2004–2006 programmes. Some measures implemented under those programmes required a multiannual approach, therefore meeting commitments made between 2004 and 2006 (“fixed” commitments) required a minimum level of appropriations for such measures under the PROW-2013. Other fixed commitments represented certain measures which needed to be implemented within the framework of the PROW-2013 as they were included in the programme for 2004-2006.

One perfectly “fixed” measure is “Support for farming in mountain areas and other less-favoured areas (LFA)”. During the preparation of the PROW 2004-2006, Poland made efforts to cover the largest possible area with LFA payments and this goal was achieved. At present, it is impossible to reduce less-favoured areas and transfer some funds to other measures. Thus, the allocation of nearly €2.3 billion for 2007-2013 results from decisions taken in previous years.

Characteristically, structural pensions are both fixed commitments and a fixed measure. A structural pension is paid for several years. Therefore, the PROW-2013 must include appropriations for the payment of pensions granted between 2004 and 2006 (fixed commitments). At the same time, the rules applicable to new pensions can only be modified as less favourable for beneficiaries in exceptional situations, and the discontinuation of this instrument is virtually impossible, despite criticisms (a fixed measure). Thus, it is necessary to continue granting structural pensions under the PROW-2013. But the question is whether the available appropriations are sufficient as the “first come, first served” principle should not be applicable. Pensions should be granted to all eligible applicants. The projected number of 50,400 new pensions between 2007 and 2013 (7,200 annually) is definitely too small compared to the number of applications submitted in 2004-2006 (56,000) and that of pensions granted (44,000).

Fixed commitments are also found in the following measures: “Producer groups”, “Agri-environmental payments” and “Support for semi-subsistence farms”. Within the framework of the PROW-2013, assistance to semi-subsistence farms consists in meeting commitments made in 2004-2006 and continuing until 2008 or 2009 at the latest. The final evaluation of the effective-

ness of the measure “Semi-subsistence farms” cannot be made until the first half of 2007 when inspections reveal how beneficiaries used financial assistance, but preliminary analyses suggest that the measure is not very successful in promoting agricultural development.

Due to the need to include fixed measures and commitments, the amount of EU and national public funds available to the programmers of the PROW-2013 for free allocation was much lower than the total appropriations of the programme. It was not over €15.3 billion (at constant prices), but nearly €5.8 billion less. At the programming stage of the PROW-2013, ca. 38% of appropriations had been in fact allocated, of which approx. 18% of resources for meeting 2004-2006 commitments and 20% for financing measures which could not be discontinued since they were “non-binding commitments”. Under a more stringent classification, the group of “non-binding commitments” could include many more measures, thus much more appropriations.

Increasing the competitiveness and production potential of Polish agriculture should be given absolute priority in the PROW-2013. It is necessary to allocate maximum possible resources specifically for agricultural development as in the next financial period the Council may impose a different priority – the environmental protection – on Member States, much more radically than in Regulation No 1698/2005. Furthermore, due to the progress in the Doha Round of the World Trade Organisation it will be necessary to recognise the environmental protection, and perhaps also direct income aid, as the most important element of rural development. It is conceivable that adopting such priorities will be the only way to preserve European agriculture in the long term. Recent analyses have demonstrated that also decoupled payments increase the competitive strength of assisted holdings. Some arguments contained in such studies are difficult to refute.

The concentration of financial resources on measures aimed at increasing the competitiveness and productivity of Polish agriculture should be accompanied by its modernisation and protection of the broader rural production area, including the environment. Modernisation must not deteriorate the quality of the environment in rural areas; on the contrary, it must contribute to its improvement. Those can be complementary objectives if modernisation also includes the development of technical infrastructure improving the sanitary standards in the countryside accompanied by more widespread good farming practice (also necessary under cross-compliance requirements), educational and administrative measures oriented towards raising the environmental awareness of the rural population.

The PROW-2013 fails to concentrate funds on measures improving the competitiveness and productivity of Polish agriculture. It is characterised by a rather even distribution of financial resources between measures oriented towards (a). development, (b). the environmental protection and (c). agricultural income aid. Therefore, it is a compromise (or perhaps even conformist) programme which is unlikely to satisfy anyone but still free from the fault of excluding important measures from the programme.

From the point of view of Poland's long-term interests, the structure of the PROW-2013 is very unfavourable. Unfortunately, the CAP is likely to be fundamentally reformed after 2013, with a significant reduction in EU support for the development of the food economy and agriculture. Therefore, the current financial period is likely to be Poland's first and at the same time last chance to utilise EU funds for the necessary restructuring and modernisation of agriculture and the rural economy, at least in part. Failure to exploit such an opportunity would be a serious mistake adversely affecting the position of the Polish food economy in the European Union. It should be noted that programmes aimed at protecting the rural environment are basically accepted at present so it may be possible to allocate much more funds for such purposes in the subsequent financial perspective than in 2007-2013.

In the light of the above, it is necessary to review the PROW-2013. It should result in an increased share of resources earmarked for direct support for the development of food economy, particularly agriculture. Since all the available appropriations have been distributed, it involves a reduction in funds for other objectives. Although it may prove difficult to eliminate certain measures included in the July version of the PROW-2013, or at least cut appropriations and shift the resources freed up in this way to development-oriented measures, it is indispensable. It should be considered whether it is advisable to co-finance, within the framework of the PROW, measures such as the "Conservation and improvement of rural heritage", "First afforestation of agricultural land", "First afforestation of non-agricultural land" or "Advisory services". Should it be impossible, it would be desirable to reduce public funds reserved for such measures, probably also for some other areas. Furthermore, it is necessary to tighten the eligibility criteria for less-favoured areas. Finally, it should be considered whether certain measures could be financed exclusively from national funds. However, the last proposal seems not very feasible since the co-financing of PROW-2013 already represents a significant strain on the state budget.

Another possibility to be taken into consideration is shifting certain measures to programmes financed from the European Regional Development Fund and the European Social Fund. Authors of such programmes may have assumed that all or almost all programmes concerning rural areas should be financed from the European Agricultural Fund for Rural Development, which is an obvious misunderstanding.

3. The monitoring and analysis of changes in the Polish food chain

3.1. The monitoring of economic effects of the development of quality assurance systems and of their impact on the competitiveness of the Polish food economy

Poland's joining the European Union structures has had a significant effect on the completed and ongoing implementation of compulsory quality management systems in the food industry. From 1 May 2004 to 1 August 2006, there was a marked increase in the number of enterprises operating in the food industry which applied and implemented obligatory quality management systems.

According to data collected by the Veterinary Inspection Service and the State Sanitary Inspectorate, during the first two years of Poland's membership in the EU there was a rise in the total number of companies operating in the food industry which applied good hygiene practice. Particularly high implementation rates of GHP were observed in the following:

- ⇒ the baking industry – the number of firms applying this system increased by 330%,
- ⇒ the manufacture of pasta – a rise in the number of businesses applying this system by 197%,
- ⇒ the wine industry – the number of companies applying this system went up by 127%,
- ⇒ the manufacture of mineral waters and beverages – an increase in the number of enterprises applying this system by 125%,
- ⇒ the spirit industry – the number of companies applying this system grew by 123%.

Relatively low implementation rates of GHP were recorded in firms operating in the dairy industry (21%), the oil and fat industry (38%), the meat industry (47%), the fish processing industry (48%) and in the processing of tea and coffee (59%). In the above-mentioned industries the process of implementing and applying good hygiene practice had already started before 2004.

From 1 May 2004 to 1 August 2006, there was also a substantial rise in the number of enterprises operating in the food industry which applied good manufacturing practice. The most robust growth was observed in the following:

- ⇒ the baking industry – an increase in the number of companies applying this system by 372%,
- ⇒ the manufacture of pasta – the number of firms applying this system went up by 194%,
- ⇒ the wine industry – a rise in the number of businesses applying this system by 150%,
- ⇒ the manufacture of mineral waters and beverages – the number of enterprises applying this system augmented by 148%,
- ⇒ the spirit industry – an increase in the number of firms applying this system by 123%,
- ⇒ the fruit and vegetable industry – the number of companies applying this system rose by 110%.

Lower application rates of good manufacturing practice were found in the case of enterprises operating in the dairy industry (23%), the fish processing industry (50%), the meat industry (51%) and the processing of tea and coffee (58%). Many companies operating in those industries had implemented this system in order to meet consumer requirements and expectations as early as the 1990s.

Two years after Poland's accession to the European Union, the number of businesses operating in the food industry which applied the HACCP system showed a very impressive increase. The highest growth rates characterised in the following:

- ⇒ the baking industry – the number of enterprises applying this system rose by 447%,
- ⇒ the fish processing industry – a rise by 159%,
- ⇒ the manufacture of pasta – an increase by 136%,
- ⇒ the fruit and vegetable, spirit and wine industries – a rise by 100%.

The implementation rates of the HACCP system are lower than in the case of good hygiene practice and good manufacturing practice (except the baking industry). A significant rise in the number of businesses operating in the fish processing industry which implemented the HACCP system only after 1 May 2004 resulted from the fact that those firms had been granted a transitional period to make necessary adjustments to the HACCP requirements.

The implementation of quality management systems in companies involves adjustments to hygienic and sanitary standards, which usually requires actions such the repair or modernisation of buildings, machinery and equipment. Po-

land's integration into the EU contributed to increased investment activity in the whole food industry. The upswing in investment has been observed since 2003. It reached a peak in 2004 when more food producers engaged in adjustment to sanitary and veterinary standards and implemented compulsory quality management systems.

The implementation and application of compulsory quality management systems represents a prerequisite (standard) for companies operating in the food industry for exporting their products, particularly to the EU Member States, the USA, Canada, and currently also to Russia. Therefore, exporters started implementing GHP, GMP and the HACCP system as early as 1990s. It mostly concerned the meat, dairy, fish, confectionery industries as well as the processing of tea and coffee. Poland's accession to the European Union and the elimination of tariff barriers stimulated growth in export sales of all industries, also contributing to increased implementation of compulsory quality management systems in enterprises operating in the food industry, especially in less export-oriented branches. Similarly, the application of the IFC system and/or the BRC system is necessary for companies wishing to supply their products to supermarket and hypermarket chains in France, Germany and the United Kingdom.

It has been found that the growth rate of exports was statistically consistent with the implementation rate of quality management systems particularly in the confectionery, the manufacture of pasta, the spirit and brewing industries, and in the manufacture of beverages.

After the entry into force of *Act of 25 August 2006 on nutrition and food safety*, the implementation and application of compulsory quality management systems is no longer a competitive advantage in the domestic market or in international markets, but a necessary condition for operation in the Polish food industry.

3.2. The analysis of economic interrelations between specific elements of the food chain

The monitoring of markets in main agri-food products, agricultural inputs and services suggests that in 2006 market conditions for agricultural production improved in comparison with 2005. It primarily stemmed from greater domestic demand and, to a lesser degree, increased export sales. In the second half of the year the growth rate of exports to a number of markets went down due to the downward trend of export profitability resulting from price alignment and the appreciation of the zloty. Increased domestic demand for food products, driven by a marked rise in income (by 6.8% in real terms), pushed up retail prices for

foodstuffs by 2.2%, which combined with a low inflation rate resulted in a rise in food prices by 0.7% in real terms. It was accompanied by ca. 4% increase in purchase prices for basic agricultural raw materials, due to the lower production of most vegetable raw materials. The growth rate of purchase prices exceeded that of retail prices for agricultural inputs (2.7% in December-on-December terms). In 2006, market conditions for agriculture, measured by the cumulative price scissors index, showed a significant improvement compared to the previous year, or even to 2004.

Table Price indices in 2004-2006 (December of the previous year = 100)

Specification	2006	2005	2004
Salaries and wages	108.4	107.0	103.4
Consumer goods and services	101.5	100.7	104.4
Foodstuffs	102.2	98.8	107.7
Agricultural inputs	102.7	102.3	118.3
Price scissors index (purchase basket)	101.2	89.3	99.2
Purchase basket	103.9	91.9	117.3
Wheat	154.3	86.7	66.4
Rye	178.8	91.2	66.7
Potatoes	80.6	93.9	110.5
Cattle	102.9	102.1	144.8
Pigs	97.2	81.6	143.2
Poultry	102.7	85.1	105.2
Milk	100.3	98.6	123.8

Source: Own calculations based on GUS data.

However, it does not mean that the income situation of all agricultural holdings showed an improvement. The strong price rise primarily pushed up income of farms specialised in cereal production. This effect was combined with direct payments. At the same time, a rapid increase in prices for animal feed resulted in a significant fall in income of pig and poultry farmers.

In 2006, the sharpest rise in purchase prices was recorded in the case of wheat and rye (by 54-79%). At the same time, growth rates of purchase prices for animal products ranged from 0.3% (milk) to 2.7-2.9% (cattle, poultry), whereas prices for pigs for slaughter dropped by 2.8%. A strong decline in purchase prices (nearly by 20%) was also observed in the case of potatoes. However, it would not be reflected in improved economic conditions for the fattening of pigs as the fall in prices was accompanied by an increase in marketplace prices. Furthermore, commercial farms practically eliminated potatoes from pig feed and replaced them with cereals.

The rapid growth in cereal prices adversely affected the market in pigmeat and, although to a lesser extent, the market in poultrymeat. As a consequence, there was a severe decline in the profitability of such production. The significant fall in income from pig and poultry farming would only slightly be alleviated by decoupled direct payments.

Contrary to expectations, the decline in import costs was insufficient for increased imports of cereals to prevent a significant price rise, despite Poland's joining the Single European Market and the elimination of borders. It appeared that imports from other EU Member States were limited in quantity and too slow to respond to demand, despite the fact that intervention buying-in prices in the neighbouring countries are much lower than those offered in Poland. Due to natural barriers, e.g. high transport costs, the stabilising effect of intervention stocks is minor in the case of peripheral countries such as Poland. It demonstrates that removing customs barriers does not automatically increase market liquidity or improve the market mechanism. It is also necessary to invest in the development of transport infrastructure.

The introduction of market mechanisms in the cereal market brought about a rise in prices for cereals and preparations of cereals relative to prices for pigs and poultry, which led to economising on cereals, but at the same time they became relatively less expensive than potatoes, which resulted in substitution. As a consequence, domestic demand for cereals used in animal feed, following a temporary downturn in the early 1990s, showed no upward trend and continued to be characterised by strong fluctuations depending on the phase of the pig cycle.

For the past sixteen years, prices for preparations of cereals, particularly pastry products, have been rapidly rising. It has had no major effect on the level of consumption, but it has changed its structure. From the mid-1990s, the consumption of preparations of cereals per capita continued at the level of 120 kg in the flour equivalent, and a slight decline in consumption was observed in 2005-2006. Due to a significant increase in consumer income and changed consumer preferences, households have reduced the consumption of mixed bread and flour and switched to crispbread, pastry products, pasta, and in recent years also to semi-finished products, particularly pizza. It is related to increased consumption of fast food and eating out.

The cereal market continues to be mostly determined by significant price instability resulting from major fluctuations in domestic yields and production accompanied by the low elasticity of demand. Due to the fact that the consequences of farmers' response to changed profitability of pig farming stemming

from fluctuations in cereal prices are delayed by 18 months, the price risk involved in the production and processing of cereals remains very high. Furthermore, it also accounts for the high risk in pig and poultry farming.

Due to the lack of increase in cereal yield and limited changes of area under cereals, Poland continues to experience the shortage of cereals, whereas frequent and significant fluctuations in production require substantial cereal imports, usually exceeding exports. In recent years, the fluctuations in cereal production have even risen and become more frequent. In addition to random factors (climatic conditions), it also results from the gradual polarisation and the growing share of small producers engaged in extensive cereal cultivation. Such agricultural holdings tend to be particularly vulnerable to unfavourable weather conditions.

Thus far, changes in the structure of area under cereals have followed two different patterns. On the one hand, there has been an increase in the area of intensive production of cereals – triticale, maize and buckwheat, which have been replacing mostly rye, but in recent years also wheat, in farms specialised in commercial cereal production. On the other hand, there has been a rise in area under mixed cereals, which represent non-commercial, subsistence production in small holdings with insufficient financial resources for intensifying production and introducing modern cultivation methods. It is one important reason for the lack of progress in cereal yields in Poland.

Due to the lack of viable alternatives to cereals, the share of cereals in area under crops has gone up from some 60% to more than 78%, whereas in certain voivodships it has exceeded 82%. Such a high share of cereals in area under crops represents an essential obstacle to applying proper crop rotation and an important reason for low yields, particularly in agricultural holdings not applying modern cultivation methods.

Seventeen years after the introduction of the market economy, the market in cereals continues to be underdeveloped. Commercial production by domestic producers represents approx. 8-8.5 million tonnes of cereals (one-third of output), of which ca. 7-7.5 million tonnes sold through structured distribution channels. Agricultural holdings use two-thirds of production, almost exclusively for animal feed, without prior processing. Although the use of cereals in the animal feed industry has been rapidly increasing, in 2004-2006 only 3 million out of 16.5 million tonnes of cereals used as feed raw materials were used to produce manufactured feedingstuffs. In developed market economies proportions are different, with commercial output ranging from two-thirds to three-fourths of cereal production. In addition to significant price instability and high risk in-

involved, the underdeveloped and superficial cereal market represents the main cause of the underdevelopment of cereal production in Poland.

However, due to adjustment processes triggered by the introduction of market mechanisms in the cereal market, the Polish cereal sector is able to cope with competition in the Single European Market. The most important adjustment processes include the following:

- ⇒ the creation of ca. 50,000 highly commercial farms specialised in cereal production. This group of agricultural holdings, where average area under cereals has increased to 60 ha per farm, with a 35% share in total area under cereals, accounts for more than 50% of domestic production and for 80% of commercial production of cereals. The development of this group of cereal producers was facilitated by the transformation of former state-owned farms. They were also supported by intervention measures of the Agricultural Market Agency. Farms specialised in commercial production of cereals are fully prepared to compete in the Single European Market.
- ⇒ Privatisation combined with the restructuring of the cereal, milling and animal feed industries, which enabled to attract capital and large-scale modernisation investment. Those investment projects helped create a modern animal feed industry and a developed milling industry in Poland. Financial consolidation resulted in a significant concentration of the primary processing of cereals. Not only industry leaders are able to cope with competition in the Single European Market. This is reflected in ever-growing exports of preparations of cereals and the improved balance of foreign trade in cereals and preparations of cereals, despite the fact that Poland is not self-sufficient in this respect.

The liberalisation of intra-EU trade leads to increased trade not only in preparations of cereals, but also in cereal grain. It should contribute to restoring long-term balance after rapid fluctuations in supply. The inclusion of the Polish cereal sector in the Single European Market is favourable for the development of the domestic cereal market, which should stimulate cereal production in Poland. It seems possible that soon Poland will cease to be a net importer of cereals.

The process of price transmission in the cereal market in Poland follows roughly the same pattern as in other developed market economies. Price impulses go from purchase prices up the marketing channel asymmetrically, i.e. retail prices respond to a rise in purchase prices faster than the other way around. However, retail prices (especially for mixed bread) have been decreasingly dependent on cereal prices. It could be observed particularly after 2000.

On the basis of models describing the transmission between purchase prices, producer prices (at the level of processing), selling prices and retail prices, the situation in 1996-2005 can be characterised as follows:

- ⇒ There were strong positive relationships between short-term fluctuations in purchase prices for cereals and the movement in selling prices for basic products from the milling of cereals. In most cases, those were asymmetric in nature. A 1% increase in purchase prices for wheat resulted in a 0.35-0.40% rise in selling prices for flour, whereas a 1% increase in purchase prices for barley led to a rise in selling prices for groats by 0.15%.
- ⇒ The response of bread prices to fluctuations in flour prices were very different in the first sub-period (1996-2000) and in the second sub-period (2001-2005). In the first sub-period, a 1% rise in flour prices resulted in a 0.38% increase in bread prices, but in the second sub-period there was no relationship between bread prices and flour prices.
- ⇒ There were positive short-term responses of retail prices to fluctuations in prices charged by processing plants, but they were delayed and varied significantly between products. The strongest response concerned bread prices. A 1% rise in prices charged by bakeries resulted in cumulated increase in retail prices by more than 0.7%. In the case of prices for flour and groats the response was much weaker.
- ⇒ In the period in question, the transmission between selling prices and retail prices clearly diminished. There was a marked decline in the cumulated ratios describing the transmission process, e.g. in the case of bread – from 0.94 in the first sub-period to 0.55 in the second sub-period, with increased delays in response. The restoration of long-term balance in retail prices after fluctuations in prices charged by processing plants was very slow. There were no asymmetrical price reactions. It indicates that producer prices (at the processing level) became less relevant to retail prices. Retailers take advantage of their market position by putting pressure on selling prices charged by processing plants.

Poland is a major importer of cereals and uses foreign trade to ensure balance in the domestic market. Obviously, there is a strong relationship between cereal prices in Poland and in world markets. Before 2000, price relationships were stronger between the Polish and US markets, but since 2001 prices prevailing in the European market have been more relevant. A detailed analysis of price transmission has revealed that the Polish market tends to respond to a fall in export prices to a greater extent than to a rise in import prices. Furthermore, it has been found that price fluctuations in the Polish market are strongly correlated with cereal prices prevailing in the neighbouring countries, whereas they show no correlation with prices in the Mediterranean countries. Although the period of Poland's membership in the European Union is insufficient for a detailed analy-

sis of the effect on price transmission between Poland and other Member States, domestic prices have been found to respond faster to supply shocks. Presumably, increased market liquidity will reduce price fluctuations and risk. The continuing significant differences in cereal prices in the EU-15 countries suggest that transport costs and disparities in the development of transport infrastructure (including ports) represent a natural barrier to price alignment.

3.3. The analysis of the import volume and import prices of agri-food products subject to the special safeguard clause

After Poland's joining the European Union, there was an increase in imports of most agri-food products subject to the special safeguard clause prior to accession. It resulted not only from the elimination of customs duties on imports from the enlarged Community, but also from the application of lower tariffs on a number of articles imported from third countries (mostly raw materials and products of primary processing). Compared to 2003 (the last year before accession), in 2005 the highest growth rates of imports were recorded in the case of the following products: live animals (primarily pigs), red meat, poultry meat, milk-based beverages, birds' eggs and products thereof, fresh fruit, wheat, wheat and potato flour, starch products (mostly potato starch, glucose and glucose syrup), rapeseed oil, margarines, prepared foods obtained by the swelling of cereals, concentrated apple juice, unmanufactured tobacco and dried egg albumin. In 2005, imports of the above-mentioned products showed the sharpest increase in comparison with the previous year. In the first three quarters of 2006, lower growth rates (on the corresponding period in the previous year) were only found in the case of imports of live animals, beef, concentrated milk, butter, eggs of poultry, honey, flowers, certain types of fruit (cherries, plums and currants), oats, wheat and rye flour, seeds of forage plants, rapeseed oil, sausages, processed tomato products, concentrated apple juice and bran. Among the above products, only imports of concentrated milk, butter, rye flour as well as bran and sharps were lower in 2006 than in the last year before Poland's accession to the Community.

After accession, there was an increase in the share of imports in the production of most products considered sensitive. However, in 2005 (as well as in 2006), imports did not account for more than 5% of the production of meat, cereals, preparations of cereals, preparations of meat and milk, eggs, sugar, rapeseed oil, fresh horticultural products, frozen fruit and vegetables. Among products characterised by a minor role of imports in domestic production prior to accession, there was a slight rise (up to a maximum of 10%) in the share of im-

ports in the production of tomatoes, egg products and margarines. As regards the group of products with a relatively high share of imports in production, between 2003 and 2005, there was a rise in the share of imports from 40% to more than 90% in the case of tomato concentrate and from 20% to 45% for starch products. In 2006 the respective shares were 75% and 50%. As before EU accession, imports exceed the domestic output of soya-bean and sunflower-seed oils as well as of unmanufactured tobacco. Imports are estimated to have exceeded the production of soya-bean oil by 700% in 2006, compared to 100% in 2003. As regards sunflower-seed oil, the respective ratios were 25% and 5%. Among the products whose imports had been subject to the special safeguard clause prior to accession, after Poland's joining the Community a fall in production was only found in the case of dextrins.

In 2005 (as compared to 2003), there was a rise in export surplus in the case of sugar, fruit and vegetables, milk products, poultry meat, eggs and egg products, preparations of meat, prepared foods obtained by the swelling of cereals and margarines. Figures for 2006 suggest a further increase in positive balance on trade in such products. In the last two years (as compared to 2003), there were no major changes in export surplus in the case of egg products and tomatoes. After accession, there was a fall in positive balance on trade in concentrated apple juice (but increased imports prevented a decline in production under reduced raw material base) as well as in flakes, granules and pellets of potatoes. A slight deficit in trade in rapeseed oil turned into an export surplus. In the case of pigmeat, 2005 witnessed a trade deficit, although Poland had recorded a high export surplus prior to accession. In 2006, trade balance was again positive due to increased production. As regards cereals and products of primary processing of cereals, Poland's export surplus recorded in the first two years of EU membership turned into a deficit in 2006, due to a fall in domestic production.

After EU accession, trade deficit remained virtually unchanged in the case of cut flowers, by-products of meat production (guts, bladders etc.), sunflower-seed oil, honey. Increased trade deficit was recorded for products such as pet food, tomato concentrate, seeds of forage plants, almost all starch products (particularly glucose and dextrins) and unmanufactured tobacco. In the case of glucose and glucose syrup the import surplus is estimated to have exceeded 70,000 tonnes in 2006 compared to 8,000 tonnes in 2003, whereas in trade in dextrins it rose from 14,000 to more than 40,000 tonnes. In 2006, imports exceeded exports of tobacco by over 50,000 tonnes compared to 13,000 tonnes in 2003. Following EU accession, there was a fall in trade deficit in the case of oil. It was ca. 60,000

tonnes in 2005 and 2006, compared to 80,000 tonnes in 2004 and 109,000 tonnes in 2003.

After EU accession, imports of products considered sensitive gained in importance. The share of EU producers increased the most in the following product groups: concentrated milk (from 48% in 2003 to more than 80% in 2006), cheese and curd (from 79% to nearly 100%), egg products (from 69% to 100%), rye and oats (from ca. 40% to 100%), natural honey (from 2% to 30%), guts, bladders and stomachs of animals (from 21% to 55%), dried vegetables (from 23% to 41%) and sunflower-seed oil (from 8% to 20%). In 2005 and 2006, as compared to 2003, a decline in the share of deliveries from the EU was only recorded in the case of rape seeds, seeds of forage plants, rapeseed oil, glucose syrups and bran. Nevertheless, in 2006 the EU accounted for more than 60% of total imports of the above-mentioned products (except rapeseed oil and rape seeds). In addition to dried vegetables, honey, sunflower-seed oil, rape seeds and rapeseed oil, deliveries from third countries also represent a predominant share of Poland's imports of frozen fruit, tobacco and concentrated apple juice. EU Member States do not rank among world's leading producers of such articles, and Polish imports of dried vegetables and frozen fruit are dominated by products from other climatic zones.

The rise in imports of most products considered sensitive which followed EU accession resulted not only from the abolition of customs duties on imports from the EU Member States and the application of lower tariffs on a number of products imported from third countries, but also from lower import prices for many articles. The fall in prices stemmed from an increased number of possible suppliers, changes in the import structure (a growing share of less processed products) as well as supply exceeding demand in the European and world markets in many products in 2004/05 and 2005/06.

In 2005, as compared to 2003, there was a fall in import prices for poultry eggs and egg products, most types of fruit, processed and preserved potatoes, starch products (primarily glucose and glucose syrup), prepared foods obtained by the swelling of cereals as well as pet food. The sharpest drop in prices for those products was observed in 2005 compared to 2004. In 2005, as compared to both 2003 and 2004, a rise in import prices was only recorded in the case of beef cattle, meat of bovine animals, milk-based beverages, butter, cut flowers, most fresh vegetables, rye, oats and buckwheat, preparations of meat, sugar and bran. Increased prices for milk-based beverages, butter and sugar mostly resulted from the elimination of export refunds for EU suppliers; in the case of flowers, beef and preparations of meat – from improved quality of imported products; as for

trade in cereals, bran and fresh vegetables – mostly from reduced supply in the European market and high prices prevailing in the domestic market.

In the first three quarters of 2006, prices for most products considered sensitive were higher than in the corresponding period of the previous year. The sharpest rise in import prices concerned birds' eggs, flowers, most types of fruit and fresh vegetables, cereals and products of primary processing of cereals, saps and extracts of hops and concentrated apple juice. Import prices only dropped in the case of beef and poultry meat, liquid milk, cheese, egg products, tomatoes, lettuce, cucumbers, rye, oats, buckwheat, potato starch and maize starch, malt and malt extract, rape seeds, rapeseed oil, canned tomatoes, bran, pet food and dextrans. Throughout 2006, prices for those products were lower than in the previous year. Compared to the last year before accession, in 2006 much higher import prices were recorded in the case of the following: live cattle, concentrated milk, milk-based beverages, butter, natural honey, flowers, rye, saps and extracts of hops, preparations of meat, sugar and processed tomato products; they were also higher in comparison with 2004 and 2005. In 2006, import prices went down particularly in the case of liquid milk, cheese, birds' eggs and egg products, malt, potato starch, prepared foods obtained by the swelling of cereals, pet food and dextrans. Prices for those products have been gradually falling since 2003.

The upward trend in imports of most agri-food products considered sensitive (i.e. those notified to the WTO as goods requiring safeguard measures), observed after EU accession, continued in 2006. Prices for most products were higher than in the previous year, but at the same time significantly lower than in the year preceding Poland's accession to the European Union. Increased imports did not result in a fall in production, and the share of imports in production of most products was not higher in 2006 than in the previous year or compared to the level before accession. Furthermore, there was a rise in trade surplus in the case of most goods, including the most important products in the Polish food economy.

4. The place of Polish agriculture in the global food market

4.1. The effects of globalisation on the development of Polish agriculture and rural areas

The development of world agriculture has been increasingly regulated by transnational economic processes and institutions. Agricultural markets and production in different countries are becoming more or more interrelated. The liber-

alisation of world agricultural trade, accompanied by a cut in internal support, may expose agriculture to global financial markets, which are but a component of its environment under the current regime. It may result in increased social inequality and reduced possibilities to pursue autonomous economic policy.

The universal development path for global agriculture is technology, but it contributes to the reduced role and importance of agriculture in the traditional economic sense. At present, agriculture is being attributed new universal values, described as non-trade concerns, resulting from the idea of the development of multifunctional agriculture. The formation of global markets has strengthened the role of international food trade. Transnational corporations, both a result and an attribute of globalisation, create a new organisational paradigm. Structural changes in the food sector are driven by interest groups promoting trade liberalisation. However, the focus of economic policy is shifting away from the farmer and the processing industry towards the sale of final products. The benefits of the liberalisation of food trade may not necessarily compensate agricultural producers for the loss of internal support and market protection. Due to the increasing international competition in global markets, the European Union, and also Poland as a Member State, is faced with the need to change the model of the agricultural policy and restructure the food sector.

Regional and economic structures in Polish agriculture and rural areas have developed under different systemic conditions. Globalisation processes, particularly growing international competition, will increase pressure to fundamentally change those structures, under rather limited options. Such changes, and at the same time the place of Polish agriculture and rural areas in the world, are primarily determined by macroeconomic conditions (the relatively low level of economic development and insufficient public support) and the international environment of Polish agriculture (the new political and economic arrangement in the world and new relationships resulting from globalisation and regionalisation).

Weak economies and sectors represent a rather passive part of globalisation. The symptoms of the process include the inflow of international capital, the formation of global companies, competition in the world market. At present, most symptoms observable in Poland concern the broader environment of agriculture rather than the sector itself. Foreign capital is mostly attracted to the agri-food processing industry. Global enterprises primarily enter the food industry and trade. Polish foreign trade in agri-food products is oriented towards the regional EU market rather than the world market.

Globalisation leading to free movement of savings and goods, and consequently of investment and demand, fundamentally changes the criterion of efficiency. Being efficient and competitive increasingly involves the ability to exploit the relationships of scarcity and abundance of resources in global terms.

The global market is not only increasing competition for the lowest possible costs, but primarily competition for creating the most attractive conditions for investors. The competition for the quality of investment location must have multiple consequences. Tax cuts and tax relief for companies and investors represent the simplest instruments. However, this may reduce public resources for the financing of important social services. Such efforts are increasingly insufficient. Governments and societies giving priority to social security are becoming relatively less competitive than societies where the main forms of social insurance are multigenerational family bonds or social agreement to reduce the scope and beneficiaries of the social policy. Therefore, the liberalisation of capital flows involves competition for low taxes, decreasing government spending and the discontinuation of social compensation schemes.

Poland joined one of regional arrangements, the European Union. However, the forms and rules of the CAP were intended for Western European agriculture, ahead of Polish agriculture by 20-30 years. Relative labour productivity in EU agriculture is much greater than in Poland. Thus, income aid for Polish farmers may prove to be insufficient, whereas pressure to reduce agricultural employment will continue to grow. Market processes contribute to farm polarisation and increase the importance of non-agricultural activities. Therefore, it is necessary to combine modernisation of farming activities with multifunctional rural areas.

The idea of multifunctional agriculture as an integral element of the agricultural development policy is indispensable as farmers provide society also with public goods. Widely recognised public goods include the environment, maintaining viable rural areas and sustainable development, ensuring security of food supply to the population and preserving the rural landscape, traditions and cultural values of the countryside.

European agriculture, now including Polish agriculture, differs from large-scale agriculture in a number non-EU countries. The Polish model of agriculture has some distinctive features even within European agriculture. Polish agriculture has always been based on private ownership of small family farms. Therefore, the transition of Polish agriculture to a new economic system also took place in family farms, which reduced the effectiveness of government actions (private property implies individual decisions).

Poland continues to be in transition. The modernisation of Polish agriculture must be accompanied by employment reduction in agricultural holdings. Therefore, rural areas need an increasing number of non-agricultural functions for desirable changes in the employment and income structures to take place. In the long term, it also involves different proportions between food producers and consumers in rural and urban areas. In Poland such reorientation of rural development would be impossible without an active agricultural policy.

Three barriers to rural development seem to be the most relevant obstacles. First, there is a barrier of limited demand for goods and services offered by new local businesses; creating additional demand is more difficult than creating additional supply. Second, there is a barrier of insufficient capital; own resources are limited in rural areas, whereas bank credits still involve excessive costs. Finally, there is a barrier of low activity of the rural population. Overcoming this obstacle requires increased general level of civilisational development of Polish rural areas and greater wealth of the rural population.

It should be emphasised that insofar as the present problems resulting from overpopulated rural areas in Poland are not more severe than those facing Western Europe after World War II, they are much difficult to overcome. After World War II, the programme for restructuring Western European agriculture was consistent with the reconstruction and development of the industry destroyed during the war. It facilitated the absorption of workforce redundant in agriculture. Nowadays, it is impossible for Poland to follow this development pattern. Problems are even more difficult due to the cumulated effects of labour-saving technological progress in agriculture and non-agricultural sectors, the liberalisation of trade and the globalisation of international competition. The technological modernisation of production, a determinant of competitiveness, will reduce the absorption of labour also in the future. The share of primitive industries which absorbed relatively much low-skilled labour will be declining. Under advanced trade liberalisation, the technological gap and competitiveness based on low margins at the level of processing and trade will not favour increased ability to create new jobs.

Furthermore, employment is relatively inelastic with regard to GDP. Increasing GDP elasticity of employment involves a policy oriented towards labour-intensive sectors. Considering the low mobility in the labour market, however, investment must be made where people live. Therefore, rural development and the creation of non-agricultural jobs will gain in importance.

Demand for organic food has been growing. In terms of environmental protection, the situation of Polish agriculture is much more favourable than in many

European countries since it is more natural and less intensive. Less than 5% of agricultural land cannot be used for food production. Furthermore, due to the fragmentation and the so-called patchwork of land, Polish agriculture meets the criterion of biodiversity to a much greater degree than monocultural agriculture.

In order to compete with the high level of technological quality of foodstuffs in Western European countries, expressed in commercial characteristics given by the processing industry, Poland can emphasise high biological quality of agricultural raw materials, i.e. so-called healthy food. Therefore, Poland must choose the way to protect its unique comparative advantages using both EU policy instruments and WTO measures. Natural production methods in agriculture tend to be more labour intensive, thus preferable in Poland's agricultural policy due to the above-mentioned high labour supply in rural areas.

The Polish financial system shows characteristics of a bank-oriented model, which is potentially favourable for the development of agriculture and all small and medium-sized enterprises. However, it is dominated, at least in the case of banks and insurance companies, by foreign capital. It is a potential threat to liquid, generally accessible and possibly inexpensive financing of such entities and less wealthy groups of the population.

The global market resulted in a rapid rise of consumerism as a lifestyle. Consumerism represents attitudes and values placing excessive emphasis on the freedom of purchasing goods and services which are not only useful but also pleasant and satisfactory. Consumerism prevails in post-industrial societies as an active attitude oriented towards purchasing goods to keep up with friends and technological progress. The choice of products is of class, cultural and emotional significance. In any case, purchase involves choosing among a number of available options, and the nature of production is changing. Production is aimed at consumption, not at satisfying needs.

In addition to economic factors such as income and prices, consumption patterns are increasingly shaped by non-economic factors, e.g. social awareness of food-related health issues, imitating consumption patterns of other countries resulting in assimilation. In the past decades, technological changes as well as social, economic and political development have made the world similar to a "global village". Consumer preferences resulting from standardized tastes have led to the formation of a single global market. Beneficiaries of this process are mostly global players producing standardized products distributed around the world. Due to the economies of scale, such corporations are able to charge lower prices than competitors oriented towards national or local markets. Large transnational companies are increasingly frequent and largely dominating in the eco-

conomic system. Due to enormous power of such corporations and dispersed shareholders, they control not only weaker countries, but also entire market segments. Operations of such businesses contribute to the standardization of food consumption patterns and the loss of national characteristics.

In Poland the level and structure of food consumption largely depends on domestic production of agricultural raw materials and foodstuffs, despite the ongoing economic globalisation. Approx. 70% of consumers believe that Polish food products are better despite a wide range of imported goods. The food market in Poland will create conditions to increased diversification of the structure of food consumption, with more and more food products of different flavours, nutritional value (functional food), packaging and price. One development opportunity for Polish agriculture is general economic growth resulting in an improved income situation of low-income population groups. In such groups, increased income results in relatively greater spending than in more wealthy groups.

The globalisation and integration of economies not only removes barriers to the mobility of production factors, but also facilitates shifts in demand. Domestic demand does not determine demand for domestic products and the lack of it does not hamper national production activities when it is able to satisfy external demand at low prices.

Due to their spreading to different continents and geographical zones, environmental problems have become global in nature. It has resulted in a new and deteriorated multidimensional situation in the world environment, characterised by a number of previously unknown qualities. Until recently, the environmental crisis was mostly associated with industrialised countries. But in the present ecological situation life-threatening environmental problems have also materialised in developing countries. The environmental threat to the material basis of life represents a new challenge to the world. Nowadays, as the ecosphere is one and indivisible, actions of each country have an international dimension. When the balance is disturbed it is no longer local or regional in nature – it has global consequences.

4.2. Socially sustainable agriculture

Analyses of Polish agricultural holdings and comparisons of their production potential allow to draw the following conclusions:

Organic farms:

⇒ In 2005, the number of registered organic farms in family farming was only 3,998 (it is nearly 7,500 at present). On average, such agricultural holdings

are more than four times larger in comparison with all family farms (20.19 ha compared to 5.55 ha). Ensuring a fair income (as organic farming methods are characterised by 25-30% lower productivity per hectare) requires greater production potential. On small agricultural holdings organic farming can only be amateur or additional activity.

- ⇒ Organic farms are characterised by less favourable (compared to traditional holdings) conditions for typical agricultural production (a significantly higher share of permanent pasture, a 4.4 times larger area of forests and woodlands), but more advantageous conditions for organic production and – in a major share of such farms – also for rural tourism. Organic farming requires more expertise than “traditional” agricultural production, therefore managers of organic farms need better agricultural education.
- ⇒ In terms of location, organic farms are clearly concentrated in eastern Poland, i.e. agricultural voivodships with attractive landscapes. They are characterised by relatively lower production of cereals (a 61.7% share of cereals in the sowing structure compared to 75.5% in all agricultural holdings), potatoes (3.0% and 5.8% respectively), sugar beet, rape and colza and industrial crops (6.9% compared to 11.7%) and slightly lower production of field vegetables (1.4% compared to 1.6%, with a higher share in the case of strawberries), whereas they have a larger area under successive spring and winter crops (6.8% compared to 3.0%), undersown crops (4.6% compared to 0.3%) and catch crops for forage (16.2% compared to 6.9%). As regards the number of farmed animals per hectare of agricultural land, it is much lower in organic farms. The average number of bovine animals, pigs, sheep, goats and horses (converted into livestock units – LSU) per agricultural holding is merely 2.9 LSU, whereas it is 6.7 LSU per organic farm.
- ⇒ Compared to family holdings as a whole, it is much more frequent for organic farms to provide the main source of income, i.e. more than 50%. The share of organic farm owners primarily engaged in agricultural activities is nearly double the figure for all farmers. Agricultural activities represent the main source of income in over 50% of organic farms and in slightly more than one-fourth of all family holdings. Organic farms where families derive income from welfare benefits or paid employment account for a much lower share. They also absorb more labour, which is of importance considering the under-utilisation of labour resources in farming families.
- ⇒ Conventional holdings enjoy a certain advantage in terms of production and economic indicators over organic farms of comparable size, but this advantage is not “overwhelming”. The introduction of a variable describing environmental impact (the so-called “footprint”) into economic accounts may significantly affect this advantage.
- ⇒ Requirements of the food industry clearly favour products of industrial agriculture, i.e. farms characterised by large-scale production and the ability to deliver larger lots of homogenous and cheaper products. Faced with such

competition, organic farms are disadvantaged and uncompetitive unless they manage to develop different networks in order to reach consumers.

- ⇒ Reconciling production and economic criteria with the environmental protection requires much greater ecological potential of a farm than that characteristic of a vast majority of agricultural holdings. Therefore, orientation towards the organic farming model involves faster land concentration than in the case of conventional farms.

Semi-subsistence farms

- ⇒ There are as many as 1,015,000 semi-subsistence farms (with a vast majority of non-commercial production intended for on-farm consumption). Although they play a minor role in the agricultural market, such holdings represent significant production potential (16% of agricultural land, i.e. 2.2 million ha) and account for nearly one-tenth of Poland's population (approx. 3.7 million persons). Therefore, the potential is important to the rural landscape as well as the social and cultural development of rural areas.
- ⇒ They provide work for 1,952,000 persons. However, it is primarily part-time employment as the number of full-time workers represents less than one-third (640,000 full-time workers). Presumably, in some cases more labour is not necessary on the farm (which is not oriented towards agricultural production growth), whereas in other holdings it is impossible to increase labour input or they are unable to cope with the competition for labour. Therefore, in four-fifths of semi-subsistence farms labour inputs do not exceed 1 full-time workers, i.e. roughly the figure for commercial family farms. Human factor is particularly important to exploiting the opportunities of European integration. Limited economic activity of semi-subsistence farms seems to be obvious, considering the orientation of such holdings. However, it is worth noting that such holdings account for 32% of PROW beneficiaries (i.e. 15,000 out of 46,700), for 22.2% (130,400 out of 586,600) of farms using agricultural advisory services and for 11.3% (4,400 out of 39,000) of holdings participating in producer groups. Semi-subsistence farms represent two-thirds of holdings located in mountain (i.e. less-favoured) areas.
- ⇒ Broken down by income source, semi-subsistence farms significantly differ from commercial holdings. They are characterised by a higher share of pensions and income from paid employment. Agricultural activities ensure the main income source for every tenth holding. Semi-subsistence farms with income from non-agricultural activities can be seen not only as temporarily necessary element of the structure of Polish agriculture, but as a rather permanent characteristic which will be gradually diminishing in importance.
- ⇒ Due to their number, semi-subsistence farms represent a vital element of maintaining viable rural areas. First of all, maintaining a certain level of the rural population is important to the demographic development and normal functioning of technical and social infrastructure as well as public institutions. Nine-tenths of families living on semi-subsistence farms depend on

non-agricultural income sources although in many cases the farm allows the family to avoid impoverishment. This economic function cannot be neglected. At the same time, such holdings should not be expected to increase commercial output. It is vitally important that semi-subsistence farms provide a significant inflow of non-agricultural income (from off-farm employment and welfare benefits) to rural areas. Semi-subsistence farms contribute to the rural landscape and in some cases they can actually create new conditions (e.g. holdings oriented towards rural tourism). Finally, and importantly, it is practically impossible for such a large population group to migrate to towns and cities.

- ⇒ The main policy approach to semi-subsistence farms should consist in creating incentives and conditions for better use of agricultural land and including such holdings in broader rural activation programmes. Efforts such as developing rural areas, organising the countryside and introducing solutions in agricultural tax and social security systems can result in releasing under-utilised agricultural land. However, spatial order and the conservation of the environment are more important than agricultural production. The environment and the landscape represent natural resources of the countryside and one of its main attributes.

Sustainable farms

- ⇒ The number of farms meeting specific sustainability criteria is very different. According to FADN data, more than 90% of holdings meet the criterion of the number of species in crop rotation and livestock on agricultural land. Approx. 60% of farms satisfy the criterion of arable land covered with vegetation during winter time and the number of livestock on the main forage area, whereas every third holding meets the criterion of the share of cereals. Sustainable farms, satisfying the five criteria at the same time, account for 7% of the total number of farms included in the FADN sample. The highest share of sustainable holdings was found in the Pomorze (Pomerania) and Mazury (Masuria) Macro-regions (10%) and the lowest level characterised Mazowsze (Masovia) and Podlasie (5%).
- ⇒ The average size of farms included in the FADN sample and groups of holdings meeting the criterion of the share of cereals, the number of species and livestock on agricultural land is 30-33 ha of agricultural land. Holdings satisfying the criterion of winter crops and the number of livestock on the main forage area tend to be slightly larger (an average of 35-37 ha), while the average size of sustainable farms is 58 ha. The comparison between the FADN sample and farms meeting the sustainability criterion suggests that holdings with specialised production account for 52% of the FADN sample, whereas in the group of sustainable holdings the share of specialised farms is 7 percentage points higher, the share of those satisfying the criterion of livestock on the main forage area – 9 percentage points higher, and the proportion of holdings meeting the criterion of the share of cereals – 11 percentage points

higher. No major differences were found with regard to labour inputs, with the exception of the group satisfying the criterion of the share of cereals where labour inputs were 17% higher than in the whole FADN sample.

- ⇒ All groups were characterised by a predominant share of farm managers with vocational education (ranging from 38% in the case of sustainable holdings to 46% in those meeting the criterion of species and winter crops) and secondary education (ranging from 39% in the whole FADN sample to 44% in the group of sustainable farms). The share of persons with primary education (7-9%) and a university degree (7-10%) was roughly the same in both groups in question, except sustainable farms characterised by the highest share of managers with higher education (13%) and at the same time the lowest share of persons with primary education (6%). More than half (57%) of farm managers had agricultural training. The highest share of managers with agricultural education (61%) was found in the case of sustainable holdings.
- ⇒ The use of mineral fertilisers was roughly the same in the whole surveyed FADN sample. The exception was the group meeting the criterion of cereals (21% higher) and sustainable farms (35% higher). A similar distribution was found in the case of expenditure on plant protection products (40% higher in the group satisfying the criterion of cereals and 56% higher in the group of sustainable holdings).
- ⇒ Groups included in the FADN sample differed in the value of total output. Holdings meeting the criterion of the number of species were characterised by lower levels of total production (by 11%), whereas those satisfying the criterion of livestock on the main forage area had higher total output (by 18%) than the average for the FADN sample. The highest level of total production was found in the group of sustainable farms (more than 36% higher than average). Similar differences were observed in the case of commercial production. Sustainable farms were characterised by 40% higher commercial output than all the surveyed holdings. Income from family farms was over 60% higher in sustainable farms than in the whole group of holdings.
- ⇒ Income per hectare of agricultural land was 13% lower in sustainable farms than in the whole FADN sample, with the exception of holdings meeting the criterion of cereals. Higher non-agricultural income characterised holdings meeting at least one criterion, i.e. livestock on the main forage area (13% higher) and on agricultural land (4% higher), as well as sustainable farms (more than 30 % higher), in comparison with the FADN sample.
- ⇒ According to the analysis of holdings included in the Farm Accountancy Data Network (FADN) and characterised by the economic size of at least 2 ESU, slightly more than one-tenth of the total number of holdings represented by the FADN sample (740,000) fail to comply with the Nitrate Directive requirements. It specifically concerns certain groups of holdings specialised in the rearing of animals on the basis of concentrates and fruit-growing farms.

4.3. The possibilities to pursue national agricultural policy in Poland under the common agricultural policy

The policy for rural areas (regional policy) has been implemented ever since today's EU came into being and its objectives are defined in the Treaties establishing the European Community. However, it has significantly evolved over time, from the first reform in 1988 to the Treaty of Maastricht (1992) to Agenda 2000 and the Fischler programme. The core element of those changes represents the integrated rural development strategy, i.e. the shift from the sectoral approach to finding comprehensive solutions to agricultural and rural problems.

The common agricultural policy of the European Union includes support measures under both the market policy (the first pillar) and the structural policy (the second pillar), in order to attain the goals defined in the Treaty establishing the European Community. Proportions between these CAP pillars have been evolving in the course of CAP reforms, under changing external and internal conditions for the functioning of the EU agricultural sector and rural areas. Excess supply of a number of agricultural products in the EU market as well as negotiations on the liberalisation of world agri-food trade within the framework of the GATT Uruguay Round have stimulated CAP reforms in the EU. The ongoing process is aimed at increasing the competitiveness of Community agriculture and food industry, more integrated rural development and the environmental protection, as well as simplification of the CAP rules including the delegation of certain executive powers to the national or regional level. Further steps towards reforming the CAP, particularly Agenda 2000, strengthened the link between the production and environmental functions of agriculture, with emphasis on development rather than structural aspects.

However, further changes in the CAP seem unavoidable for at least two reasons: the ongoing agricultural negotiations under the current WTO round and the EU enlargement in 2004. The continuing liberalisation of the rules governing world agricultural trade, an inevitable result of the Doha Round, will force the shift towards forms of support for EU agriculture which are more decoupled from production and have less distorting effects on international trade. Special rules applicable to new EU Member States are only temporary. On their inclusion in the full application of the CAP, policy changes are necessary to make the cost of a single support scheme acceptable for the EU-15 countries, particularly the main net contributors to the Community budget.

Under EU legislation, measures taken within the framework of the regional policy should ensure the "harmonious development of the Community" and

“strengthening economic and social cohesion”. The implementation of these tasks represents the responsibility of Member States, whereas the EU only supports national actions. Structural funds are the main EU instrument of supporting weaker regions.

According to the general subsidiarity principle, the Community should take action only if and insofar as the objectives of the proposed action cannot be sufficiently achieved without such measures. This principle is also applicable to Member States in identifying the level of support. The European Commission coordinates regional policies implemented by individual Member States according to the adopted EU strategy which should take account of specific characteristics of Member States in terms of development needs and institutional organisation. Neither can the European Commission impose cooperation forms and rules applicable to the implementation of EU projects co-financed under regional policy measures.

The implementation of the regional policy relies on multiannual comprehensive strategies of regional development and operational programmes designed by Member States. These are developed in negotiation with the European Commission and in consultation with social partners. According to EU procedures, the national governments are authorised to identify social partners for consultation. Furthermore, the regional policy of a Member State should be consistent with its macroeconomic policy. Under the principle of complementarity, measures taken by the European Commission should support the attainment of objectives adopted by EU Member States (the co-financing of eligible costs and the fixed EU contribution to public expenditure).

With regard to the first pillar of the CAP, the scope of national decision making is very limited. However, it is not the case with the rural development policy. Without prejudice to the necessary compliance with EU regulations, many decisions are left to the discretion of the Member States. The European Union defines general rules, support framework for rural development in EU Member States. Its hierarchical structure allows politician to design support programmes for rural development in individual countries in cooperation with regional and local partners. Such cooperation concerns the use of existing and potential opportunities to improve living and working conditions for the whole rural population.

Unlike the market policy, under the rural development policy the management of Community structural measures is largely at the discretion of EU Member States. The European Commission determines the framework, scope and forms of EU structural support. Detailed rules for policy implementation remain

within the competence of national governments. Furthermore, national legislation specifies potential beneficiaries, costs eligible for Community funding etc.

The EU rural policy is aimed at creating sustainable foundations for rural areas in the future as well as promoting, generating and preserving jobs in the countryside. There are four main principles, namely:

- ⇒ multifunctional agriculture. Rural development programmes continue to be focused on agriculture. Its role goes beyond supplying agri-food raw materials. Such an approach involves recognising and supporting a wide range of services provided by farmers;
- ⇒ integrated multisectoral approach. A broader understanding of the agricultural sector is necessary for the diversification of farming activities, the creation of new income sources and employment, the protection of the rural heritage and environment;
- ⇒ transparency. Support for designed and implemented programmes must be transparent and subject to clear and simple regulations and procedures;
- ⇒ subsidiarity. The decentralisation of decisions and decision-making procedures ensures the flexibility of support measures for rural development. It is regarded as the most effective way to allocate available financial resources. Member States organise consultations at national, regional, local and the so-called partner levels.

Among the four principles, the fourth one is particularly important to national as well as regional and local decision making in rural development policy matters. In the financial perspective (2000-2006), Member States were relatively free to choose mechanisms from two “baskets”: (1) accompanying measures introduced by the 1992 reform and (2) measures for the modernisation and diversification of agricultural holdings. The first basket includes measures such as early retirement for farmers, agri-environmental undertakings, afforestation and support for farming in less-favoured areas. Instruments in the other basket include support for agricultural investment, the setting-up of young farmers, training courses, promoting investment in the processing and marketing of agricultural raw materials, additional afforestation measures, the promotion and transformation of agriculture. Furthermore, Community aid is also oriented towards undertakings integrating different types of intervention mechanisms fostering smooth and sustainable rural development. Such measures are supported within the framework of the LEADER programme and other instruments, the so-called integrated rural development measures, implemented at the regional level.

At present, development policy making goes further, the process has entered a new phase, based on the new financial perspective for 2007-2013. The 2007-

2013 rural development policy should focus on three areas, the so-called priority axes concentrating financial support.

- ⇒ Axis 1 – improving the competitiveness of the agricultural and forestry sector;
- ⇒ Axis 2 – improving the environment and the countryside;
- ⇒ Axis 3 – measures oriented towards improving the quality of life in rural areas and diversification of the rural economy;
- ⇒ The fourth, additional axis is based on previous LEADER experience. It is aimed at increasing opportunities and options for local grassroots initiatives in the area of rural development. The fourth axis covers objectives contained at least in one of the funds three axes.

Solutions developed by national governments and public institutions operating at the local level must be consistent with this EU framework. It is worth recalling, however, that EU Member States are not completely free to choose between the priority axes and measures. They need to comply with general EU regulations specifying the minimum levels of Community financial contribution to specific axes.

Analyses of the scope for national decision making in rural development policy matters in the European Union allow to draw the following conclusions/make recommendations:

- ⇒ The EU rural development policy leaves Member States relatively free to choose desirable measures;
- ⇒ The EU rural development policy framework for national and regional programmes is very general. Therefore, individual countries and regions are able to choose problem-specific options and measures;
- ⇒ To a significant extent, EU Member States use the available possibilities to implement their own national rural development strategies, at times creating very specific solutions;
- ⇒ National strategies and programmes should complement general EU measures in a way that cannot be provided by the Community system;
- ⇒ The national approach to promoting rural development should be as pragmatic as possible, i.e. problem-specific and targeted at particular beneficiaries. They should go far beyond the agricultural sector, not only offering financial assistance, but also strengthening and extending the powers of rural institutions;
- ⇒ Rural viability can be best promoted by a regional approach, targeted at various sectors operating in the same area;
- ⇒ Support measures should be based on strengthening local and regional competence and ensure the co-ordination of grassroots initiatives taken by parties interested in participating in local development schemes;

- ⇒ Improved co-ordination between specific rural development programmes and Community-wide support measures is essential for the attainment of development goals;
- ⇒ The effectiveness of development programmes is increased by measures such as network creation and the exchange of positive practical experience;
- ⇒ The conditions and procedures for granting financial assistance should be simplified, whereas different regulations applicable to various funds should be avoided.

5. Polish agricultural holdings in the first years of membership

5.1. The analysis of the economic performance of Polish agriculture

Economic Accounts for Agriculture is a satellite account of National Accounts. They are prepared on the basis of the same source data and the only differences should result from different methods applied. As for Poland, the main methodological differences concern the scope of production activities included in the EAA and in National Accounts. The differences in entities covered by those accounts are insignificant, therefore the scope of both accounts is the same. Essential differences concern the methods of calculating the value of agricultural output and agricultural income.

The second year of Poland's membership in the European Union witnessed a fall in agricultural income compared to the previous year, which stemmed from a decline in the value of agricultural output. The decrease in the value of agricultural production in 2005 in comparison with 2004 primarily followed a more than 25% reduction in the value of cereal production resulting from a strong drop in prices and output. Similarly, a lower value of production of industrial crops and vegetables stemmed from reduced prices and output. Crops characterised by a particularly sharp fall in the value of production in 2005 compared to the previous year included potatoes, fruit and other crops. In the case of such products, the strong rise in prices appeared to be insufficient for maintaining the 2004 production level. Similarly, the limited increase in prices for fodder was insufficient to prevent a further fall in the value of output of forage plants resulting from reduced production.

Unlike crop production, the value of animal production showed an increase in 2005 compared to the previous year. It mostly stemmed from increased production of animals and products of animal origin. A strong rise in the volume of output (more than 10%) was observed in the production of sheep and goats, other animals, poultry and cattle. In the case of bovine animals, production was also stimulated by a price increase. In 2005, a fall in the value of production of

pigs compared to the previous year followed a drop in prices which was stronger than growth in the production volume. Nevertheless, in the structure of animal production value swine continued to account for the highest share.

Increased production of milk pushed up the value of animal products. In 2005, both output and prices for the most important agricultural product showed a rise. As a result, the fall in the value of production of eggs and other animal products only lowered the growth rate of the value of total output of animal products.

The decline in the value of agricultural production also stemmed from a fall in services provided by agriculture and in the processing of agricultural products – a secondary activity in agricultural holdings.

In 2005 as compared to 2004, there was an increase in tobacco subsidies. At the same time, payments for producers of starch potatoes and tomatoes went down by ca. one-fourth. As complementary payments, mostly area payments for cereals, only showed limited growth, the total amount of product subsidies rose by 2%.

The moderate increase in product subsidies slowed down the fall in the value of agricultural output at basic prices, i.e. those including product subsidies and taxes.

In 2005, the decline in the output value was accompanied by a drop in the value of intermediate consumption, i.e. agricultural inputs and services used in agriculture. The lower value of intermediate consumption primarily resulted from a fall in the value of fodder used in animal production (down 17% on the previous year), as a consequence of a drop in prices for feedingstuffs. Similarly, the value of other agricultural services decreased by more than 10%, due to reduced demand for such services. In terms of value, expenditure on seeds purchased outside agriculture, chemical fertilisers and traditional agricultural services declined by approx. 5%. In the case of agricultural services, this decrease had no major effect on agricultural income since such services are both provided and consumed by agriculture.

Agricultural inputs which showed an increase in 2005 compared to 2004 included energy, i.e. electricity, coal, fuels and oils. In the structure and agricultural inputs and services used in agriculture energy accounts for the second highest share; therefore, a nearly 14% rise in their value significantly slowed down the fall in the value of intermediate consumption. In the light of the above, the substantial increase in the value of veterinary and financial services had a limited impact on the performance of Polish agriculture due to their minor share

in the structure of intermediate consumption. Similarly, no essential changes were observed as a result of increased spending on tools and materials, plant protection products as well as on the maintenance and repair of farm buildings.

In 2005, a sharper decline in the output value than in intermediate consumption brought about a fall in value added in agriculture. The lower value added was accompanied by reduced costs related to the depreciation of fixed assets in the process of producing agricultural goods and services as well as non-agricultural goods produced in agricultural holdings. However, the decline of such costs was slower than the fall in the output value, resulting in a nearly 10% decrease in net value added. An analysis of the performance of Polish agriculture after accession to the European Union suggests that net value added, despite its decline in 2005, was still 40% higher than in the year preceding accession.

Poland's joining the European Union and the resulting improvement in the labour market contributed to a rise in wages also in the agricultural sector. Due to increased wages combined with a greater number of full-time agricultural workers with employment contracts, the costs of paid labour went up by more 20% in 2005 compared to 2004. Growing labour costs should be expected to stimulate the modernisation of agricultural holdings towards further mechanisation.

In 2005, a 3% increase in tax burden on agricultural holdings, considering the higher amount of other subsidies, can be regarded as moderate.

The analysis of the structure and changes in the level of other subsidies indicates a fall in support for biological progress. Considering that biological progress is seen as one of the most effective factors for increasing agricultural productivity, it should be assessed as an unfavourable development. Similarly, maintaining the same level of support for organic farming seems inappropriate. Compared to EU Member States, Polish agriculture seems to be better endowed and prepared for production characterised by higher labour intensity and environmental requirements.

Among other subsidies, single area payments represent the most important instrument, and at the same time one characterised by the highest growth rate in 2005. Most beneficiaries are larger holdings, with relatively more arable land and usually a high share of cereal production. As they are decoupled payments, such subsidies seem to encourage market orientation of farm production. In this sense, an increase in those payments creates more opportunities to finance necessary investment. In the case of a dramatic drop in cereal prices, as in 2005,

single area payment can be seen as a constant element neutralising the fall in income, thus preventing conversion.

As regards support for farming in less-favoured areas (LFA), growth results in increased competitiveness of agricultural production in areas which are, by definition, not the most suitable regions for such purposes. Appropriations allocated to this instrument (one-fourth of other subsidies) are supposed to prevent the depopulation of rural areas and the loss of agricultural character. In practice, however, they distort market mechanisms.

Other subsidies include subsidies on credits for agricultural inputs. Due to the low effectiveness of income aid through such payments, the fact that they have been diminishing in importance, both in absolute terms and in the structure of other subsidies, should be regarded as a positive trend.

In general, the higher growth rate of other subsidies than that of labour costs and other production taxes resulted in a slight slowdown of the decline in income on production factors in 2005 compared to 2004.

From the point of view of farmers, the year 2005 witnessed unfavourable changes in the cost of debt capital. Whereas lease payments for agricultural land and interest on debt capital showed an increase, income on capital remained unchanged. As a result, compared to the previous year, there was a 18% decline in the income of agricultural entrepreneurs, i.e. remuneration for work performed by them and their families, capital used and compensation for farm management. Nevertheless, in nominal terms, entrepreneurial income more than doubled in comparison with the year preceding EU accession.

Early estimates of the economic performance of Polish agriculture for 2006 indicate a less than 2% rise in entrepreneurial income, i.e. compensation for own capital used in production, remuneration for work performed by the farming family and for farm management, compared to the previous year. The growth resulted from a significant increase in support for Polish agriculture accompanied by a moderate rise in the value of agricultural inputs. In 2006, the value of agricultural output, despite a 9% decline in the volume, remained at the 2005 level. The dramatic drop in the value of cereal and vegetable production was accompanied by a similarly strong price increase, resulting in a moderate, 2% fall in the value. At the same time, approx. 2% decrease in prices for animal products were compensated by more than 4% growth in the production volume. Consequently, the value of animal production is expected to have gone up by over 2% in 2006 compared to the previous year. According to estimates, in 2006 the value of intermediate consumption increased by 3.5%. It mostly stemmed from

a strong (more than 6%) rise in prices for fodder, energy and agricultural services. As a result, gross value added in agriculture dropped by nearly 3%. Among other transactions accompanying agricultural production, in 2006 the profitability of agriculture was mostly affected by a rise in other direct payments (excluding complementary payments which push up the value of agricultural output), estimated at more than 20%, and a 6% increase in the costs of paid labour in agriculture. The growth in direct payments appeared sufficient to compensate for the moderate rise in costs of agricultural production in 2006.

The analysis of the economic performance of Polish agriculture indicates that the marked increase in agricultural income after accession is increasingly dependent on a rise in direct support. Such income growth can hardly be sustainable. The dependence of income on transfers involves political risk. Considering the current EU tendencies towards increased application of market mechanisms in agriculture, a reduction in agricultural support may be expected. Thus, the resulting fall in income will be particularly severe for agriculture in those countries which are major beneficiaries of such measures.

The analysis of spatial differences in income sources of agricultural holdings revealed a growing number of farms which discontinue agricultural production in many regions of Poland. On the other hand, it allowed to identify agricultural regions with prospects for development. Based on the conducted surveys, several types of agricultural regions were distinguished. Within type 1, areas with a high share of farms engaged in agricultural activities as the main income source, there are four subtypes characterised by the following:

- ⇒ high agricultural condition: Wielkopolska, Kujawy, Ziemia Chełmińsko-Dobrzyńska;
- ⇒ a high share of good soils: uplands;
- ⇒ unfavourable conditions for agricultural activities and location far from major urban agglomerations,
- ⇒ a high degree of specialisation in agriculture, e.g. fruit-growing areas south of Warsaw and districts specialised in the production of paprika grown under protection near Radom.

Areas classified as type 2 are those located near major urban agglomerations, characterised by a low share of farms engaged in agricultural activities as the main income source and a high share of holdings deriving income mostly from welfare benefits and/or paid employment. Type 3 primarily includes areas with former state-owned farms, characterised by a high share of passive holdings and an above-average share of farming families living on welfare benefits. Considering the diversity of Polish agriculture, it is useful to conduct an additional analysis at the regional level. There are reasons to presume that insofar as the output

of Polish agriculture is increasingly concentrated in a few regions, agricultural inputs, particularly labour, are largely generated by regions where agriculture mostly serves social functions.

5.2. The economic situation and economic activity of various groups of Polish agricultural holdings

In 2004, farming conditions showed a marked improvement compared to previous years, which was used to develop and modernise fixed assets in 1,100,000-1,200,000 agricultural holdings. It significantly contributed to the increased polarisation of Polish farms as other holdings made no investment and under-utilised their production factors (labour, land and capital). Neither did they use mineral fertilisers or purchased concentrates, which means that they regressed to the so-called barter economy prevailing in Poland until the mid-1950s.

In 2005, farmers were paid outstanding (due in 2004) direct payments and less-favoured area payments, which increased agricultural income despite the fall in the production value. In 2006, the economic performance of agriculture is roughly the same as in 2004. Large holdings (100 ha of agricultural land or more) performed slightly worse as such farms are characterised by a higher share of fixed costs (remuneration for permanent hired workers and related costs), which makes them particularly sensitive to a decline in income.

Less-favoured areas account for ca. 54% of total agricultural land in Poland, with approx. 61% of all agricultural holdings of 1 ha or more engaged in agricultural production. LFA farms are characterised by lower labour inputs as well as lower land and capital resources compared to the production potential of holdings in more favoured areas. Worse farming conditions in less-favoured areas adversely affect crop yields. Furthermore, the number of ruminant animals per 1 ha of forage area was lower by one-third.

The poor endowment and worse production performance have a negative effect on income of agricultural holdings located in less-favoured areas. Therefore, average farm income is ca. 26-27% lower than in the case of holdings with more favourable conditions. However, there are certain exceptions to this averaged picture. In 2004, greater income than holdings in more favoured areas characterised dairy farms with the economic size ranging from 8 to 16 ESU, farms with permanent crops (mostly orchards) between 16 and 40 ESU, as well as holdings oriented towards dual-purpose rearing of ruminant animals (mainly cow milk production and beef cattle farming) ranging from 40 to 100 ESU. Should the

above hypothesis prove accurate, it will be advisable to review the definition of less-favoured areas.

LFA holdings obtained the right to receive special (compensatory) payments. In 2004, only 53% of potential beneficiaries applied for such payments and every eligible farmer was granted PLN 1,800. The highest amounts of complementary payments were paid in northern Mazowsze, Podlasie and in areas located between the Łódzkie and Wielkopolskie voivodships. Complementary payments reduced income disparities between LFA farms and other holdings only in part. In 2004, the highest number of applications for LFA support were submitted by farmers from peripheral rural areas of the Mazowieckie voivodship, the northern part of the Lubelskie voivodship, the western part of the Łódzkie voivodship, the Podlaskie voivodship and certain areas in the Małopolskie voivodship (in the Carpathian Mountains).

The highest number of applications for complementary payments were submitted by farmers with holdings of 2-5 ha and 5-10 ha. At the same time, more than half of areas granted complementary payments were located in holdings of more than 15 ha of agricultural land. Such farms accounted for 50% of paid financial resources. On average, Polish farms received complementary LFA payments for ca. 10 ha, and the share of land in less-favoured areas for which applications were submitted was 66% of the total area of applicant farms. The highest share of land declared by farmers in the total area of applicant farms was found in central regions of Poland.

Approx. 36% of agricultural producers with family farms of more than 1 ha are not insured in KRUS, neither are members of their families. In 2004, such holdings obtained 30% lower income than farms where at least one person paid social security contributions to KRUS. It results from the fact that families of farm holders not insured in KRUS derive only part of their income from agricultural activities, therefore they are less interested in expansion.

In agricultural holdings characterised by better management and larger area, i.e. 2 ESU or more, investment was more efficient than in other farms. In 2004-2006, the rate of return on investment in land purchase reached 4-7%. Very profitable investment also included the lease of additional agricultural land, but usually characterised by higher quality. Furthermore, investment in fixed assets (other than land) was also efficient as the rate of return was ca. 7%. However, labour productivity in family farms was limited, PLN 5-6 per hour, therefore it was equal to or slightly lower than remuneration for paid labour. Thus, hiring workers and paying for work they performed (exceeding labour productivity)

involved a loss. For example, this was the case in farms located in Pomorze and Mazury.

In 2005, wages in Poland started to rise and this growth is likely to continue at least until 2009. The above analysis suggests that agriculture will experience rapid substitution of labour inputs with capital and an increase in agricultural land used for farming activities.

5.3. Adjustment processes in large agricultural holdings

In recent years, large agricultural holdings have been adjusting to the new conditions. Before EU accession, changes such as the need to cut costs were mainly forced by the market, but on Poland's joining the EU it was also necessary for agriculture to adapt to new production standards. Adjustment concerned organisation and management, production factors and processes. It was reflected in developments such as a growing share of farms characterised by a higher degree of privatisation, which was related to a decline in average area. It involved the elimination of intermediate management levels and the simplification of organisation structures, particularly the strengthening of labour motivation system.

The year 2005 witnessed the continuation of the downward trend in employment, particularly in agricultural production cooperatives, which had a positive effect on economic labour productivity. Since accession, labour productivity has been markedly higher, although there was a decline in 2005 compared to 2004. The highest labour productivity characterised farms leased and owned (purchased), and considerably lower levels were recorded in one-man companies of the Agency and APCs.

As in previous years, rather significant changes in the area of individual farms were observed in 2005. Among those changing area, most agricultural holdings experienced a reduction. There was a fall in the average area of both privatised former state-owned farms and cooperative holdings. Factors hampering growth in the average farm area included the Agricultural System Act and ceiling on investment support for farms (PLN 300,000).

In recent years, holders of large farms, except APCs, have maintained the increased level of reproduction of fixed assets. In 2005 and 2006, investment was markedly higher than prior to accession. Structural funds (the SOP and PROW programmes) have contributed to increased interest in agricultural investment. It primarily concerned machinery and equipment intended to increase labour productivity. Following EU accession, there has been a growing interest in invest-

ment in buildings and structures for improving animal welfare as well as for the storage of chemicals and animal excrements.

Large agricultural holdings continue to seek development opportunities in the reduction or discontinuation of less profitable types of production. As a result of such efforts, agricultural production has gained in importance, whereas the role of agricultural processing has been reduced.

The organisation of crop production has shown essential changes, which is reflected in the sowing structure. Following years of growth, the share of cereals in the sowing structure dropped in 2005-2006. The fall resulted from a reduced interest in the cultivation of wheat and grain maize. After Poland's accession to the European Union, these types of production have become less profitable. Furthermore, there was a slight decline in the production of legumes. At the same time, the cultivation of sugar beet remained virtually unchanged, as a result of production quotas. There was a rather significant rise in the share of rape and it is likely to grow further. The growing of potatoes and field vegetables gained in importance, but such crops are not very popular. Following years of decline, in 2005 and 2006 there was an increase in the share of forage plants, a new development resulting from growth in cattle farming.

As before accession, large holdings continue to be characterised by high intensity of crop production. In 2005, the use of mineral fertilisers reached 253 kg NPK fertilisers per 1 ha of agricultural land in former state-owned farms and 193 kg NPK per ha of agricultural land in APCs. It was much higher than in family farms. Thus, such farms are still trying to succeed in the market by intensifying crop production. However, nearly 2% of the surveyed holdings started or developed organic farming. Furthermore, some farms chose biological and technological progress. In 2005-2006, every fifth agricultural holding introduced more modern crop production methods.

In 2006, large former state-owned farms were characterised by high yields in the production of basic crops: cereals – 57.6 decitonnes, potatoes – 304 decitonnes, sugar beet – 521 decitonnes and rape – 33,6 decitonnes. Due to less favourable weather conditions for crop production, the yields were lower than in the previous year. However, for another year in a row they were much higher than in family farms. For years the gap has been widening to the advantage of large holdings. In 1995-1997, the conversion yield of basic crops was 35.8% higher in large holding than in family farms, in 1998-2000 the gap was 58.4%, in 2000-2003 – 68.8% and in 2004-2005 – as much as 91.3%.

In 2005, the value of commercial animal production in former state-owned farms rose by 12.6%. It mostly resulted from an increased volume of commercial production of animals for slaughter, milk and eggs as selling prices showed a decline. A year before, the growth rate was higher, more than 20%, and it stemmed from both an increased volume of commercial output and a rise in selling prices.

In recent years, price relationships in animal production have been rather unfavourable for a significant share of agricultural holdings. Therefore, many farms have reduced rather than increased the rearing of animals. Changes in livestock have led to the simplification or sometimes the specialisation of animal production. It has been accompanied by marked concentration of output, particularly in the case of pigs and poultry. Considering those changes in livestock and plans for the near future, commercial animal production (especially of milk and beef cattle) is likely to grow further.

The simplification of animal production has contributed to increased productivity. In 2005, average milk yield per cow exceeded 7,200 litres, i.e. it was as much as 80% higher than in family farms. At the same time, daily weight gain of pigs was 0.669 kg in 2005, and the average feed to gain ratio was 3.06 kg of concentrates per kg of weight, i.e. 9.5% less than in 2002.

In 2005, the economic and financial standing showed a marked deterioration. The gross profitability ratio went down from 14.8% to 10.7%, whereas return on equity dropped from 17.0% to 10.6%. Nevertheless, both indicators were much higher than before EU accession. The deterioration of the economic situation resulted from less favourable weather conditions (lower yields) and the market situation. In 2005, the price scissors index was unfavourable, at 96.0, whereas it reached 102.2 in 2004.

In 2005, as in previous years, the economic and financial standing varied significantly between agricultural holdings. Compared to 2004, there was a rise in the share of farms reporting a loss and characterised by lower farming efficiency, accompanied by a decline in the proportion of very efficient holdings, i.e. those with gross profitability of 20% or more, and those characterised by financial liquidity.

Financial resources in the form of direct payments and other EU funds failed to prevent the deterioration of the economic situation. In 2005, a loss on economic activity was reported by 8.2% of the surveyed former state-owned farms (6.4% in 2004) and 33.3% of agricultural production cooperatives (4.3% in 2004). In 2005-2006, there was a marked fall in the number of loss-making

holdings compared to the pre-accession period. Loss-making farms were found in all forms of ownership. The highest shares were recorded in the case of one-man companies of the Agency and APCs (23.5% and 33.3% respectively), whereas significantly lower shares were found in leased and owned farms (6.7 and 5.8% respectively).

A vast majority of loss-making agricultural holdings were characterised by simplified production, as in the previous year. Those were primarily oriented towards crop production, especially the growing of wheat and rape. The cultivation of sugar beet was very limited. Despite simplified production, such holdings were characterised by relatively high employment, which adversely affected their productivity and significantly increased the share of labour costs in total costs. Undoubtedly, their loss-making activities partly resulted from high employment of permanent workers. Another important reason for economic failure was low crop productivity, due to markedly lower inputs of yield-increasing products rather than to poor soil quality. Furthermore, low animal productivity also had a negative impact on the economic performance; for example, milk yield per cow was nearly 30% lower in such farms than in profit-making holdings.

Integration into the EU has changed the forms of financial support for agriculture, which has also been reflected in price relationships. These have become more favourable for animal products and less advantageous for crop production, particularly for cereals. Therefore, it has appeared necessary to reorganise some large agricultural holdings towards multiple activities including the rearing of animals.

In the first year of EU membership, the macroeconomic conditions were very favourable for agriculture. In 2005, however, there was a deterioration which is likely to continue in the near future. Under such conditions, it will be necessary to further reduce production costs. According to surveys, the possibilities to cut costs through employment reduction are very limited. Rather, streamlining should be achieved by a more efficient use of tangible fixed assets and reduced supply and selling costs. Large holdings should form producer groups, possibly in cooperation with family farms. Such groups have been created, but they are still very limited in number. In 2000, French farms affiliated with producer groups accounted for 42% of agricultural land and their number was increasing.

Prior to EU accession, among large holdings the economic and financial performance was better in relatively smaller farms, i.e. up to 500 ha of agricultural land, than in larger holdings. During the first two years of membership the situation changed to the advantage of larger farms. They are more competitive in the

European market. Therefore, larger holdings (such as one-man companies) should undergo further privatisation within the present organisational structures. Such farms are relatively limited in number and their operation in the present organisational structures is justified by economic considerations as well as social concerns (preventing job losses). As they promote and implement biological and technological progress, such holdings pave the way for other farms. Undoubtedly, they also represent a showcase for Poland's modern agriculture.

One pressing issue for large agricultural holdings is legal strengthening of lease in the long term. The uncertainty of pursuing economic activity reduces long-term investment in buildings and provokes the need to purchase the leased land, thus placing additional demands on liquidity. Free financial assets should be allocated to the modernisation of leased holdings, thus increasing their market competitiveness.

6. Regional differences in agricultural development and their effect on economic and social problems in rural areas

6.1. The factors of marginalisation and competitiveness in the socio-economic structure of Polish rural areas following EU accession

The analysis and assessment of the socio-economic structure in the context of agricultural and rural development as well as adaptation of the rural population to the new living and working conditions has revealed that such changes concern a number of aspects of rural life (e.g. demography, social relations, culture). According to surveys of young farmers, in recent years a growing number of farms have been taken over by young people (aged 35 or under). The increased pace of generational change should be attributed to developments such as the liberalisation of legislation concerning land policy, favourable changes in pensions for farmers and the need for young people to take up gainful work in agriculture due to the lack of alternative job opportunities. Generational change has been faster in small farms than in holdings of more than 10 ha and has usually involved modernisation and economising on farm resources.

In the 1990s, most generational changes (85%) took place in the transferor's lifetime. It is the most favourable form of transferring the farm to the successor as it allows to avoid farm succession procedures in inheritance proceedings and basically should not disturb the transferee's work on the farm. Other than accidents, situations where a young farmer takes over the farm after the manager's death mostly occur in small farms, in larger holdings succession it is usually settled much earlier. The natural process of generational change, i.e. transferring

agricultural holdings to young people, represents an opportunity for agriculture as younger generations are not burdened with negative experiences of older generations. Young people are free from the burden of centrally planned economy, negative experiences related to the early transition period or the need to overcome previous habits incompatible with the free market economy.

The equipment of rural households with durable goods depends on factors such as farm income, the household size measured by the number of family members and the condition of residential buildings. According to GUS data, in 2002 there were 37.8 million persons in households. Compared to 1988, the urban population in households increased by 750,200, whereas in rural areas there was a decline by 51,800. In 2002, the main income source of rural households was employment, with 37.2% of households obtaining income from off-farm jobs and 16.3% of households deriving income from agricultural activities. Households whose main income source was not gainful employment accounted for a significant share (44.6%). For such holdings, pensions represented the most important source of income. In 2002, there was only a marginal group of households supported mostly or exclusively by persons outside the household (1.5% in rural areas).

In comparison with 1988, the household size measured by the average number of persons in the household showed a decline both in rural and urban areas. In 2002, an average rural household included 3.3 persons, compared to 2.6 in urban households. An increase was only observed in the case of households using agricultural land – in 2002 such households consisted of an average of 3.9 persons. Therefore, rural areas were dominated by two-person households, whereas large households, i.e. those including four or more persons, were much more frequent than in towns and cities.

Compared to urban areas, in the countryside there are more households consisting of two or more families and fewer non-family households, although (as in towns and cities) one-family households account for a predominant share. Most families are married couples with children. In 2002, the share of such families was 56%, and it was higher in rural areas than in urban areas (60.8% and 53.2% respectively). In terms of number, married couples without children represent the second largest type of rural families. They account for a 21.4% share in the structure of rural families. In urban areas the respective share is similar – 23.4%. Single parents, mostly single mothers, represent a significant share of rural families – 16.4% of the total number. The share of unmarried couples is marginal, a mere 1.3 % of all rural families.

Between 1988 and 2002, there was a greater increase in the housing stock in towns and cities compared to rural areas, as a result of not only building flats with more rooms and larger area, but also the development of existing resources. Rural housing is mostly owned by natural persons – 92.4%, followed by local authorities owning 2.6% of flats, a minor share of flats is owned by the State Treasury and enterprises (1.6% each). In towns and cities the ownership structure is more diversified than in rural areas (natural persons own 37.5% of the housing stock, owner-occupied flats represent 28.1%, tenant-occupied flats – 13.5%, local authorities own 15.8% and enterprises – 2.5%). 72.8% of the housing stock in rural areas was built after World War II (the respective share for towns and cities is 78.0%). Flats in buildings erected before 1918 still represent 9.7% of the total housing stock in rural areas and 10.4% in the city. New buildings, i.e. those built after 1988, include ca. 401,200 homes in rural areas and 961,200 homes in towns and cities.

Furthermore, there was a significant improvement in the equipment of the housing stock with technical installations (gas, water supply, sewage system, central heating), observed primarily in rural areas. At the same time, the growth rate of the number of flats and houses equipped with installations was higher than that of the total housing stock. It reflects the fact that the improvement resulted not only from putting new flats and houses into use, but also from the modernisation of existing resources, observed particularly in rural areas. Despite those positive changes, the equipment of rural homes continues to be poorer compared to urban areas. In 2002, the main installation, i.e. the water supply system, was found in 98.7% of urban flats and houses and in 89.2% in rural homes, the gas supply system – in 75.0% of the housing stock in the city and 17.4% in the countryside. Although the equipment of the housing stock has improved, 4.3% of all Polish homes are not equipped with the water supply system and 3.9% have no installations. It particularly concerns rural buildings, where 14.8% of the housing stock is equipped with all sanitary and technical installations, whereas every tenth home has no installations.

Human resources in rural areas present significant capital and development potential as the rural population accounts for nearly 40% of the total population. Despite the fall in the farming population aged 15 or over between 1996 and 2005, it still represents a considerable share of Poland's population. At the same time, the farming population has become markedly younger. In the period in question, there was a rise in the share of the youngest group (i.e. persons under 15 years of age) in family farms. The highest increase in the number (by 37%) characterised the group of young persons aged between 15 and 17. Furthermore,

the share of persons between 45 and 54 years of age also showed growth (by 28%). However, there was a marked decline in the share of the oldest persons. Both the number and the share of the working age population went up, the mobility age population remained virtually unchanged, whereas there was a significant rise in the number and the share of non-mobility age groups. One reason was that persons born during the population boom in the mid-1950s had become part of the non-mobility age population. At the same time, there was an increase in the number of post-working age persons, by a total of more than 1 million.

As regards the number of non-working age persons per 100 working age people, the ratio is definitely less favourable in the country than in the city. For every 100 working age persons, there are 72 non-working age persons in rural areas compared to 55 in towns and cities. Although in terms of working life this ratio is very unfavourable at present, it shows development potential for the future as today's children and youth will represent a significant working age group in the years to come.

The ongoing changes in rural areas also concern attitudes and aspirations of the rural population. Among other aspects, these are observed in decisions on providing better education for the children. The share of the rural population with higher education doubled in the period between agricultural censuses. However, the share of persons with a university degree was only 5.4%. Furthermore, there was a significant rise in the share of persons with secondary and post-secondary education, up to 22.6%. At the same time, the share of the rural population with primary education showed a decline. There was also a marked fall in the share of persons with incomplete primary education. Presumably, it was closely related to changes in the demographic structure.

Private educational establishments play a prominent role in increasing the educational level of the rural population. A number of higher education institutions have been located in rural areas, thus easily accessible for rural youth. At present, it is difficult to accurately evaluate this phenomenon or to determine the total number of graduates from rural areas. Furthermore, the teaching level in such establishments may be open to question, particularly in comparison with renowned universities with many years of tradition. Nevertheless, improved accessibility of private higher education institutions has also increased educational aspirations of rural youth. Education has gained market value. Therefore, rapid development of the private education sector has significantly contributed to reducing disparities in access to higher education. On the other hand, however, social and community differences have appeared in another dimension. It is more frequent for rural youth to choose less prestigious schools characterised by

lower teaching levels as well as traditional specialisations. At the same time, urban youth mainly attend renowned public universities with established teaching standards. Most young people in cities choose modern and popular specialisations with job prospects, which gives them more employment opportunities, a more favourable labour market position and higher income level compared to graduates with a degree in a traditional field of study. However, private schools have undoubtedly become an alternative for the rural population.

The observed changes also concern the living standards of the rural population. The equipment with durable goods presents another indicator of household wealth in Polish rural areas (in addition to purchasing power parity, savings, expenditure structure). It can also be interpreted in terms of civilisational advancement.

Surveys conducted by IERiGŻ-PIB in 2005 indicated that a total of 80.0% of rural households had water supply systems (whereas every fifth agricultural holding used a water pump). Thanks to such installations, a significant share of the surveyed households (a total of 84.8%) had a bathroom and a toilet. Nearly one-fourth of rural households had sewage systems, whereas three-fourths were equipped with central heating. A minor group even declared having own waste water treatment facilities.

The equipment with durable goods was better in households owning agricultural land than in landless families; households with more agricultural land also had more durable products. At the same time, almost all the surveyed rural households wished to change or upgrade owned equipment, particularly in the case of less common goods. Only a very limited share of households planned to purchase such goods during the next five years, mostly holdings up to 15 ha of agricultural land and families of four or five persons. In the 2005 survey conducted by IERiGŻ, devices defined as common goods in the sample of rural households included a refrigerator, a television set and a gas (or electric) cooker. The group of standard goods comprised a vacuum cleaner, a radio cassette recorder, a wired telephone, an automatic washing machine, a passenger car and a freezer. Devices described as higher standard goods included a mobile phone, a video cassette recorder, a satellite dish (or cable television), a personal computer, a food processor and a microwave oven.

The survey demonstrated that in 2005 all the devices defined as common goods were found in 89.3% of rural households (in 91.4% of families owning agricultural land and 87.6% of landless families). Nearly two-thirds of rural families had such equipment plus an automatic washing machine. A similar number of households owned a refrigerator, a television set, a washing machine

and a vacuum cleaner at the same time. Devices and appliances which can be described as “once luxury goods” (i.e. a video cassette recorder, an automatic washing machine, a wired telephone, a television set) were found in almost one-third of rural families. Nearly every tenth family used a refrigerator, a microwave oven, a food processor and a washing machine. In very few families (a total of 2.2%) the kitchen was equipped with all the modern devices and appliances: a refrigerator, a dishwasher, a microwave oven and a food processor. A similar share of the surveyed rural families owned modern equipment enabling wider contact with the world and leisure activities, i.e. a satellite dish, a personal computer, a mobile phone and a video camera. According to the findings from the survey, educational and civilisational advancement as well as increased income lead to greater aspirations of rural families. It is increasingly frequent to try to satisfy higher-order needs.

6.2. The extent and consequences of functional diversity of agricultural holdings across regions

Regional development strategies until 2020, prepared by local governments, represent the basis for the implementation of EU structural programmes in voivodships in 2007-2013. However, what those strategies lack is a vision of promoting economic sectors not included in EU support measures by local authorities. Objectives related to agricultural development are non-existent or minimised in strategies at the voivodship level. It probably results from a widespread opinion in Poland that the role of agriculture in the national economy is limited. Furthermore, due to excess supply of agricultural raw materials and food products, local government fail to see threats to agriculture and neglect the need to reproduce agricultural potential. Thus, under regional strategies local governments support agriculture and the food economy only to a relatively modest extent.

Most local governments opt for the formation of large commercial agricultural holdings, although no analyses have been conducted with regard to social costs of production or the structure of production costs in large holdings as compared to family farms. According to the creators of such strategies, redundant agricultural workers should find off-farm employment, but no specific and viable solutions are given except some vague prospects for the development of small and medium-sized enterprises.

Another problem is the possible depopulation of rural areas. Even if we assume that the land of failing farms will be taken over by large agricultural in a fast and efficient way, the process will result in a growing demographic gap in

the countryside. Changes in the agrarian structure should not bring about the depopulation of rural areas. It must be seen as a threat without a viable solution in the present development strategies.

An important aspect of rural development and agricultural transformation is the problem of rural education. All strategies declared efforts to improve educational conditions for the rural population, including the farming population. Unfortunately, general intentions concerning education are not reflected in actual measures aimed at solving the problem. No strategy addressed the issue of limited access to secondary schools providing general education for rural youth, which affects accessibility of higher education institutions.

The strategies prepared by the government, the Ministry of Agriculture and Rural Development as well as by regional governments (at the voivodship level) are characterised by similar intentions. The government strategy and regional strategies reflect the wish to strengthen the role of highly commercial farm. However, both the government strategy (including the strategy prepared by the Ministry of Agriculture and Rural Development) and regional strategies fail to recognise that agricultural holdings are divided into two groups: farms able to reproduce the production potential and those unable to do so. Thus, the assessment of agriculture made by the government and local governments is unrealistic. There is no reason to believe that farms incapable of reproducing the production potential, with few exceptions, will become viable holdings without public support. The strategy designed by the Ministry of Agriculture and Rural Development fails to answer the question about the most appropriate structure of agriculture aimed at increasing its competitiveness in the world market. Neither do regional strategies or the government strategy address this issue, although all the strategies declare support for highly commercial holdings. No strategy defines optimum (in terms of competitiveness) scale or structure of production. Several voivodships place emphasis on the need to develop biomass production, all the strategies wish to promote the development of recreation and tourism, the afforestation of marginal soils, but these are purely declarations of intent. In the light of the above, the development strategy for non-agricultural and agricultural activities in rural areas is not sufficiently accurate. Regional development strategies failed to contribute to the development strategy for Polish agriculture, being reduced to accepting the agricultural policy of the state.

Policymakers should pay special attention to eastern Poland. The situation of agriculture in these voivodships is indeed dramatic. They rank among the poorest regions in Poland and in the European Union. Most agricultural land belongs to farms which are unable to reproduce production potential, which results

in decapitalisation. No efforts are made to change the agrarian structure. Farmers in those areas do not take the initiative to form agricultural producer groups (the lack of social capital). Border areas are becoming depopulated. Development is hampered by factors such as the under-developed processing industry and production quotas on milk, tobacco and beet.

One example of insufficient integration of agriculture and rural areas into strategic development objectives is the Mazowieckie voivodship. The focus of its development strategy is on the capital city and subregional cities as they are regarded as the engines of growth of the whole region, including the countryside. Strategic development goals for agriculture and rural areas include the restructuring and modernisation of the agricultural sector structures through land aggregation, production in highly commercial farms, promoting land lease, creating producer groups, agricultural market organisation, supporting centres for agricultural advisory services and agricultural progress, promoting organic farming and sustainable agriculture. However, the strategy fails to specify comprehensive solutions and measures aimed at attaining the above-mentioned objectives.

Thus far, the implementation of the strategic goals for agriculture and rural areas in the Mazowieckie voivodship has been mostly focused on support measures for infrastructure, education, healthcare, scholarships for rural youth, programmes for activating local communities, training courses for food producers, coordinating participation in trade fairs, organising regional exhibitions or promoting local trademarks. One success of the programme is the rise in the number of organic farms. Although there have been no major changes in the agrarian structure, it can be concluded that the trend is favourable. The size of an average agricultural holding has increased by 0.7 ha, there has been a drop in the number of farms up to 10 ha and a rise in the number of holdings with more than 20 ha. Nevertheless, agriculture in the Mazowieckie voivodship continues to be characterised by significant land fragmentation, overpopulation, low productivity and a low share of commercial production. Subsistence and semi-subsistence holdings account for a significant share of family farms (nearly 40%).

In the Mazowieckie voivodship there is still scope for improving the agrarian structure and increasing income for farming families. Only slightly more than 5,000 out of ca. 23,000 farm managers aged 55 or over have applied for structural pensions. Neither has the creation of producer groups brought expected results. A great number of training courses for farmers concerning the modernisation and restructuring of agriculture, increasing commercial production and creating producer groups failed to stimulate the formation of producer groups. Agricultural producers have not exploited the opportunity offered by

group organisation, i.e. more favourable conditions for selling products and increased ability to cope with growing competition in European markets.

Examples of successful agricultural development include the Wielkopolskie and Kujawsko-Pomorskie voivodships. According to the conducted analyses, the significant economic strength of family farming in these voivodships results from a number of factors. Agricultural education of farm managers (above the national average) plays a prominent role. Another favourable factor represents greater intensity of agricultural production. Agricultural holdings located in those areas are more market-oriented than other Polish farms. Furthermore, the two voivodships lead the way in terms of the share of holdings implementing investment projects or purchasing fixed and current assets. It is more frequent for farmers in those voivodships to use bank credits. The demographic situation in farms is also more favourable (the share of post-working age population below the national average and the share of pre-working age population above the national average). In 2002-2005, structural changes consisted in the declining number of the smallest farms (up to 2 ha) accompanied by a growing number of holdings of 50-100 ha as well as of farms with the economic size of more than 40 ESU.

6.3. The role of non-agricultural activities in the formation of new structures in rural areas

Studies of the role of non-agricultural activities in the formation of new structures in rural areas suggest the following conclusions:

- ⇒ Improving the knowledge (qualifications) of persons pursuing an economic activity represents a vital element affecting entrepreneurship development. Training courses, workshops or other forms of education help self-employed persons cope with competition. In the free market economy knowledge frequently determines business success, therefore education and lifelong learning has a major effect on the development and number of private enterprises. The group of entrepreneurs engaged in non-agricultural activities is dominated by persons with secondary and post-secondary education (more than 45%) as well as vocational education (nearly 39%). It confirms the importance of education as a determinant of socio-economic changes in rural areas.
- ⇒ persons between 36 and 55 years of age represented the largest group engaged in non-agricultural economic activities (68.1% of the surveyed population).
- ⇒ One key to business success is an innovative and unique character of non-agricultural activities. Taking up the same activities as existing companies reduces the prospects of success.

- ⇒ Rural tourism plays a prominent role in the development of multifunctional rural areas, especially that it can be combined with farming activities. Although opportunities to develop rural tourism are only recognised in every twentieth surveyed village, this type of economic activities is increasingly considered as an alternative or additional activity to be combined with farm work. The development of rural tourism represents one possibility of economic activation of local communities, although the success of such undertaking depends not only on natural qualities, but also on a number of other factors such as the condition of local infrastructure (e.g. roads and thoroughfares) or marketing skills of providers of tourism services.
- ⇒ Another determinant of the development of rural entrepreneurship is the educational offer and advisory services provided by the local government, tailored to the needs and interests of the community. The survey demonstrates that some local authorities make such efforts. Between 2000 and 2005, there was at least one training course organised in three out of four villages. The courses concerned main issues related to agricultural production efficiency, the new sanitary and veterinary regulations in force after Poland's accession to the European Union as well as practical assistance in applying for support funds under CAP measures. As regards the last group, the most common training courses provided information on how to apply for direct payments and practical assistance in completing applications. Training courses on entrepreneurial activities, i.e. starting and running a business (including rural tourism undertakings) accounted for less than 10% of all courses found in the surveyed villages. This points to the need to adjust the training offer to various problems faced by the rural population, frequently going beyond matters directly linked to agricultural production.
- ⇒ The need to improve the knowledge on how to pursue non-agricultural activities was found in more than 80% of the surveyed villages. The most desirable training subject would be applying for financial resources available under support measures in order to improve the economic situation of agricultural holdings. The respondents also declared the need to obtain information on the possibility to apply for EU funds for the purpose of starting a company (observed in over 60% of the surveyed villages). Training courses on the improvement of agricultural production efficiency as well as of veterinary and sanitary conditions on farms were usually organised by centres for agricultural advisory services, playing a key role in providing multidirectional assistance to rural communities. It should be emphasised that in many surveyed villages the residents benefited from advisory services offered by employees of local units of the Agency for Restructuring and Modernisation of Agriculture, particularly in matters related to CAP support measures for agriculture and rural areas.
- ⇒ Due to the difficult economic situation of some traditional farms, the owners are often forced to seek additional income sources. One alternative is non-

agricultural activity, a significant source of income in household budgets. This is confirmed by the survey findings indicating that nearly 45% of the owners of non-agricultural businesses operating in rural areas also had a farm. Those were primarily small agricultural holdings ranging from 1.00 ha to 2.99 ha (almost 41%), but there were also farms with more than 20 ha (1.5%).

- ⇒ Start-up capital is usually raised from own resources (savings) of entrepreneurs and their families and private loans rather from bank credits and support measures. The lack of financial means is perceived as the main barrier to rural entrepreneurship.
- ⇒ It is increasingly frequent for rural entrepreneurs to invest money previously earned abroad in setting up a company in their own village. Such a situation was found in slightly over 10% of the surveyed villages, but due to the ongoing liberalisation of labour market legislation in the EU-15 countries concerning workers from the new EU Member States and increased job migration, it may become more common in the future. Investing such resources in starting a business very often generates new jobs for the rural community and contributes to the activation of the local economy.
- ⇒ Due to insufficient information on the EU and the new structural policy instruments supporting entrepreneurship, the rural population continues to have a cautious approach to the present and future possibilities to obtain funds for starting and running non-agricultural businesses in rural areas. Although 45% of the respondents believe that EU accession resulted in increased opportunities for rural entrepreneurship in Poland, only in one-third of the surveyed villages residents were positive that non-agricultural economic activities in rural areas would become more widespread in the future. The rural population is aware of support measures for rural entrepreneurship but they are considered to be inaccessible to average people due to complex procedures and red tape related to applying for co-financing. At the same time, it is common to believe that in the future only young, educated persons will be able to benefit from the funds for starting and running small businesses.
- ⇒ Major threats to rural entrepreneurship include complicated registration procedures, excessive tax burden on enterprises and limited borrowing facilities for starting and running small and medium-sized enterprises.
- ⇒ As regards factors indirectly affecting the activation of rural areas, the key role is played by information and training activities by local governments and other local institutions, as well as by non-governmental organisations, increasing the knowledge level in rural communities and the scale of investment in social and technological infrastructure, particularly in basic infrastructure such as rural roads.

6.4. The institutional factors of socio-economic development in rural areas

The institutionalisation of rural areas could be observed particularly in the period of Poland's preparations for EU accession. The creation of business information counters in local government offices has been vitally important to economic development. According to the surveys, districts where such counters operated were characterised by higher employment and entrepreneurship levels (the latter measured by the number of enterprises). The combined effect of promoting economic development through such structures materialised particularly in the Wielkopolskie voivodship, which is more experienced in supporting economic growth by means of market instruments.

The basic financial institutions operating in rural areas include cooperative banks. Growing agricultural income has also been pushing up demand for financial services offered by cooperative banks. On the basis of a detailed analysis of the scale and forms of banking activities (deposits and credits) of two selected cooperative banks located in Legionowo and Ostrowia Mazowiecka, it was found that their activities depended on specific characteristics of location, the level of socio-economic development of the area and the competition from other commercial banks. Furthermore, the survey findings suggest that guarantee and loan funds have also been gaining in importance as institutions promoting local and regional development.

Public and private organisations play a greater role than non-governmental organisations in economic development. It mostly concerns preparing applications for subsidies, providing information on the possibility to obtain support for pursuing economic activity, informing about institutions promoting the SME sector. Few organisations deal with spatial economy issues. Such activities are mostly pursued by private organisations and usually concern consultations on spatial development plans and the spatial economy.

Private organisations operating as partnerships and non-governmental organisations functioning in the form of foundations are characterised by significant instability. In the case of the former, it results from limited demand for their services, the shortage of staff and capital. It may indicate that such institutions offer low-quality services. As regards the latter legal form, it stems from the fact that financing sources gradually become exhausted.

The surveyed organisations primarily render services to individuals. Most services are provided to local communities (poviats, districts). It mostly concerns private and non-governmental organisations (associations). It follows that the surveyed organisations represent an important factor of rural development. Organisations located in rural areas cooperate (in the form of clusters) in order

to solve specific problems. This cooperation can be observed primarily in preparing development strategies for districts, poviats and voivodships.

Public organisations are characterised by greater human resources potential compared to private and non-governmental organisations. Most employees have secondary education. Staff quality also depends on the location and activities of the organisation. Organisations operating in cities and in the area of improving the quality of human capital are characterised by higher educational levels of the staff and a more favourable age structure. Furthermore, there are significant differences in the financial potential of the surveyed organisations, which is determined by the field of activity and location. Private organisations are usually characterised by better financial standing. However, the most serious problems of such organisations stem from unclear operation rules. According to the surveyed organisations, internal problems result from imperfect or no regulations concerning their activities or the lack of reliable information sources.

Empirical studies have confirmed that there is a relationship between the level of organisation/institution development and socio-economic development of rural areas. Activities of organisations/institutions affect the level of innovativeness in local communities or contribute to improved social infrastructure. Citizen participation in public affairs leads to greater social control, which in turn increases local authorities' motivation for professional and effective actions.

In order to raise the level of self-organisation, particularly in less public-spirited communities, it would be necessary to take measures aimed at strengthening its basis, i.e. to increase the knowledge of local socio-economic problems, facilitate contacts between public authorities and the local community. Only such a basis allows to activate citizens through organisations such as associations, foundations, producer groups, cooperatives, partnerships etc. It also requires an efficient institutional environment.

Studies have shown that the weakness of the institutional environment presents a major development problem. It appears that disorganised institutional sphere adversely affects rural development, reducing efficiency and effectiveness. The following issues are worth pointing out:

- ⇒ Social organisations have limited ability to influence local socio-economic development. Therefore, they still represent a potential rather than a possibility to actually contribute to development.
- ⇒ In connection with support for non-agricultural activities in rural areas under the Rural Development Plan for 2007-2013, it is necessary to simplify procedures concerning taking up and discontinuing economic activity, particularly

by natural persons. Time-consuming and complicated procedures increase the costs of market entry and exit, which may significantly reduce the effects of PROW support measures.

- ⇒ Other necessary changes include spatial planning and management in rural districts. Under the spatial planning and management act, both district and local spatial management plans require the specification of zones designated for particular purposes such as housing construction, the development of specific services or industry. Nevertheless, many districts have no spatial management plans as local acts. Consequently, the development of economic activity involves increased risk as local authorities may refuse to locate a specific investment project in a given area or investment activity may be hampered by protesting residents or environmental organisations.
- ⇒ It is necessary to increase local governments' participation in information activities for persons interested in starting a business.
- ⇒ A important measure for reducing regional disparities in economic development may be the transfer of knowledge on the functioning of organisational structures promoting economic activity from more to less advanced regions.

6.5. Highly commercial farms in peasant agriculture

In 2000-2005, the group of highly commercial holdings in family farming was characterised by relatively low mobility. During the period in question, every thirtieth farm considered highly commercial in 2000 reduced the scale of production and fell out of the group. At the same time, the number of holdings which in 2005 increased agricultural output to the level considered highly commercial was only slightly higher. As a result, in the period in question the rise in the number of highly commercial farms was only ca. 2%, whereas their share in the total number of family farms showed a minor increase (from slightly more than 11% to 12%). It indicates a slowdown in growth in the number of highly commercial holdings in peasant agriculture as in 1992-2000 the share of this category of farms nearly doubled (from slightly more than 6% to approx. 11%).

Despite progress, in the group of commercial holdings the concentration of production also continued to be relatively limited. Following accession to the EU, the share of highly commercial farms in the total number of commercial holdings was ca. 22%. It should be emphasised, however, that it was 5 percentage points higher than in 2000 when highly commercial farms accounted for slightly more than 17% of commercial holdings.

Significant differences were observed in the share of highly commercial holdings depending on farm size and farmers' characteristics. Considering structural features of Polish agriculture, it should be stressed that highly commercial holdings were mostly found in the group of farms characterised by relatively

large area, providing the principal activity for the farmer and the main income source for the farming family. Compared to the farming population as a whole, persons working on such holdings, particularly farm managers, were relatively young, had definitely better general education and agricultural skills. Furthermore, persons employed in highly commercial holdings primarily worked on their family farms.

Relationships between the number of highly commercial holdings and the characteristics of agricultural structures could be observed in all the periods in question, and they became stronger in 2000-2005. It mostly concerned the farm size, the socio-demographic characteristics of farm managers and permanent full-time farm workers.

In 2005, significant regional differences were still found in the share of highly commercial farms, embedded in historical disparities between regions in terms of the level of economic (particularly agricultural) development in specific parts of Poland and spatial differences in the level of adjustment of family holdings to efficient farming in a competitive environment. However, in 2000-2005 changes in the number of highly commercial holdings varied between regions:

- ⇒ The monitored group was the most stable in the Central Western Macro-region and the South-Western Macro-region. The share of such farms, both in 2005 and five years before, remained unchanged, i.e. slightly more than 29% in the Central Western Macro-region and ca. 12% in the South-Western Macro-region.
- ⇒ A rise in the share of highly commercial farms in family farming was recorded in the Northern Macro-region (from less than 11% to approx. 15%) and in the Central Eastern Macro-region (from 8% to nearly 10%).
- ⇒ There was a minor decline (from less than 8% in 2000 to ca. 7% in 2005) in the share of highly commercial holdings in the whole group of family farms in the South-Eastern Macro-regions.

The mobility of highly commercial farms in specific regions was affected by different factors. As regards southern Poland, the decline in the share of highly commercial holdings in peasant agriculture should be attributed to the decreasing interest in farming activities as the income source for farmers. Due to unfavourable climatic and natural conditions (mountain areas), the disadvantageous agrarian structure (significant land fragmentation) and a significant share of farmers combining on-farm and off-farm work, most farms are primarily subsistence holdings. There are relatively few commercial farms. As they own rather limited land resources, such holdings usually engage in non-standard types of production which frequently involve significant capital and skills. It is not very likely to increase output in small farms, not only due to the lack of financial re-

sources and farmers' low qualifications, but also on account of the relatively limited outlet (particularly the domestic market). Furthermore, after the maximum threshold of the intensification of production has been reached, maintaining the market position and further growth in agricultural output will require more land. Such possibilities, due to very low supply of agricultural land in the South-Eastern Macro-region, were limited.

The development of highly commercial family farms observed in the Central Eastern and Northern Macro-regions in 2000-2005 should be primarily attributed to catching up with other more advanced regions on the development of agriculture and adjusting to efficient farming in market conditions. Measures aimed at increasing and modernising production assets as well as overcoming barriers to the functioning of farms in a competitive environment, even if slightly different, allowed to start (the Northern Macro-region) or strengthen (the Central Eastern Macro-region) the formation of a group of farms able to cope with global competition.

Although the growth rate of the number of highly commercial family farms remained virtually unchanged, Poland's accession to the European Union and the inclusion of Polish agriculture in the common agricultural policy encouraged farmers to increase and modernise production potential of their holdings. A particularly strong upturn in investment was observed in the group of highly commercial farms. Between 2000 and 2005, agricultural investment projects implemented in highly commercial holdings accounted for nearly 40% of all production investments in family farms and for ca. 72% of total financial resources allocated to reproducing, modernising and increasing the production potential of family farming. In 1996-2000, the respective shares were 30% and 62%.

The period of 2000-2005 witnessed increased concentration of production assets in the group of highly commercial family farms. The most significant change concerned a rise in the share of agricultural land used by highly commercial holdings, from ca. 31% in 2000 to more than 38% in 2005. With regard to farmed animals, the share of this group of farms showed an even sharper increase (from less than 41% to approx. 55% of total livestock in family farms). However, the strongest growth was observed in the concentration of modern technical means of production in highly commercial holdings. It was mostly reflected in improved technical condition of assets, an increased share of modern machinery and equipment and greater mechanisation of technological processes, particularly in animal production.

Highly commercial farms have been strengthening their competitive position, which is primarily reflected in growing agricultural output sold in the market. In

2005, commercial production of highly commercial holdings accounted for 62% of the total value of market output in family farming, markedly higher than in 2000 when the respective share was ca. 52%.

There are prospects of growth in the number of highly commercial holdings in peasant agriculture, but it will be rather slow, accompanied by a relatively faster increase in their production assets. The development prospects for the sector of highly commercial family holdings should be seen in the reduction of barriers to market-oriented changes in family farming and the creation of conditions for increasing their economic strength and competitiveness.

A number of factors affect the growth of highly commercial holdings in peasant agriculture. Possible measures for promoting development and increasing the number of highly commercial farms include the following:

- ⇒ removing barriers to raising the level of general and agricultural education of members of farming families,
- ⇒ improving rural infrastructure and fostering multifunctional rural areas,
- ⇒ creating favourable conditions for increased possibilities to raise capital in agriculture,
- ⇒ taking measures for improving the organisation and stabilisation of agricultural markets as well as facilitating the transfer of agricultural land to commercial farms,
- ⇒ improving advisory services,
- ⇒ intensifying the implementation of biological progress in agricultural production.

6.6. The agricultural land market

In 2005, growing demand for land affected the agricultural land market even more than in previous years. The inclusion of Polish agriculture in the common agricultural policy of the European Union, particularly the availability of area payments, as well as an upswing in agriculture contributed to greater interest in increasing area under crops; owning agricultural property, in addition to attractive investment, was also increasingly driven by production activities. The above-mentioned conditions primarily pushed up land prices as the number of transactions was limited due to relatively low supply. As a consequence, in 2005 the number of transactions in the agricultural land market only showed minor changes. The total number of notarial deeds concerning the sale of agricultural land reached 76,400, i.e. a rise by 200 compared to 2004. The above increase was only observed in the case of transactions between neighbours, whereas trade in agricultural land involving legal persons significantly declined.

In 2005, the most distinctive characteristic of the situation in the agricultural land market was the price increase. It could be observed also in 2004, but 2005 witnessed a stronger upward trend of land prices. Consequently, in 2005 the market value of land rose by an average of 23.4% in comparison with 2004. As in previous years, the highest relative price increases characterised low-quality agricultural land. Its market value went up nearly by 40%. Less robust growth in prices was recorded in the case of medium-quality land (up by 29%) and the highest quality land (up by 22%). The significant average growth rate of prices for low-quality land, nearly double the figure for high-quality land, reflects the fact that many buyers continue to purchase land for non-agricultural purposes and that demand is still driven by anticipated benefits from the ownership of agricultural property (income on capital, direct payments).

Prices for land sold from the Agricultural Property Stock of the State Treasury also showed a marked increase. Compared to average 2004 prices, its market value rose by 19.8% (from PLN 4,682 to PLN 5,607 per 1 ha of agricultural land).

The comparison of the two markets reveals that the gap in prices for land sold by the Agency and those charged in private transactions continued in 2005. It primarily resulted from the fact that property offered by the Agency differed from land sold by private parties (large agricultural parcels, which was usually the case with property from the Stock, were less expensive per hectare than relatively smaller parcels sold in private transactions). Another important factor was the imbalance between demand and supply in the agricultural land market, particularly relevant in central and southern Poland where no land was offered from the Stock, whereas the increased demand in northern and western regions was partly satisfied due to activities by the Agricultural Property Agency.

The analysis of regional differences in land prices in the private market and of price fluctuations between 2004 and 2005 demonstrated that local conditions, economic development and the related benefit of location continued to determine the value of agricultural land. In 2005, as compared to the previous year, agriculture had a greater impact on the land market. The upturn in agriculture, direct payments and production subsidies contributed to the stronger economic position of prosperous agricultural holdings. Therefore, farmers showed more interest in increasing area under crops. As a result, regions with relatively larger groups of such holdings (mostly the Wielkopolskie and Kujawsko-Pomorskie voivodships) experienced a faster price rise and a widening gap between local and national average prices for agricultural land.

At the same time, the agricultural land market was also characterised by a growing difference between the lowest land prices and the average land value. In the Podkarpackie and Lubuskie voivodships the average market value of agricultural land was nearly half the national average. For years the two voivodships have had a particularly difficult economic situation and very high unemployment. Obviously, competition characteristic of the market economy (where strong operators benefit from better initial positions and weaker players become at least relatively degenerated) also affected the agricultural land market. It was reflected in the growing price differences across regions.

Furthermore, 2005 witnessed certain changes in the number of transactions in the agricultural land market (there was a slight increase). The number of notarial deeds concerning the sale of agricultural land was 76,400, a rise by 200 compared to 2004. This minor growth (up by 0.3% on the previous year) suggests that attitudes towards agricultural property showed no major changes. However, it should be noted that the increased number of transactions in the land market was only observed in trade between neighbours, whereas there was a marked decline in the number of transaction involving legal persons.

In 2005, the number of sale contracts between private parties increased by 5.4%, i.e. there were 3,200 notarial deeds more than in the previous year. However, compared to the total number of family farms, approx. 1,851,000, it was a minor difference which could not stimulate changes in the agrarian structure.

There were no essential changes in attitudes towards agricultural property; even those land owners who do not wish to pursue farming activities do not decide to sell. It resulted in an increased role of land lease contracts in transactions between neighbours, previously not as popular in Poland as in the EU-15 countries.

As regards the sale of agricultural property by legal persons (the State Treasury or local authorities), in 2005 the situation was different from developments observed in private transactions. According to data of the Ministry of Justice, in this land market segment there were a total of 14,200 notarial deeds, down 17.4% compared to 2004 when more than 17,000 contracts had been concluded. A considerable drop in the number of transactions, by 18.4%, was recorded in the case of contracts signed by the Agricultural Property Agency (11,500 in 2005 compared to 14,100 in 2004). The expiration of spatial management plans represented a significant obstacle to expanding land sale as it adversely affected proper land valuation. Another barrier to selling land from the Agricultural Property Stock of the State Treasury was the need to reserve land for reprivatisation purposes, thus reducing resources available for sale by at least 500,000 ha.

In 2005, there were 34 contracts of sale of agricultural land per 1000 Polish farms. As in 2004, the highest relative number of such transactions was found in the Pomorskie voivodship where notary's offices registered 58 contracts of sale of agricultural land per 1000 holdings, i.e. 71% more than the national average.

Regions characterised by a rather high number of commercial transactions in the agricultural land market included the Zachodniopomorskie and Kujawsko-Pomorskie voivodships. The highest relative number of contracts between farmers in those areas should be primarily attributed to activities of the Agricultural Property Agency. Developments in this land market segment also affect supply and demand in private transactions. Furthermore, in those regions there are many large and economically strong family farms, interested in increasing the area. The upswing in agriculture observed in 2005 contributed to this process, which was reflected in a greater number of registered contracts of sale of agricultural land than in other regions.

At the other extreme, certain southern regions, i.e. the Podkarpackie, Śląskie and Świętokrzyskie voivodships, were characterised by the lowest relative number of transactions in the agricultural land market. In the Podkarpackie voivodship, the number of concluded contracts per 1,000 farms was 19, whereas in the two remaining regions – 22 and 23 respectively. The above voivodships are characterised by particularly fragmented agrarian structure, frequent off-farm employment in the rural population and a high share of holdings not engaged in agricultural production. In those regions, most changes in land ownership take place in non-commercial transactions as deeds of gift, inheritances and distributions of property within the family account for a higher share than in other regions of Poland. This traditional approach to agricultural property contributes to the petrification of agricultural structures, particularly land fragmentation.

In addition to contracts of sale, commercial transactions in the agricultural land market also include land lease. In 2005, land lease accounted for ca. 15% of the total area used by family farms. A vast majority, 73%, represented land leased in transactions between neighbours. According to surveys conducted by the IERiGŻ-PIB, this form has been increasingly attractive for farmers wishing to improve the economic size of their holdings.

It has been found that in 2005 an average of approx. 16% of family farms in Poland owned or leased land, whereas ca. 0.7% of self-employed farmers pursued farming activities exclusively on leased land. The respective figures for 2000 were 12% and 0.5%. As in previous years, land lease was relatively the most popular in macro-regions where farmers could also lease land from the Agricultural Property Stock of the State Treasury. Furthermore, leases played

a relatively greater role in regions characterised by a higher number of economically strong farms. The situation was different in areas with very fragmented agrarian structure and a high number of holdings not engaged in agricultural activities; land leases were rare cases.

As in previous years, in 2005 different rules applied to the sale of agricultural land to foreign nationals. The monitoring indicated a certain increase in the area sold to foreign nationals in 2005 (352 ha compared to 130 ha in 2004), but it continued to be relatively limited, a total of ca. 0.3% of Poland's land area between 1990 and 2005.

The comparative analysis of rules governing the functioning of agricultural land markets in Poland and in other Central and Eastern European countries suggests that past political events and structural characteristics of agriculture in specific countries continue to determine significant differences in the formation of agriculture based on private ownership of land. In comparison with other CEECs, the Polish agricultural land market seems much more similar to land markets in developed market economies.

It can be concluded that two different developments are taking place in rural areas. On the one hand, the process of more efficient land management and various forms of land concentration in development-oriented holdings can be observed. On the other hand, direct payments and cultural conditions strengthen the existing agricultural structures.

7. The standard gross margin account for selected agricultural products and the classification of agricultural holdings according to the European Union rules

In 2005, Poland had been included in the structures of the Single European Market for the first full year. EU membership has created a new situation for agriculture. Therefore, the analysis of the economic performance also takes account of financial support available to farmers under the act on direct payments for agricultural land. According to the survey, effective and efficient use of opportunities offered by European integration can indeed improve the income situation of farmers.

The results for production activities surveyed in 2005 reflect changes in external conditions for farming. Those stemmed from various fluctuations in output, unit costs and selling prices for specific agricultural products. The income level, in this

case the standard gross margin, largely depends on relationships between prices for agricultural products and for agricultural inputs.

The survey results indicate that the standard gross margin varies between production activities. It is determined by yields, selling prices for products, the type and level of agricultural inputs affecting direct production costs. In the surveyed group of agricultural holdings, the highest average standard gross margin was found in the case of the cultivation of potatoes for human consumption and sugar beet, whereas the lowest level was recorded in the growing of oats and sweet lupin.

Yields were not always related to soil quality. The highest soil quality was found in agricultural holdings characterised by the lowest as well as the highest yields, particularly in the case of cereals. Presumably, it may be connected with agricultural condition of individual farms and regional differences in production conditions.

According to the survey of agricultural production activities (winter wheat, winter rye, potatoes for human consumption, open-field strawberries), in comparison with conventional holdings the analysed organic farms are characterised by the following:

- ⇒ lower yields,
- ⇒ higher selling prices,
- ⇒ lower direct production costs,
- ⇒ higher standard gross margin,
- ⇒ a significant role of payments for organic farming.

Based on the analysis of the four production activities in organic farms, the highest standard gross margin was found in the cultivation of potatoes for human consumption (it was 32.6% higher than the average level for conventional farms). It primarily resulted from much higher prices for organic potatoes and much lower direct costs incurred by organic farms.

In the case of the surveyed activities, it was established that seed definitely accounted for the highest share in the structure of total direct costs in organic farms. The costs of fertilisers or plant protection products were marginal or non-existent.

In most of the surveyed activities the average fertilisation efficiency, i.e. yield in kg per kg of NPK fertilisers, was the highest in the best farms and the lowest in poor-performing holdings. It should be noted that, despite relatively high costs of mineral fertilisers incurred by farmers in the weakest farms, yields in specific activities as well as yield per 1 kg of NPK fertilisers reached the low-

est levels. Conceivably, it partly stemmed from inefficient fertilisation, a very important element in agricultural activities.

Differences in the standard gross margin for pig farming in the surveyed groups of holdings were clearly related to direct costs, particularly the cost of purchased fodder. The results indicate an upward trend of direct production costs per 100 kg of pigs for slaughter in groups of farms categorised according to the growing level of the standard gross margin, i.e. the best, average and weakest agricultural holdings. According to calculations, the most efficient use of feedingstuffs was found in farms characterised by the highest standard gross margin for pig farming, i.e. in the best farms. The highest costs of pig farming in the weakest holdings are attributable to inefficient feeding of animals, reflected in the highest use of feedingstuffs per 1 kg of weight gain.

According to the survey, pig farming in the analysed group of agricultural holdings was almost exclusively based on dried fodder, the use of potatoes was very limited (only found in the weakest farms), whereas bulky feed, whether succulent or liquid, was not observed.

The results point to marked regional differences in performance. The highest yields and output value not always guaranteed the highest standard gross margin for a given activity. In the case of the surveyed crop production activities (spring wheat, mixed spring cereals, oats, grain maize, sugar beet and potatoes for human consumption), major regional differences were found in yields, selling prices, the use of NPK fertilisers per 1 ha, direct costs and the standard gross margin.

The gap between regions was definitely the most significant in the production of potatoes for human consumption. It is directly related to the scale of production and cultivation methods. Another important factor represents the location of farms in relation to outlets and processing plants. The cultivation of potatoes intended for chips or crisps was based on methods specified by processing plants and the performance was much better than in the case of potatoes grown on small farms.

In terms of location, the highest standard gross margins were recorded in the following regions:

- ⇒ Pomorze (Pomerania) and Mazury (Masuria) – for oats and sugar beet,
- ⇒ Mazowsze (Masovia) and Podlasie – for spring wheat and pigs for slaughter,
- ⇒ Wielkopolska (Great Poland) and Śląsk (Silesia) – for mixed spring cereals, grain maize, potatoes for human consumption.

It implies that farmers in Małopolska and Pogórze, compared to other regions, did not achieve the highest standard gross margin per hectare. In the case of the surveyed activities, the average fertilisation efficiency, i.e. yield in kg per kg of NPK fertilisers, was much lower than in other regions. At the same time, for most activities labour intensity of cultivation per 1 ha was higher than in other regions.

The lowest use of concentrates per 1 kg of weight gain of pigs (3.31 kg) was found in Mazowsze and Podlasie, followed by pig farming in Wielkopolska and Śląsk (3.76 kg), as well as in Pomorze and Mazury (4.88 kg). Therefore, pig farming in regions with the highest concentration of production (i.e. Wielkopolska and Śląsk, Mazowsze and Podlasie – according to GUS) was also characterised by the most efficient use of fodder.

Studies carried out within the framework of the AGROKOSZTY system reveal production strengths and weaknesses. They provide reliable figures, necessary for various economic decisions. They facilitate control over production and economic performance and provide data for analysing agricultural production activities in the future, i.e. for planning purposes. The use of the created database enables summarized presentation of results in the form of comparative reports on costs and income on activities pursued in specific agricultural holdings. On the basis of such figures, the farmer and the agricultural consultant are able to identify the strengths and weaknesses of production.