REGOVERNING AGRIFOOD MARKETS IN CEEC – POLAND'S PORK AND APPLE MARKETS[1]

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ABSTRACT

The paper presents the evolution of agro-food chain in Poland using the example of two important food products: pork and apples. The paper analyses the inheritance of former economic system, the influence of the transition period and the current situation in the fruit and pork markets. The goal of the research is to show links between producers, the processing sector and distribution networks. The paper focuses on the position of small producers, their possibilities of self-organisation and the public support they receive. In addition, the results of a preliminary survey are presented, which stress the most important problems of small producers: poor institutionalisation, especially in the area of self-organisation and very limited access to modern knowledge and technology. As a result, thousands of farms have reduced their ties with the market and produce only for the needs of their own farm households. There is lack of well-defined and efficient public support for small producers, most of whom feel like losers in the process of post-communist transformation and market reform.

Keywords: agro-food chain, apple market, pork market, Poland.

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1 INTRODUCTION

The structure of Polish agro-food chain has changed dramatically during the post-communist transformation. During the socialist period, 75% of land was in the private sector, which was a unique phenomenon in the Soviet block of countries. State control over the farming sector imposed with several measures: price control, establishing area limits to agricultural holdings, collectivisation (turning private property into state and cooperative property) of upstream and downstream sectors, administrative rationing of industrial inputs for farms etc. State and cooperative companies, subordinate to the central planning bodies, controlled the wholesale and retail trade of agro-food products. Due to shortages of basic food products during the martial law period in the 1980s, a rationing system for primary food products was established. This system was abolished by the last communist government in July 1989. Price liberalization was then started in Poland in area of agricultural and food products, the first act of market reforms preceding a whole package of systemic reforms introduced on January 1st, 1990 (known as "Balcerowicz Plan").

In the first stage of market reforms, hundreds of thousand of small shops and processing plants were established in food production and trade. Later, they become the subject of concentration and competition from large international companies. After 15 years of transformation, over 98% of trade is now in the private sector. In 2002 there were 845,000 retail sales outlets, including some 450,000 shops, or 45 people per sales outlet, and 85 people per shop. There are 174,000 shops selling food and beverages (GUS, 2003).

During transition, the share of agriculture in gross domestic product (GDP) decreased from 14.5% in 1988 to 3.9% in 2002. In the same timeframe, food processing and trade developed quickly, and now the food industry is the largest in the Polish economy: its share in the nation's gross production in 2002 reached 6.7%. The food industry (including beverages and tobacco) is the largest branch of the Polish manufacturing sector, with a share of almost 20% (URBAN 2004, p. 11). Agri-food products do not play an important role in foreign trade in Poland: their share of exports in 2003 was 8.4%, and in imports, 5.9%. The balance of trade in agri-food products has been negative during most of transition period, reaching a positive value of almost USD 500 million in 2003 due to the highly dynamic trade in processed food (ANALIZA, 2004, p. 265).

The Agricultural Census of 2002 shows that there are 2,933,000 agricultural holdings, of which 1,896,000 operate on 1 hectare or more. Almost 10.5 million people lives in household that use agricultural land, which is 27.4% of the nation's population (*PSR* 2002). Over 40% of farms, especially smaller ones, produce mostly for their own needs. The average area of a farm is 5.76 ha, and in the group of farms with 1 ha and more, the average size is 8.44 ha. There are strong ties between farm and households. In farm families, self-supply of food is very important: it amounted to 50.9% of all food consumption in 1993, dropping to 38.8% in 2002. The share of self-supply in food consumption for all households in the country declined from 14.8% in 1992 to 8.1% in 2002 (URBAN 2004, p. 35). It remains, however, much higher than in other EU member states.

The average Polish family spent 26.6 % of its income for food, beverages and tobacco in 2002 (GUS, 2003). This share decreased from 40 % in 1989. In the 1990s, the agro-food industry was a primary target of foreign direct investments (FDI). FDI in the Polish food industry jumped from USD 1 886 million in 1994 to USD 6 402 million in 2002[2] (URBAN, 2004, p. 110). Growth of FDI over the years 2000-2003 slowed; the value of FDI in fruit and vegetable processing (to the end of 2002) was USD 318 million and in meat processing, USD 483 million.

In the period from 1996-2000, 112 hypermarkets opened in Poland. The share of modern distribution channels, which include hypermarkets, supermarkets and discount stores have been increasing quickly. This share increased from 18 % in 1998 to 32 % in 2002 (RETAIL, 2004, p. 69). In Spain it took 20 years to establish a similar number of hypermarkets. It is estimated that in 2010 the share of large retail networks in Poland will reach 75-80 % of retail trade, as it is now in West European economies. Recently, hypermarkets operating in Poland started to export Polish food products to their chain stores in other countries (RETAIL, 2004). The expansion of large international retail chains generates conflicts in some places with representatives of small, traditional stores. There were several campaigns on the national and local level aimed at stopping the localization of new hyper- and supermarkets, as well as restricting their operation on Sundays. These campaigns have not achieved noticeable success.

2 EVOLUTION OF THE FOOD CHAIN IN POLAND: THE CASE OF APPLES AND PORK PRODUCTION

The evolution of the agro-food chain is analysed through two important food products: Pork and apples. Pork is the most popular meat in Poland, and the country is the 4th largest pork producer in the EU and 6th largest in the world. Poland is also one of the largest apple producers in the EU. Every fourth litre of apple juice in the world is produced from Polish apple extract. In short, Poland is a significant exporter of both products, especially for the UE market.

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2 These amounts include only investments over 1 USD million.

2.1 Characteristics of apple market chain in Poland

2.1.1 Inheritance of former system and transition period on the fruit market

Before the current systemic changes, private farmers dominated fruit and vegetable production, food-processing plants belonged to the so-called socialised sector[3] and distribution networks consisted of both private and socialised sector. Cooperatives were responsible for purchasing fruits and vegetables for the processing sector, export and partially for the internal market. Cooperatives were also responsible for providing several services like storing, packing, transport as well as the delivery of inputs.

According to a law from 1990, the headquarters of horticulture and apiarian cooperatives were liquidated. After the dramatic collapse of horticulture cooperatives, the traditional relationships between fruit market participants were broken. This resulted in the weaker position of most fruit-growing farms and contributed to increased competition between them (HALICKA, 2002; PIZŁO, 2002). To adapt to free market conditions, market-oriented fruit producers started to intensify production and to modernise their farms. This resulted in increased production levels and improved the quality of fruits.

Due to the liberalisation process, traditionally export-oriented large state companies lost their dominant position. The fall of eastern markets created the necessity of looking for new foreign partners. In addition, growing domestic demand for processed fruits and vegetables in the beginning of 1990s allowed for the emergence of many small processing plants. Processed fruit and vegetable production has been increasing in Poland since the beginning of 1990s, with the most dynamic development observed since the mid-1990s due to increased foreign investment[4] (HALICKA, 1999; KULISZ, 2002). The restructuring and modernisation of fruit and vegetable-processing companies included: A gradual reduction of employment in former state-owned companies; seeking permanent commercial partners; strengthening vertical connections; improvement of quality; increasing degree of specialisation, etc. (HALICKA, 1999; PLOCHARSKI et al., 2002).

In the 1990s, changes in the fruit and vegetable (and food in general) distribution systems were influenced by the de-concentration of horticulture cooperatives, dispersion of wholesale trade and an increasing number of alimentary shops (PIZŁO, 2001). Also in the 1990s, the number of purchasers increased and new purchasers (super- and hypermarket chains) entered the market, which substantially changed conditions on the market. Fruit exchanges stopped playing an important role, while the platform of market chains took over their tasks. Also,

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[3] Socialized sector included cooperatives and state-owned companies.
[4] Both as a result of green field investment and the privatisation of state companies.

producers started to sell directly to supermarket chains and fruit processing companies.

During the first years of transformation, the most important problems of producers, processing companies and distribution networks on the fruit market were the low level of stability on the market and an inefficient institutional environment.

2.1.2 Current situation on the fruit market

Production Structure

Fruit and vegetable production is an important branch of the agricultural sector in Poland, amounting to around 12 % of total agricultural production for sale. Arable land under fruit and vegetable growing covers around 640 thousand ha (4 % of the total farmland in Poland) including orchards of 270 thousand ha (around 1.6 % of total farmland). Apple production dominates: It is conducted on over 50 % of orchards' area (PSR, 2002; RYNEK OWOCÓW, 2004).

Apple crops reach 1.6-2.4 million tons per year. In 2003, it amounted to around 2.43 million tons. The highest share of apple production originates in central and southeast Poland[5]. Despite a steady increase in apple production, large fluctuations in the size of crops occur because of climate conditions and uncoordinated decisions of farmers. This results in significant price fluctuations (KUBIAK et al., 2002; RYNEK OWOCÓW, 2004).

From 1992-2000, around 40 % of total fresh fruit production in Poland was delivered directly for consumption, around 40 % was processed and 10 % was exported.[6] However, the share of processed fruits is increasing – in 2001 it reached 50 % of total fresh fruit production and it currently amounts to around 60 % of total fruit crops (KUBIAK et al., 2002; RYNEK OWOCÓW, 2004).

The majority of land under fruit production is owned by the private sector. In 2000, 96.8 % of orchards' area belonged to private owners and 3.2 % to the state sector. Cooperatives operated 0.6 % of orchards' area, while foreign owners accounted for just 0.1 %. Individual farmers comprised 92.6 % (KUBIAK et al., 2002).

Currently, fruit production is very dispersed. According to the Agricultural Census conducted in 2002, there were around 242,000 farms[7] producing apples and apple production covered over 147,000 ha[8]. Most of the apple producing farms

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[5] In Mazowieckie voivodship, around 51 %, Lodzkie voivodship, 11 % and in Lubelskie voivodship, 10 % of total production in 2001 (KUBIAK et al., 2002).

[6] The remaining 10 % of total fresh fruit production was spoiled or used for non-consumption purposes.

[7] I.e. around 8 % of the total number of farms in Poland.

[8] I.e. around 1 % of the total farmland in Poland.

(28 % of apple-growing farms) were very small (having a total farm area of less than 1 ha). However, their share of apple production was very small. The area of apple growing in these farms covered only around 4 % of the apple orchards' area. Most apple production was concentrated in small and average farms operating from 5 to 15 ha of farmland (27 % of the total number of apple-growing farms) and covering almost 50 % of the total area under apple production. However, farmers who have apple orchards are diversifying their production. The majority of them have less than 1 ha of apple orchards (87 % of total number of apple-producers) (PSR, 2002). Only around 10 % of farmers with apple orchards are specialised in apple production. This can be explained by the unstable situation on the apple market in Poland.

The very dispersed structure of producers, lack of capital necessary for investments in farms and insufficient storage capacities influence the bargaining position of apple producers. The main problems of apple producers are highly fluctuating prices, unstable production conditions, high level of competition and problems with marketing of their products.

In the case of processing apples, the main distribution channels for apple-growing farmers are usually local trading companies and small wholesale companies. The profit margin of trading companies usually amounts to 10-20 %. In the regions with a high level of production and fruit-processing concentration (such as in the central region of Poland) producers also sell directly to fruit-processing companies. The role of trading companies in table apple turnover is very small. Small fruit-growing producers usually sell table apples directly at local marketplaces (around 40-50 % of table apples sales) and to alimentary shops. They usually have oral contracts and prices for their products and sales amounts depend largely on seasonal conditions. Larger fruit-growing producers and members of producers' groups tend to sell table apples directly to large purchasers like super- and hypermarket chains or exporting companies. They usually have written short-term contracts that allows for sales stability and higher prices in comparison to other producers. Usually in the case of table apples, they can receive around 70 % of the final price. However, they have to adapt to long payment periods and high purchasers' requirements on quality, short terms of delivery, etc. This shows the relative bargaining superiority of supermarket chains over producers[9].

Despite the existence of many branch organisations and associations, a very low level of economic cooperation between producers characterises the fruit and vegetable markets. Current producers' associations and horticulture coopera-

9 Data were obtained from own survey and interviews with experts from IERiGŻ (Institute of Agricultural and Food Economics).

tives very often have organisational and financial problems and do not fulfil their statutory tasks.

Fruit-Processing Sector

Fruit processing production is dominated by the production of juices and beverages, chilled fruits and fruit juice extracts (mainly condensed apple juice). They constitute around 15 % of total Polish exports of agricultural products. Prices of chilled fruits and vegetables and of apple juice extract (products with a very high share in exports) fluctuate significantly according to the situation of demand and supply on the European and world markets. This results in important changes in the economic situation of processing companies during the given years. However, due to production concentration, the financial situation of fruit and vegetable processing companies has improved in recent years (KULISZ, 2002).

There are around 1,300 fruit and vegetable processing companies in Poland; most of them (90 %) are small firms employing less than 50 persons. Large companies with more than 100 employees constitute around 2 % of the firms. Most fruit and vegetable processing companies are located in central Poland, which is in the region of the highest production concentration. In all branches of fruit and vegetable processing (except pickled and dried vegetables) foreign capital dominates (KULISZ, 2002).

The increase in production of processed fruits and a lower demand on the domestic market in recent years has resulted in lower prices and the emergence of a group of effective processing companies. Competition is causing a concentration of production and an increase of market share for a group of leaders (HALICKA, 1999).

Distribution networks

Changes in fruit and vegetable distribution in Poland were influenced, to a large extent, by the transformation and integration process with the EU. Just as in the case of the production and processing sector, a high level of dispersion characterises the wholesale and retail trade of fruits and vegetables.

Due to the deregulation of the storage sector in the beginning of 1990s, small, independent wholesale companies developed and are currently dominating the market. According to the Central Statistical Office data, there are around 3,800 companies for which fruit and vegetable trade is the main activity. The small wholesale companies usually deliver fruits and vegetables to fruit-processing companies, as well to local market places in towns. The role of local market places, whose number increased significantly in the beginning of 1990s after the liquidation of traditional distribution channels, is currently diminishing. In retail trade, the number of alimentary shops increased significantly in the 1990s and reached the number of around 140,000, while the number of specialised fruit and vegetable shops (very common in Poland prior to the 1990s) decreased to about 6,700 in 2000 (HALICKA, 2002).

Changes in trade structure were also forced by the quick development of large, international super- and hypermarket chains. According to Pizło, super- and hypermarket chains in Poland are not able to compete with small local market places with fresh fruits and vegetables, as the chains' variety is limited in comparison, especially during summer season (PIZŁO, 2001). However, their share in total retail turnover of fruits is increasing, and currently amounts to 25 %[10] (TRZĘSOWSKI and WAWRZYNIAK, 2002).

As a consequence of the high level of dispersion and the lack of coordination between participants on the market, distributional networks for fruits and vegetables are not effective (PIZŁO, 2001). However, the process of further concentrating the wholesale and retail trade can be expected to occur in the next 10 years. Therefore, the importance of traditional local market places, as well as of general alimentary and specialised vegetable and fruits shops will diminish while modern wholesale markets will improve their position. In addition, the development of producers' groups of fruit and vegetable-growing farmers will allow for larger participation of so-called primary markets[11], i.e., local wholesale markets located in regions where fruit and vegetable production occurs. It is estimated that the role of super- and hypermarket chains will increase significantly and even reach a 50 % share of total fruit retail turnover by 2010 (TRZĘSOWSKI and WAWRZYNIAK, 2002).

Results of a preliminary survey with apple producers and representatives of fruit processing companies

A pilot survey with apple producers and representatives of fruit processing companies was organised in two regions of Poland: Central Poland, where the largest share of fruit production is concentrated (and which is also called the "largest orchard of Europe") and in the southeastern region of Poland (close to the Ukrainian border).[12] The survey covered the following issues: Influence of the transition period on production conditions, the current situation and future developments on the market, the influence of government policy and accession to the European Union.

According to the survey results, there are two important factors influencing opinions on problems related to apple production and marketing, as well as on the economic situation and the developmental possibilities of farms: Farm size

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[10] These are rough estimates because of the lack of detailed information about the amount of products traded through different distribution channels (TRZĘSOWSKI and WAWRZYNIAK, 2002).

[11] These markets are also called producers' markets (PIZŁO, 2001).

[12] 11 interviews were made in the central region, and 10 in the southeastern region.

and membership in a producers' group. The smaller farmers, not associated in any producers' group, tend to perceive their situation as difficult mainly because of a lack of capital necessary for investment and a lack of influence on the market.

In general, the most important issues for fruit producers in both the surveyed regions are problems with marketing of products and the fluctuation of prices. All interviewed persons agreed that small farmers not associated with any producers' group or cooperative have no chance to survive and develop. They emphasised that there is a strong need for modernising production, specialisation and improving the quality of products.

Farmers from the central region of Poland have already benefited from accession to the European Union (EU) (thanks to the SAPARD program and a higher demand for their products) and therefore they evaluate it much more positively than do farmers from the southeastern region. In both regions, apple producers expect government policies to support stable prices (i.e., contracting and minimal prices) and farm modernisation (i.e., better access to credits). Such policies will improve the bargaining position of producers vis a vis supermarket chains and fruit processing companies, which (in the opinion of farmers) dictate conditions on the market[13].

A comparison of pilot studies' results with farmers and representatives of fruit processing companies stresses the problem of a dispersed production structure and underdeveloped producers' organisations (like producers' groups). According to the interviewed persons, a stronger relationship (including long-term contracts) would be beneficial for both producers and purchasers.

Membership in producers' groups allows for more stable production and marketing conditions. Farmers who are members of producers' groups have written, usually unlimited contracts with large companies such as supermarket chains, exporting companies and fruit processing companies. Independent farmers not associated in any producers' groups or cooperatives very often sell to casual purchasers (i.e., trading companies) or based on oral contracts. Therefore, small independent farmers evaluate their position as very weak; they cannot enforce the terms of contracts and do not see any sense in applying for a court trial.

In general, fruit processing companies' representatives complain of a dispersed production system which results in fluctuating quality (acidity of apples) and unstable deliveries. Apple producers are unable to estimate the amount of their production as well as shares of production for consumption or processing. To guarantee supplies, some fruit-processing companies enter into a tight coopera-

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[13] By imposing strong requirements such as a very short time frame for delivery, very high quality requirements, etc.

tion with producers and support them in producing specific sub-species of apples needed for juice extract production. The manner of support includes training, crediting (by delivering means of plant protection), providing seedlings, etc.

Results of the survey suggest that the next research steps should include an extended analysis of contracts and the creation of producers' groups. If possible, the survey will also include other actors (such as representatives of super and hyper-market chains, and small wholesale companies).

2.2 Evolution of agro-food market during post-socialist transformation – an example of pork market

2.2.1 Inheritance of former system

Large state-owned companies or cooperatives, associated in headquarters, were the main economic units in the meat-processing and distribution sectors of the centrally-planned economy in Poland. The headquarters managed these companies directly or indirectly using common administrative methods. Therefore, a high level of concentration characterised this structure.

Government policy concerning the purchase of pigs for slaughter included compulsory deliveries from 1945-1971 (except the years 1947-1951) and a contracting system. The goals of this system were: The enlargement of the pig population and an increase of purchasing by providing incentives, especially for small and medium-sized individual farmers, for selling animals to so-called socialized (state-owned and cooperative) purchasing centres. From 1946-1980, the pig population increased from around 2.65 million to around 21 million heads. However, economic problems in the 1980s caused a reduction of feed imports and an unbalanced production of pigs for slaughter; this resulted in the state control of food. In a situation of meat shortages on the market, the sale of the whole output of pig producers and state-owned meat processing companies was secured. The profitability of producing pigs for slaughter was assured by maintaining a given price relationship between pigs and other agricultural products, e.g. grain and potatoes. Artificial price relationships were controlled by state agencies. Such a policy created a very large demand for agricultural products, including meat and processed meat. The continuous surplus of demand resulted in a good economic situation of all small and medium-sized farms. These circumstances did not force farmers to introduce technological progress, to compete by decreasing costs, or to improve the quality of their products.

Only in 1982 were prices admitted to be decisive parameters. As a result of reforms, three types of prices were introduced into the food processing sector:

Administrative, regulated and contractual[14]. Even though from 1982-1989, prices became an active instrument on the market, they did not play their role entirely. This was caused by the strong influence of other instruments on the market, such as state controls, central accounting and distribution, subsidies and tax exemptions. In the case of meat, a distribution system based on ration-cards was also played a very important role. The low efficiency of the market did not allow for either substantial production increases or a market balance.

2.2.2 Characteristics of transformation period and current market structure

As a result of the 1989 reforms, systems of contracting, the administration of prices, the distribution of inputs, and subsidising production and consumption were all cancelled. Thereafter, the relations between actors in the food chain has been changing very quickly. There was a concentration process in the procurement, processing and trade sectors and the position of these elements of the food chain has strengthened. The costs of these adjustments have mostly been paid by farmers. In general, the transition period of the meat market can be characterized by three stages. During the first stage (1988-1992) sharp price changes and systemic changes in production and trade structures occurred. In the second stage (1992-1998) there was a fast process of privatisation and modernisation of the meat-processing industry. The third stage (1998-2003) was dominated by adjustments to EU conditions.

Currently, one can observe a growing structural asymmetry on the meat market. On both ends of the food chain there are numerous groups of actors, i.e., 1.1 million producers of primary products (farmers) and 12 million households. These groups form a highly competitive environment. In the middle there are the processing plants and traders, characterised by a growing level of concentration. In some regions, food processors or procurement companies have quasi-monopolistic positions and can dictate delivery prices and increase profits at the cost of agricultural producers.

Production structure

Pig production in Poland is concentrated in private, usually small, family farms which have limited production capacities. In 1986, pig breeding was conducted on 70 % of farms, and in 1996, on 50 % of farms. Thus, within 10 years, the number of pig producers fell from 1.66 million to 1.09 million, i.e., 35 %; but it is still very large. From 1986-1996, the average pig population per producer increased from 8 to 14 heads, i.e., by 75 %, but its level is still low. This is caused

[14] Administrative prices were decided on the central level based on average production costs in a given branch. Regulated prices covered a very small group of products which were recognized as important for society, but which were not decided upon regarding value of food expense. Other products had contractual prices, i.e., decided by producers and negotiated with purchasers (retail companies) without state intervention.

by the small scale of pig production in farms smaller than 10 ha, which dominate pig breeding. The average pig population of these farms amounted only to 7 heads in 1996, while in farms of 10-15 ha it was 20 heads; in farms over 20 ha it was 42 heads. Almost 90 % of farms breeding pigs have up to 49 pigs per farm. The average number of pigs in the largest farms increased by 110 %, and their share of total population increased from 25 % to 40 %, i.e., from 3.4 million to 6.1 million heads. Sixteen percent of the population were in herds of less than 10 heads, 46 % in herds up to 50 heads, 17 % in herds from 50 to 100 heads, and 21 % were in herds of over 100 (JUCHNIEWICZ, 1998). In the EU, concentration in pork production is high; there were 1 million farms producing pork in 1997. Over 50 % of production comes from farms of over 1,000 heads, and an additional 25 % from farms with herds over 400 (MALKOWSKI and ZAWADZKA, 2000).

It is very important for producers of pork to be integrated with meat processing companies. Those who do not contract with these companies receive at least 10 % lower price for pork deliveries. There is also an economy of scale benefit for bigger producers. It is estimated that the difference of costs between small and large producers is about 15 %. Meat processing companies are interested in contracting with larger producers that deliver products of high quality in large amounts. For small producers, the alternatives are to get bigger or to establish producer groups with other similar producers.

However, a process of pig producers' organization is very slow. Currently, there are only 5 registered producers' groups and 93 unregistered ones on the pig market. The main reasons for that are: attitudes of farmers (distrust of partnerships and cooperatives, tradition of individual activity, negative past experiences); economic reasons (large capital diversity of agricultural producers, unwillingness of strong farms to participate in organisations associating also weak farms); lack of cooperation patterns in rural society; lack of leaders who would undertake organization of producers' groups. It is expected that processes of farms' integration will proceed in an evolutionary way, as producers will gain knowledge and change their attitudes toward cooperation (KNOBLAUCH and LIZIŃSKA 2003).

Before Poland's accession to EU there were significant differences between level of support for pork producers in Poland and in EU. Main government intervention instrument on pork market before accession of Poland to EU was intervention purchase of meat conducted by the state Agency for Agricultural Market (ARR). Purchased pork was offered for domestic market or for export, depending on market situation. Poland's accession to the EU has forced Polish government to change significantly support system for meat products.

Meat-processing industry

The privatisation of state-owned companies in the meat industry was completed by 1998. A group of leading sector companies has emerged, both from privatized companies as well as from small and medium-sized companies, which were created during the first phase of transformation. This was also the period of large investment, significant inflow of foreign capital and the improvement of their financial situation.

During the last years of transformation, in the so-called second restructuring phase, meat-processing companies began to reduce redundant resources and to limit production profiles. From 2002-2003, they also accelerated the investment process to adapt to sanitary requirements in the EU, to implement quality systems and to extend integration with pig producers. Contracting in the pig sector has been developing with increased competition since the mid-1990s. Currently, the best meat-processing companies use contracting to stabilise deliveries and to influence the quality of pigs for slaughter. The meat industry has again started to organise its own source of raw materials, to influence development and to reorganise agricultural structures.

However, meat processing is also dispersed in Poland. There are 4,200 firms in this branch of the food industry. 2,800 firms are dealing with slaughtering and cutting up of animals, 2,650 process red meat, 650 produce minced meat, and 70 deals with the storage of meat. 870 meat processing plant employ over 5 people each. Among them there are 350 plants of medium and large size employing over 50 people each. Large and medium-sized plants control 41 % of slaughtering and 60 % of meat processing. The level of specialisation in the meat industry is relatively low. Utilisation of production capacity in meat processing plants is also at a low level and in most cases does not exceed 60 % (in slaughtering pigs – 45 %, slaughtering cattle – 25 %, processing – 50 %, production of ham, sausages, etc. – 33 %). Technical and technological standards of the meat industry are differentiated. Usually, high standards are found in processing plants and significantly lower are found in slaughtering houses. The Polish meat industry is based mostly on domestic capital. Significant progress has been achieved in the last several years in the implementation of technological knowledge, development of domestic production of machinery for the meat industry, the durability of products, hygienic standards, packaging, labelling and the standardisation of deliveries (JUCHNIEWICZ, 1997).

European integration has had an important impact on the meat processing sector. In 2003, investments in the meat industry reached USD 50 million, 50 % higher than the previous year (RYNEK MIĘSA, 2004). As a result of this tendency, the number of plants having licenses to export to the EU market is growing rapidly.

Distribution channels

At the beginning of 1990s, a common feature at all levels of product turnover was the liquidation or significant limitation of previous entities' roles. This was a result of the sale of state-owned and cooperative retail outlets (such as "Samopomoc Chłopska", "Społem", Państwowy Hurt Spożywczy), which dominated the distribution of agro-food products. Small trade companies were created from the former cooperative and state-owned outlets, and newly-founded private entities also overtook their place. The freedom of creating market relationships and the lack of administrative restrictions allowed for the development of new distribution channels in the pork market.

The transformation of the Polish economy resulted in changes in the proportion of registered to unregistered animal procurement. In the first phase of transformation, the integration of relationships between pig producers with meat-processing companies based on a contracting system collapsed. Rapid developments of small slaughterhouses and processing companies, the weaker position of state-owned companies and the quick privatisation of retail trade companies occurred. The entrepreneurship of small companies, a lack of entry barriers for new entities, and their accessibility to a dispersed retail network all caused the state sector to lose its dominant market position in a very short time. It was also a result of delays in restructuring state-owned companies.

In the 1990s, a brokerage of private wholesale companies became, for meat-processing companies, a basic distribution channel for purchasing pigs for slaughter. Private wholesale companies usually cooperate with small and medium-sized pig producers and with medium and large scale meat-processing companies. Traditional distributional channels in Poland were also local markets. At the beginning of the 1990s, they even played the role of distribution channel for the processing sector. However, their current importance is diminishing in the turnover of meat, even while it is still important for the fruit and vegetable trade.

Exchanges and wholesale markets play a small role in the turnover of agricultural products, including pigs for slaughter and pork. In the mid-1990s, there were tens of these type institutions of local character. At the end of the 1990s, their number had significantly decreased, and 6-8 regional exchanges emerged. Mostly spot transactions take place at these exchanges, unlike in other countries where forward transactions tend to dominate. There is also a small number of transactions and small turnover on these exchanges. In addition, a state agency – the Agricultural Market Agency – has the largest share of total turnover.

Currently, there are 14,000 local wholesalers employing over 5 people each. This is 80 % of all wholesalers on the market. The sector of larger wholesalers included 5 nation-wide wholesale networks, 5 procurement groups, 60 regional wholesale networks and 500 regional wholesale firms. In retail trade, there are 15,000 meat stores, 90,000 grocery stores, 1,800 large network stores and 65,000 catering units. The share of large network shops in the distribution of meat and meat products is around 33 % (URBAN, 2004). Large retailers have the most noticeable impact on improving the quality of products, vertical and horizontal integration and on the rationalisation of the delivery system. They also play a dominant role in consolidating the wholesale and retail trade in the Polish meat market. It is estimated that large food store chains will control 75-80 % of the grocery market in Poland in 2010, a similar share as in West European countries at the beginning of this decade (WRZOSEK, 2002).

The size of procurement price fluctuations for pork and ham decreased in second half of the 1990s, a positive development which shows the declining price risk on the meat market. From 1992-2002, changes in retail prices for meat and meat products were smaller than the change of prices of livestock. The smallest changes can be observed in the case of boiled ham. The meat industry reacts to cyclical and seasonal changes in procurement prices and reduces fluctuations of retail prices. There is a long-term tendency to decrease the share of procurement prices in retail and meat processor prices. The most unstable are prices at the primary producer level. Meat processing companies have a decisive impact on the price relation between farmers and retailers.

Results of the preliminary survey with pork producers

Results of a preliminary survey with pork producers show that over 70 % of interviewed farmers entered into agreements with purchasers. Among them, 40 % had long-term written contracts, 40 % had one-year written contracts and only 20 % had oral contracts. The contracts between farmers and meat processing companies can cover one or more years and usually include: Minimum delivery/ procurement per year, monthly or quarterly delivery amount, minimum pigs per delivery and payment periods for delivered pigs. Multi-year contracts include additional premiums for delivery on time. Additionally, while signing multi-year contracts, meat processing companies offer advisory services regarding animal genetics, feeding, building modernisation, and environmental and veterinary aspects of pig production. Some companies offer also convenient credit lines.

However, almost 30 % of those interviewed did not sign any contract. They explained their decision by citing the possibility of changing purchasers and thus gaining better price and payment conditions. On the other hand, they made attempts to cooperate with other farmers, especially in buying inputs or machinery.

In many local meat-processing companies, direct deliveries from farmers dominated and farmers undertook all costs and risks connected to these deliveries. Results of the survey show that small pig producers usually deliver their products to small meat-processing companies while large farms establish distribution relationships with large companies.

For the interviewed farmers, the most important problems are high price fluctuations and the uncertainty related to market conditions. The other important factors are problems with payments from contractors. In their opinion, market conditions, including price relations on the meat market, are dictated by large meat processing plants and supermarket chains. All interviewed independent pig producers who had signed contracts with meat-processing companies had no influence on prices – the companies decided them. All surveyed farmers declared that the concentration of production is necessary. They are aware that without membership in a producer group, it is difficult to significantly influence the contracting conditions offered by meat processing companies.

3 CONCLUSIONS

The study covers a period of fundamental changes in the economic and political systems in Poland. During the past 15 years, the Polish economy has been transformed and prepared for accession with the European Union. The road from centrally-planned economy to open market economy has required profound changes in all institutional structures of the economy and society. These changes also took place in the agro-food sector. Agricultural and food products were the first in the process of market liberalisation, which started in 1989. In 2003, over 95 % of food processing was in the private sector. Fast modernisation of the food-processing industry has mostly been a result of an inflow of foreign direct investments. In the mid-1990s, over 20 % of FDI in Poland went to the food processing industry; currently it is about 10 %.

A very fast increase in the share of foreign trading companies in the food products market was also observed. Since the beginning of the 1990s, Poland has become an area of fast expansion for large retail store chains. For example, from 1996-2000, 112 hypermarkets opened in Poland. It had taken almost 20 years in Spain to establish similar number of hypermarkets. In 2003, large retail stores controlled about 35 % of the food retail market in Poland. It is estimated that this share will reach 75-80 % in 2010.

The study analyses the evolution of the agro-food chain using the example of two important food products: Pork and apples. Poland is the 4th largest producer of pork and one of the largest producers of apples in the EU. Poland is also a significant exporter of both products, especially for the UE market.

Production of both products is very dispersed. There are over 1 million pig breeders in Poland who keep relatively small herds. This is almost the same number of farms breeding pigs as in the entire EU-15. Most apple-producing farms are diversified. Only 10 % of these farms are specialised in apple production. Over 65 % of farms with an orchard are smaller than 5 hectares and the average size of orchards is only 0.86 ha.

However, the concentration of production is observed due to changes in market structures and price relations. Large producers have much better access to the market and receive much higher prices than smaller ones from retailers and food-processing plants. Pig producers with multi-year contracts with meat processor usually receive a 10 % higher price than other producers. The majority of fruit producers do not have written contracts with fruit processors or food stores. Larger producers and producer groups sell their products directly to large retail stores. Usually, they have short-term contracts with retail store chains or with fruit processing companies for one season, which allows for sales stability and higher prices in comparison to other producers.

There is also a lack of well-organised producer groups in these sectors of agriculture. Cooperation between farmers in the form of producer groups or cooperatives is developing very slowly. In 2003, there were only five registered producer groups in pig production. Other 20-40 groups were established, but not yet registered. Strong individualism and a slow process of cooperation between farmers in Poland is partially a result of bad experience with collective farming during communist times. Results of the preliminary survey suggest that the next steps of research should include an extended analysis of contracts and a process of creating of producers' groups.

To conclude, Polish agriculture is still dominated by small producers, but their position is weakening year by year. The biggest problems which they face are poor institutionalisation, especially in the area of self-organisation, and very limited access to modern knowledge and technology. As a result, thousands of farms reduce their ties with the market and produce only for the needs of the farm households. There is lack of well-defined and efficient public support for small producers, most of whom feel like losers in the process of post-communist transformation and market reform.

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