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Structural Changes in Family Farming in Poland since EU accession: Lessons Learned, Challenges and Opportunities

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Abstract

Under the Polish conditions, the link between commerciality of farms and their area is still significant, and thus both these features were strongly reflected in the decisions of farm managers concerning the level of involvement in agricultural activity as well as differentiation of professional activity. In the group of Polish family farms there is a large group of entities, which do not allow for obtaining a satisfactory level of income thus people formally acting as managers of such farms are involved in the agricultural activity to an insignificant degree. It should be stressed that a significant number of managers of farms relatively large in terms of area, decide to combine the farm work with non-agricultural employment. This allows for an increase in the labour saving production techniques.

Summing up, it should, first of all, be taken into account that the most significant stimulus for structural changes in agriculture was the inflow of the EU funds to the Polish rural areas. The support received contributed to the growth in demand for agricultural land, especially in the case of relatively large-area farms, in which subsidies seriously increased investment capacity.

Whereas, on the supply-side high payment for the liquidated land was a sufficient stimulus to undertake or extend the economic activity outside agriculture, or satisfy – yet unrealised in the absence of sufficient funds – their consumption needs. High land prices could act as a stimulus to liquidate the land, especially for owners of poorly equipped farms, who are living mainly from non-agricultural activities. Regardless of the consequences of supporting the development of agriculture and rural areas with the CAP instruments, which – according to the research – primarily affected the increase in demand on the land market, the macroeconomic situation is crucial in determining the pace of agrarian transformation. As it determines chances of the rural population to improve their standard of living through activity in the non-agricultural sectors, and mainly this factor determines the scale of supply on the land market.

However, even a hypothetical recovery on the supply side can only in a negligible degree slow down the growth in land prices, as it is characteristic of the macroeconomic development that the intensity of the conversion process of agricultural land to non-agricultural purposes usually increases in such a situation. In this context, one should predict that the price of agricultural land will continue to grow, while the pace and character of agrarian changes will increasingly be affected by the conditions associated with the social barriers that limit opportunities for transferring it into the non-agricultural status.

Introduction

Economic reforms carried out in the period of transformation, improvement of the macroeconomic situation, in particular the implementation of the agricultural policy with the participation of the European Union resources provided an opportunity for pro-effective reconstruction of the Polish agricultural sector. The changes taking place in the socio-economic situation of farms should be regarded as positive and the nature of occurring transformation generally as increasing the production potential and competitive capabilities of family farms constituting a predominant segment of the Polish agriculture.

Paper characterises Polish individual (family) farms in terms of the farm and land structures, socio-economic characteristics of farm managers and farming population. In discussion, we analyse the complexity of conditions affecting the changes in the agrarian structure of individual farming.

Apart from mass statistics (agricultural censuses), the main source of the analysed data were surveys conducted in intervals of several years (i.e. 1992, 1996, 2000, 2005 and 2011 studies) in the same 76 villages across Poland. The survey covered all agricultural holdings of more than 1 ha of agricultural land at the disposal of natural persons, namely individual agricultural farms, being *in fact* family farms. The surveyed units accounted for some 1/500 of the actual number of family farms, and in 2011 survey their number was approx. 3,300. The sampling of villages for the surveys was deliberately selected to make the characteristics of the analysed farms proportional to the actual structure of agricultural holdings in Poland. The survey questionnaire was designed to collect a great variety of detailed information, not only on the features of family farms, but also on the demo-graphic characteristics, the educational level and economic activities of farm managers and members of their families.

The study demonstrates that Poland's accession to the EU influenced the activation of positive structural changes as well as change in economic effects obtained in individual agricultural farms. During the past two decades, along with the intensification of competition, the processes of professionalization in the Polish agriculture were observed. Despite certain symptoms of ageing of the family labour, it may still be considered relatively young. The level of enrolment of farmers and their professional skills also improved. This situation will result in further activation of modernization processes in agriculture, the diversification of professional activities and the process of leaving farming. The productivity of land and work resources was invariably diverse and showed a connection with the farm's features.

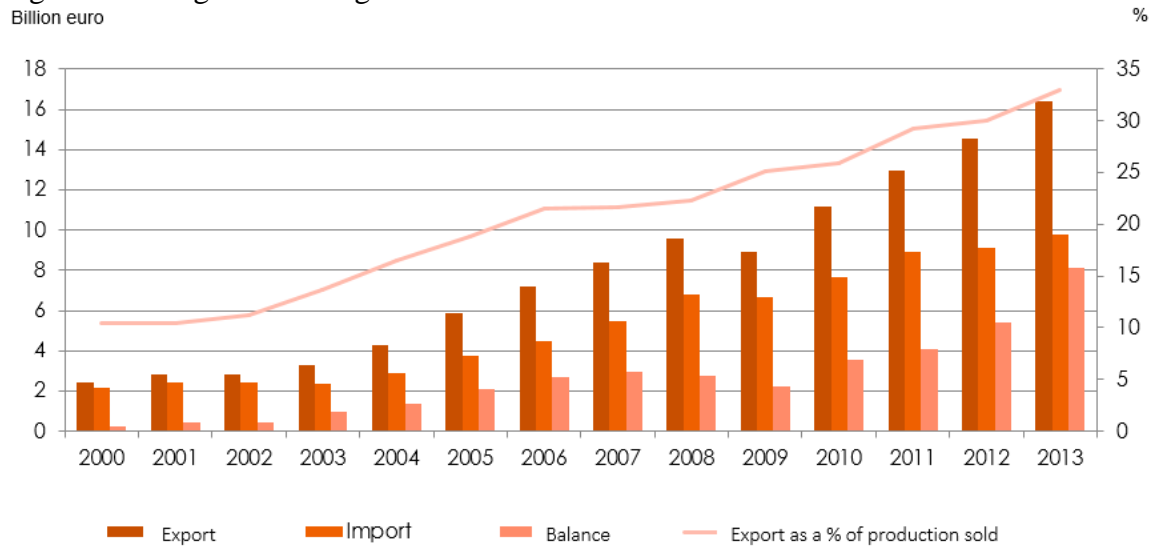
Agriculture in national economy

Economic progress results, *inter alia*, in lowering the significance of agricultural activity in the economy, which is reflected in continuous decrease in the share of agriculture in Gross Domestic Product (GDP) generation. This trend is an universal regularity preconditioned by economic development processes, but the “shrinking” of agriculture does not automatically mean its marginalisation. Although the production resources in this sector are decreasing and will continue to decrease, the structural transformations taking place therein should unceasingly improve their use and, consequently, lead to a growth in agricultural production and an increase in efficiency of agriculture functioning as a sector of the economy (Woś 1998).

Poland has been the best economic performer among the OECD member countries since 2007, as measured by real GDP growth. This strong performance can be explained by substantial inflows of EU funds (which have contributed to modernising transport infrastructure), stimulus from domestic macroeconomic policies (through 2010), exchange-rate depreciation and effective prudential regulation of the comparatively solid financial system (OECD, 2012).

In Poland the ability of agriculture to generate GDP volume is also decreasing and it amounts to ca. 3%. But, at the same time, the economic reduction of the sector's significance is not related to decreasing its impact on the overall economic situation of the country (Tomczak 2005). The Polish economy, despite the progressing deagrarianization, is still characterised by relatively important agriculture as regards employment of rural residents (Karwat-Woźniak 2009) and generation of their income (Sikorska 2006). It is worth mentioning that, although we observe a positive balance in foreign trade of the whole agri-food sector, the balance of agricultural raw materials is negative. In 2014 products of food processing sector constituted over 80% of total agri-food export value and almost 70% of import value (Figure 1).

Figure 1. Foreign trade of agri-food sector in Poland



Source: Wigier, Chmieliński (2014).

Better use of the production potential of agriculture (especially land and labour) is linked to the need to upgrade the agricultural structures, which entails the need for modernisation of farms and diversification of economic activities of rural residents. This in turn contributes to an increase in income, competitiveness improvement of the agricultural sector and leads to the implementation of multi-functional agricultural (rural) development. Agriculture should be modernised considering the issue of manufacturing a sufficient quantity and quality of agricultural raw materials and requirements pertaining to environmental protection and natural landscape assets. Such circumstances predetermine the need to maintain the agricultural activity at the entire area of the European Union (EU), simultaneously, ensuring satisfactory income to farmers. Thus the place the Polish agriculture occupies (will occupy) in the European agriculture becomes the key issue (Poczta 2013).

Socio-economic characteristics of rural population

According to Central Statistical Office (2012), in 2011 rural areas in Poland represent 39.2% of the population of the country. Compared to 2002, the population increased by 3.3% (486,2 thousand persons). Despite the increase in the absolute number of the rural population and the decrease of 0.9% of the urban population, the share of population living in rural areas among all our citizens increased only by 1 percentage point.

At the end of 2014 labour offices registered 812.1 thousand people were living in rural areas and 1 013.1 thousand living in urban areas. 100 urban unemployed accounted for 80 of those living in rural areas. At the end of 2008 the above mentioned ratio was 83 rural per 100 urban unemployed (Central Statistical Office 2015).

From the perspective of the impact of demographic considerations on the economic situation of rural areas, what is important are the changes in the trend of population structure by age, and, above all, the relationship between the number of people of working and non-working age. They allow the assessment of the aging process. In 2002-2011, there were significant

changes in terms of size and structure of the rural population according to economic age groups. This was a consequence (as with the urban population) of population movement to the next age groups at the time of demographic booms and lows. In 2002-2011 the number of working age rural population declined by about 16.8% and the share from 26.5 to 21.4%. During the analysed period the number of urban population in this age decreased by 20,1% and accounted for 44.8% of the total population in this age group (in 2002 – 43.8%). An aggregation of rural population in the working age increased by 12.8%, while in the cities only 0.6%. As a consequence, 2011 38,5% of the working age population lived in the countryside, while in 2002 it was 35.8% In 2011, post-working age people from the countryside represented 35,9% of this population in the country. It was a group which was relatively stable in numbers (in 2002-2011 increased by only 2.3%) and the increase accounted in total for only 7% of the total population increase at the retirement age in the country. As a result, the demographic burden factor for rural population amounted in 2011 to 58 and was about 15 people less than in 2002.

Despite the relatively large decline, this was a value of about 5 percentage points higher than among the rural population. In the present context, human capital is increasingly important in shaping urban development processes in the economy, and education of the population plays an increasingly important role both at the level of the general change in the countryside, as well as in the socio-economic situation of individuals, especially with regard to their position in the labour market and the outcomes achieved thanks to their professional activity

A positive phenomenon observed over the years is the systematic increase in the educational level of rural residents. However, despite much progress in this area, the structure and level of education of the rural population is still significantly different from that recorded in cities. Among the villagers, the predominant type of education is still primary education – in 2011 at 31,6% (2002 – 38.3%). Among the urban population it was secondary education, and the percentage was at 35.2% in 2011 (in 2002 – 38,5%).

Table 1. The status and structure of the population according to age groups between 2002 and 2011

| Population | Year | Total | Population* | | |
|--------------------------------------|------|----------|----------------------------------|-------------|------------------|
| | | | Pre-working age Post-working age | Working age | Post-working age |
| Number of people in thousand | | | | | |
| Rural | 2002 | 14 619.7 | 3876.5 | 8456.0 | 2286,7 |
| | 2011 | 15 105.9 | 3226.4 | 9539.1 | 2340,4 |
| Urban | 2002 | 23 610.4 | 4974.2 | 15169.8 | 3462,4 |
| | 2011 | 23 405.9 | 3975.9 | 15258.3 | 4171,4 |
| The dynamics of changes (2002 = 100) | | | | | |
| Rural | | 103.3 | 83.2 | 112.8 | 102.3 |
| Urban | | 99.1 | 79.9 | 100.6 | 120.5 |

* CSO economic age groups were used: pre-working age -a person up to 17 years; working age women aged 18-59 years and men aged 18-64 years; post-working age women aged 60 and over and men aged 65 or more. In the post working age two more groups were identified: mobile (junior working age) - people aged 18-44 years and non-mobile (senior working age) -women aged 45-59 years and men aged 45-64 years.

Source: Karwat-Woźniak, Chmieliński (2014) based on the data of the Central Statistical Office.

According to the study of economic activity of the population, an aggregation of economically active rural population aged 15 years or more at the end of 2012 represented more than 56% of the total rural population in this age group with a set status on the labour market. Every other person was employed, as indicated by the employment rate at 50.8%. At the same time, every tenth actively working person had difficulty in finding work (the unemployment rate is 10.0%). If we confine professional activity to people in the working age, which should be considered a more appropriate approach from the perspective of the difficulty in finding employment, this work was held by 65.4% of the population in villages at the legal professional activity age and it was an indicator which was 0.5 pp. lower than with urban population. In the case of total rural population, the level of their economic activity, minimally although regularly increases, and falls among city dwellers. As a consequence, these two groups are becoming similar at this level.

One of the processes affecting economic activity in the rural population and its activity on the labour market are the developments in the size and structure of farms. The progressive disagrarisation of the Polish countryside is reflected both in preferences of education profiles for rural population, constantly declining number of persons employed in agricultural activities and the work time of those persons. This situation results in the release of the labour force resources to non-agricultural sectors of the economy.

Structure of family farms in Poland

In Poland, 87% of the total agricultural land remains in the hands of 1,563,000 farms with an area of at least 1 ha (Charakterystyka gospodarstw... 2012). In the conditions of the Polish agriculture, especially from the perspective of individual farmers, the area of farms is still largely defined by the scale as well as income obtained from agricultural activity. This means that in the situation of significant area fragmentation of Polish farms, increase in their acreage may have a significant impact on the improvement of their economic and competitive position (Karwat-Woźniak 2009). Achieving a reasonable scope of agricultural land concentration is required also from the perspective of protection of natural resources and sustainable rural development (Zegar 2006, Kowalczyk 2010). Thus development of the Polish agricultural sector is largely linked to land concentration processes.

In 2002-2010, the number of farms with an area of less than 1 ha of utilized agricultural area (UAA) decreased by 20%. Given the fact that changes in area structure progress very slowly and they are usually evolutionary in nature, the registered decrease in the number of farms should be considered as significant. The loss of every fifth farm points to a progress in rationalisation of agricultural structures, professionalization of economic activity of rural population and, above all, it allows for more efficient use of agricultural land and better use of the economy of scale to improve competitiveness of the Polish farms. This positive trends were clearly strengthened after our accession to the European Union (Karwat-Woźniak 2012). Changes in the number of individual farms in 2002-2010 were very differentiated depending on the area of a farm. The decrease concerned farms less than 30 ha of UAA. The greatest decrease (by almost 25%) was noted in the group of farms having from 1 to 5 ha of UAA, which were basically not able to provide jobs and livelihood for an average agricultural family. Different processes were marked in the group of relatively bigger entities in terms of area, i.e. having at least 30 ha of UAA where, as it follows from studies, there exist opportunities for parity implementation of the consumption level and respective funds for further modernisation thus enabling their further development. In

total in this group the number of entities increased by 26%, including in farms having at least 50 ha of UAA this increase amounted to 35%.

Despite the different direction and scale of changes in the number of entities in individual area groups, these transformations did not contribute to substantial changes in the structure of units according to the acreage of owned UAA, although it improved slightly. The share of farms having from 1 to 5 ha of UAA decreased by 3.5 points, but they still represented 55.2% of all farms. At the same time, the share of entities having at least 30 ha of UAA increased by 2 points, although it is still slight (8%).

Table 2. Number and structure of family farms in Poland

| | Year | Total | Size groups (ha UAA) | | | | | |
|---|------|---------|----------------------|-------|-------|-------|-------|-------|
| | | | 1-5 | 5-10 | 10-15 | 15-30 | 30-50 | ≥ 50 |
| Number of farms (thousand) | 2002 | 1 951.7 | 1 146.3 | 426.5 | 182.5 | 147.9 | 31.4 | 17.1 |
| | 2010 | 1 558.4 | 861.4 | 351.5 | 152.2 | 133.3 | 35.7 | 24.3 |
| Farm structure | 2002 | 100.0 | 58.7 | 21.9 | 9.4 | 7.8 | 1.6 | 0.8 |
| | 2010 | 100.0 | 55.2 | 22.5 | 9.8 | 8.6 | 2.3 | 1.6 |
| Change in the number of farms 2000-2010 (%) | | -20.1 | -25.9 | -17.6 | -16.6 | -10.7 | +13.7 | +42.1 |

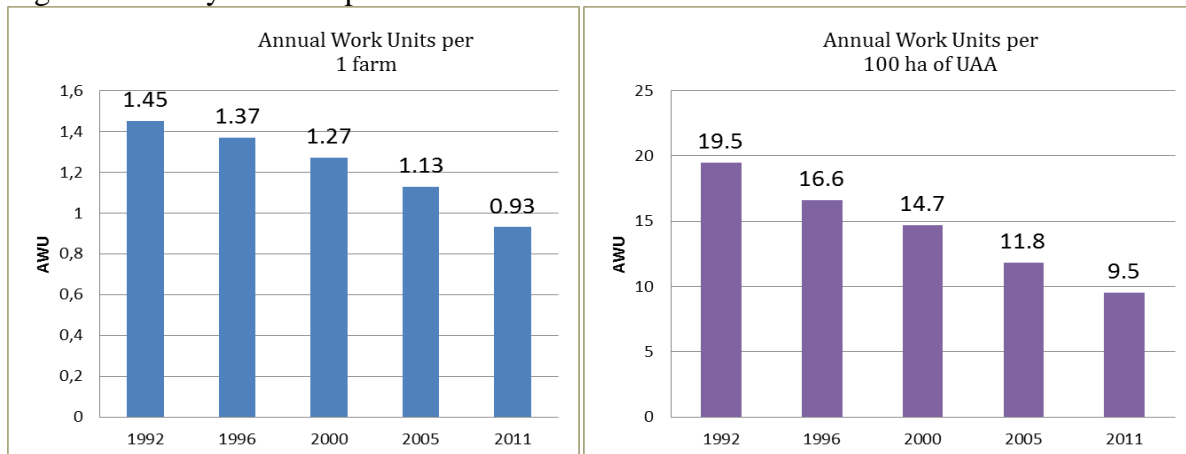
Source: Karwat-Woźniak, Chmieliński (2014) based on the data of the Central Statistical Office.

According to Central Statistical Office (2012) in 2002-2010 almost 34% of farms up to 2 ha disappeared, however, the number of farms from the group of 2-10 ha decreased by almost 18%. On the other hand, the increase in the number of the largest farms testifies to the process of professionalization in agriculture, where farms of this type operate on market basis, as in the case of small and medium-sized enterprises. The main determinant of the process was abandonment of agricultural activities by rural population and its activation in other sectors of the economy or the ceasing production activities due to reaching the retirement age.

Due to considerable differences in the involvement of particular farming family members in agricultural activities, labour inputs are expressed in the equivalent of full-time jobs, i.e. full-time workers (Szemberg 1998). According to the calculations, one annual work unit (AWU) is tantamount to a situation where one full-time worker works on the farm for 2,120 hours per year (265 working days of eight hours per day).

Changes in the number of persons working on the farm and in their involvement were accompanied by a reduction in labour inputs. These tendencies had been observed since 1992, particularly after 2000. In 1992-2011, labour inputs per farm declined from 1.45 to 0.93 full-time workers (by 35%). These favourable trends were also confirmed by an analysis of data on labour inputs per 100 ha of agricultural land (Figure 2). This indicator dropped nearly by 50% (from 19.5 to 9.5 AWU per 100 ha of agricultural land). Employment per 100 ha of agricultural land decreased by an annual average of more than 3.9% in 2000-2005 and 3.4% in 2005-2011 whereas the corresponding reduction rate was 3.7% in 1992-1996 and 2.8% in 1996-2000.

Figure 2. Family labour inputs in individual farms in Poland



Source: Karwat-Woźniak, Chmieliński (2014) based on IAFE-NRI surveys.

The increased propensity to cut employment observed after 2000 should be primarily attributed to the ongoing process of agricultural land concentration, the growing number of relatively large farms and the improved machinery and equipment, especially enabling to comprehensively mechanise farming activities. Family labour is also likely to have been reduced due to greater opportunities for job migration, mostly to the EU-15 countries.

Managers according to the involvement in work at a farm

Under the Polish conditions the link between commerciality of farms and their area is still significant, and thus both these features were strongly reflected in the decisions of farm managers concerning the level of involvement in agricultural activity as well as differentiation of professional activity. The pace of structural changes in agriculture and, above all, progress in agricultural activities of farms are primarily determined by the qualifications and skills of their managers. It is a widespread opinion that changes in individual agricultural holdings and their economic and production performance go hand in hand with the characteristics of their managers. Therefore, the age structure and the educational level of such persons represent significant elements of the quality assessment of labour resources in family farming.

It should be emphasised that despite certain symptoms of the ageing of farm managers, the situation in Polish agriculture – in comparison with European agriculture – continues to be much more favourable. In 2010 the share of young farm managers i.e. aged 35 or under, was nearly three times as high in Poland as the average share in the EU-15 countries. At the same time, the share of persons aged 65 or over was more than three times higher in the EU-15 than in Poland (Chmieliński, Karwat-Woźniak 2014).

A family farm represents a specific workplace since it mostly depends on work performed by persons living there. Due to the specificity of agricultural production (the seasonal nature of agricultural work), the extent and the need for farm managers to engage in production activities vary significantly. Some of them engage in on-farm activities to a limited extent, especially if they are gainfully employed and choose a career outside agriculture. For this reason, multiple activities have been characteristic of a significant number of farmers. It should be stressed that more than two-thirds of managers of individual farms covered by the IAFE-NRI field research in

2011 were involved only in work at their own farm, an only one-third joined this form of work with professional activity on non-agricultural labour market. This share has been on an increase for years. According to the 2000 data the share of such persons constituted less than one-quarter of the total described group (Buks, Buks, 2004). At the same time, the share of unnecessary persons, among all persons working at an individual farm, is still rather high.

The research also shows that there is an interdependency between the number of people joining work at their own farm with paid employment in non-agricultural sectors and the size of the farm. According to the field research data, in 2011 the share of managers of the smallest farms, i.e. of up to 2 ha of utilized agricultural area, that were active on the non-agricultural labour market constituted almost half of the respondents in this group. This share decreases along with the increase in the size of the own farm, while even in case of the largest farms in terms of area, i.e. above 20 ha of UAA, every sixth respondent on average joined the work on a farm that he/she managed with non-agricultural employment.

Among persons working only on a farm, those full-time involved in agricultural activity on a permanent basis represented only two-thirds of the group of managers covered by the research. Simultaneously, in the group of farmers from the smallest farms in terms of area, this share was significantly lower and constituted only 22% in case of units of up to 2 ha of UAA and less than 43% in case of farms of 2-5 ha of UAA. In this group part-time, casual and seasonal involvement in work on a farm was very common (Table 3).

Table 3. Economic activity of managers of individual farms according to area groups

| Farm area group | Working exclusively on the farm | | | | Combining on-farm and off-farm employment | | |
|-----------------|---------------------------------|---------------------|---------------------|-----------------------|---|----------------|-----------------|
| | total | of which: | | | total | of which: | |
| | | permanent full time | permanent part time | seasonal occasionally | | mainly on-farm | mainly off-farm |
| TOTAL | 100.0 | 63.5 | 20.0 | 16.5 | 100.0 | 9.7 | 90.3 |
| 1-2 | 100.0 | 22.5 | 32.2 | 45.3 | 100.0 | 1.6 | 98.4 |
| 2-5 | 100.0 | 42.7 | 33.2 | 24.0 | 100.0 | 2.7 | 97.3 |
| 5-10 | 100.0 | 72.7 | 16.8 | 10.4 | 100.0 | 9.5 | 90.5 |
| 10-15 | 100.0 | 84.8 | 10.3 | 4.8 | 100.0 | 20.8 | 79.2 |
| 15-20 | 100.0 | 89.0 | 9.7 | 1.3 | 100.0 | 30.8 | 69.2 |
| 20-30 | 100.0 | 91.6 | 4.8 | 3.6 | 100.0 | 54.5 | 45.5 |
| 30-50 | 100.0 | 93.4 | 5.7 | 0.9 | 100.0 | 65.0 | 35.0 |
| > 50 | 100.0 | 95.3 | 2.3 | 2.3 | 100.0 | 80.0 | 20.0 |

Source: *Compiled on the basis of 2011 IAFE-NRI survey data.*

Labour input of managers of their own farms increased along with the size of the owned land acreage, hence only in farms of more than 20 ha of UAA the share of managers involved full-time in production activity amounted to over 90%. Similar relations may be observed in case of farm managers, who join this function with non-agricultural employment. Persons deciding for that type of professional activity for the most part worked outside of their own farm. This group amounted to 90% of the total number of persons joining these two forms of employment.

When analysing the interdependencies between the area size and economic activity of farm managers, it should be noted that the group of persons working full-time only in the agricultural activity on a permanent basis represents no more than 41% of the entire examined group. Others are not involved in work on a farm because there is no need for it, or they are active also on non-agricultural labour market.

This comparison illustrates low involvement in work on farms of 1-2 ha and 2-5 ha of UAA, where this share amounts to 11 and 24%, respectively, and attests to the high level of involvement in work outside one's own farm. It should be noted that the improving structure of educational attainment (along with the growing significance of non-agricultural education) and relatively favourable age structure, translate into a significant level of diversification of professional involvement of managers of family farms in Poland. This is evidenced by the fact that even in the case of the largest farms in terms of area, farmers seek additional possibilities to earn a living, which is possible, for instance, through improvements in work mechanisation in agriculture.

Resources of agricultural land and the ownership structure

Agricultural land is the basic production factor in agriculture that meets the double functions in the production process. It constitute an area on which agricultural activity is conducted and, at the same time, it plays an active part in the production process since it has its own production potential (Kowalski 1998). Moreover, contrary to other goods used in the agricultural production process, it is not subject to movement and increases (Woś 1998). Apart from that given the dynamic development of non-agricultural and infrastructural sectors the process of excluding land from agricultural use has been intensified. As a consequence, the acreage of land for agricultural use is becoming more and more limited.

In 2010 the resources of land useful for agricultural usage represented 60.5% of the total area of Poland and covered 18,931 thousand ha. It was an area by 1.5% smaller than in 2002.

In general, only a part of land suitable for agricultural purposes is used for the purpose. In 2010, 15,534 thousand ha of UAA, i.e. 82.1% of the total UAA acreage was used for agricultural purposes. It was an area by 8.1% smaller than in 2002 when the UAA acreage in farms amounted to 16,899 thousand ha (Table 4). Consequently, the share of UAA acreage used for agricultural purposes in the total area of the country decreased from 54.1 to 49.7%. Most of the UAA acreage - i.e. 94.2% (14,603 thousand ha) - at the disposal of farms was kept in good condition and represented ca. 9% of all such UAA that are at the disposal of the EU-27 agriculture.

Table 4. Land resources in farms according to the directions of use

| Year | UAA acreage (thousand ha) | Share of UAA in total area of the country (%) | Type structure of UAA used for agricultural purposes (UAA in total = 100) | | | |
|------|---------------------------|---|---|-----------------|----------------------|-------|
| | | | arable land | permanent crops | permanent grasslands | other |
| 2002 | 16,899 | 54.1 | 77.3 | 1.6 | 21.1 | - |
| 2010 | 15,534 | 49.7 | 70.3 | 2.4 | 21.0 | 6.3 |

Source: own study based on CSO agricultural census 2002 and 2010.

Analysis of changes in the UAA resources show that the dynamics of land exclusion from agricultural use has been balanced for years. In 1995-1999 the average annual UAA acreage amounted to 17,888 thousand ha, in the next five-year period it was lower by 5%, in 2005-2010 by almost 11%. This means that covering Polish agriculture with Common Agricultural Policy did not make a great impact on the pace of the process.

As a result of system transformation in the Polish agriculture the predominance of the private sector is more and more pronounced, especially farms used by natural persons, i.e. individual farms that are actually family farms (Zegar 2009). This was manifested both in the number of units pursuing agricultural activity as well as the UAA acreage, regardless of the direction of their use (Table 5).

Table 5. Agricultural land at the disposal of the private sector

| Year | The share of UAA at the disposal of | | Percentage of land forming individual farms according to the directions of use | | | |
|---------------------------------|-------------------------------------|------------------|--|----------|----------------------|-------|
| | the private sector | including | arable land | orchards | permanent grasslands | other |
| | | individual farms | | | | |
| In total in a given group = 100 | | | | | | |
| 2002 | 94.5 | 87.9 | 87.9 | 97.4 | 87.3 | - |
| 2010 | 96.3 | 88.2 | 89.8 | 97.7 | 93.9 | 54.4 |

Source: own study based on CSO agricultural census 2002 and 2010

The structure of UAA in Poland is an ownership structure. This trends are especially marked as regards farms used by natural persons. In relation to this group lease is invariably used as a method to enlarge the inherited acreage of agricultural land. Only ca. 1% of farms is leased in total and in 2009 it is estimated that ca. 22% of individual farms apart from cultivation of own lands leased land. As a result the leased land covered ca. 20% of UAA of farms, with a large predominance of private leases (Sikorska 2010).

Table 6. Agricultural land at the disposal of family farms

| | Year | Total | Size groups (ha) | | | | | |
|---------------------------------|------|--------|------------------|-------|-------|-------|-------|-------|
| | | | 1-5 | 5-10 | 10-15 | 15-30 | 30-50 | ≥ 50 |
| Area (thous. of ha UAA) | 2002 | 13 627 | 2 532 | 2 760 | 2 034 | 2 875 | 1 294 | 2 132 |
| | 2010 | 13 404 | 2 188 | 2 501 | 1 847 | 2 716 | 1 348 | 2 804 |
| Structure | 2002 | 100.0 | 18.6 | 20.3 | 14.9 | 21.1 | 9.5 | 15.6 |
| | 2010 | 100.0 | 16.3 | 18.7 | 13.8 | 20.3 | 10.1 | 20.8 |
| Change in area in 2002-2010 (%) | | -1.6 | -13.6 | -9.4 | -9.2 | -5.5 | +4.2 | +31.5 |

The analysis of changes in the structure of land use by family farms by their area demonstrates the fact that a slight decrease (from 13.6 to 13.4 million ha, namely by approx. 1.5%) in the area of agricultural land being at the disposal of this community was accompanied by a large diversity of this process by area groups. In 2002-2010 the loss (by 9%) of land could be observed in the group of entities up to 30 ha of agricultural land. The acreage of land at the disposal of farmers with farms of total area of 30 and more ha of agricultural land increased (by

19%). However, arable land constituting entities up to 5 ha, despite the decrease, accounted for as much as 16% (in 2002 – 19%) of the total area of agricultural land in individual farms. On the other hand, the share of agricultural land decreased from 25 to 36% in entities with the possibility to meet the conditions of growing competition.

The possession of land by family farms is being systematically improved. This tendency is reflected in the increase of the average farm area. From the beginning of the transformation (1990) to 2013 the average area of a statistical individual agricultural farm increased from 6.3 to 9.3 ha, namely by 47.6% and thus the average annual increase amounted to 2.1%.

In 2013 the average price of the agricultural land increased to PLN 26 339 per 1 ha of arable land and was PLN 19 705 higher as compared to the year 2004 in nominal prices (increase by 397%). It must be emphasized for the whole period of time in question, the agricultural real estate price growth continued to be very sharp. The price growth continues since Poland's accession to EU, in 2013 compared to 2004 prices increased on average by as much as 44.1%. Between 2004 and 2013 the average real price of the agricultural land was also sharp increased by 322% (table 7).

Table 7. The nominal and real prices of arable land in Poland

| Specification | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2013/ 2004* |
|--|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|----------------|
| Nominal prices in PLN per 1 ha | 6 634 | 8 244 | 9 290 | 12 134 | 15 388 | 17 042 | 18 037 | 20 004 | 25 442 | 26 339 | 397.0 |
| Inflation ratio in % ¹ | 103.5 | 102.1 | 101.0 | 102.5 | 104.2 | 103.5 | 102.6 | 104.3 | 103.7 | 100.9 | 132.2 |
| Constant prices in PLN per 1 ha (1995 r. =100) | 3 251 | 3 957 | 4 414 | 5 625 | 6 846 | 7 326 | 7 557 | 8 035 | 9 855 | 10 486 | 322.5 |
| Prices calculated in USD per 1 ha ² | 1 818 | 2 552 | 2 997 | 4 396 | 6 412 | 5 480 | 5 981 | 6 758 | 7 828 | 8 335 | 458.5 |
| EUR per 1 ha ³ | 1 464 | 2 051 | 2 388 | 3 210 | 4 384 | 3 945 | 4 515 | 4 867 | 6 087 | 6 286 | 429.4 |

* 2004=100

¹ Annual average ratio of changes in prices of commodities and consumption goods in total as compared to the previous year – the CSO data.

² Average price of USD 1 in 2013 r. amounted to 3.16 PLN

³ Average price of EURO in 2013 r. amounted to 4.19 PLN

Source: Calculations on the basis of data from the Biuletyn Statystyczny GUS (Statistical Bulletin of the Central Statistical Office).

The improvement of the economic situation in agriculture, direct subsidies and production subsidies strengthened the economic position of prosperous agricultural holdings. This was reflected in the increased interest of users in expansion of the cultivation area.

Discussion

The contemporary characteristics of the Polish farms invariably are affected by historically shaped structures with a large number of entities, among which only a small part has production assets allowing to conduct professional farming activity. Consequently, agriculture is

the main source of income only for less than 30% of households with a user of a farm, while only about 10% of the families who own land achieves their income solely from agricultural activities. On the basis of a research conducted in the Social and Regional Policy Department of the IAFE-NRI, it can be estimated that for about half of the farms there is no agricultural production conducted for the purpose of sale or its scale is symbolic and has only a marginal impact on the income situation of these families (Sikorska 2010). The dominance of family farms in farming structures leads to a situation where changes in the agrarian system are primarily determined by the mobility within this set of farms. Due to the specific features of family farms, in which property, especially land, fulfils not only the role of a production factor but also a materially tangible possession of a family passed from generation to generation, the scale of transfers of agricultural land is a priori very limited, and agrarian transformation has an evolutionary character. The pace of change is determined by a wide range of various factors, among which the scale of population quitting agriculture and undertaking work in other sectors is of paramount importance. Although the change in the allocation of economic activity from agricultural to non-agricultural is the most important impetus for stimulating the transformation of agriculture, it is not a sufficient condition for stimulating the market of agricultural land and the flow of land from subsistence farms to professional agricultural holdings. Activation of this process from the supply side, i.e. increasing the motivation for disposing of land, is not only associated with the abandonment of agricultural activity or its clear marginalisation, but also with the family's situation, its demographic pressure, e.g. demands related to its development phase, as well as random events. In the case of the individual agriculture a decision to sell the land is always taken within the family and it is combined with the need to exchange the held capital into cash. Typically, this situation is created by a whole range of social and economic circumstances, among which the most important, but not the only role is played by having an alternative source of income. For example, depletion of production assets, in particular the sale of land, may be related to the education of the young generation whose career aspirations are associated with the work outside of agriculture or buying an apartment in the city. These can also be random situations requiring large cash resources such as medical treatment, etc. Financial resources may also be unlocked because of economic factors, especially when the main source of family's business is non-agricultural self-employment, and expanding the scale of this activity provides larger profits. In specific cases, when making a decision to sell the land, usually a whole range of diverse factors is taken into account to determine the usefulness of such a move. It should always be taken into account that when making a decision on liquidating land, motivations are similar to the ones when liquidating bank deposits.

Increasingly, one can come across the idea that the EU support contributes to petrification of the existing agricultural structures. This applies in particular to direct payments, which resulted in an increase in land prices. Without questioning the impact of area payments on the market value of agricultural land, it must be noted, however, that initially subsidies to 1 ha accounted for about 8% of the land's prices, and with their dynamic growth this indicator was reduced. The impact of support related to the inclusion of the Polish countryside in the CAP on the increase in land prices should primarily be seen in the context of increasing the demand on the land market.

A significant stream of funds that were channelled to the countryside enabled the realisation of investment plans. This was related mainly to the group of farmers whose farms had already been market-oriented, and their owners linked their economic activity with enlarging the scale of production. It is primarily those farmers who obtained the EU funds and were interested in buying land leading to an increase in its price. Due to a linear relationship between the size of

subsidies and the size of the owned land, large size farms relatively quickly acquired the potential for fully funding their investment with the received subsidies.

However, other factors affecting the increase in demand for land and increasing its market value must also be taken into account. These were not only the economic benefits associated with the situation in the agriculture, resulting from the expansion of market outlets after the Polish accession to the EU, but also the pressure put by a growing competition motivating farmers to increase the scale of production. At the same time, not without significance was the sense of economic stability and conviction of the material benefits from investing in land sustained until the end of 2008.

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