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Changes in social and economic development of small farms in Poland

Abstract: *The article discusses the progress of changes in the area structure of individual farms and related to this changes in the number of workers in agriculture as well as the issue of unused labour resources in Poland. The research material are public statistics data (Polish Statistical Office – GUS) and the results of own research carried out at IAFE-NRI. A detailed analysis of the decline in the share of people working in agriculture among the total number of employed in our country indicates that in the recent period the scale of decline in the value of this indicator is accelerating. These tendencies were mainly the result of a much larger than before increase in the number of non-agricultural workers, especially among rural residents.*

Keywords: *family farms, individual agriculture, labour force, unemployment, Poland*

Introduction

Economic progress results, inter alia, in the diminishing importance of agricultural activity in the economy, which is reflected in the continuous decline of the agriculture's share in the creation of Gross Domestic Product (GDP). This universal development regularity does not automatically equals to economic marginalization, and especially to social marginalization of farming, as systematically decreasing production resources in the agricultural sector, as a rule should be accompanied by structural changes improving the efficiency of their use (Tomczak, 2004, Woś, 1999).

In Poland, the ability of agriculture to create GDP is also diminishing, while the economic importance of this economic sector is not associated with a proportionate decrease in its impact on the general economic situation. Poland, despite the declining role of agriculture in economic development, is still characterized by the relatively high importance of agriculture in employment and in sources of income of the rural population, especially people from family farms (Frenkel, 2013, Chmieliński, Karwat-Woźniak, 2015). A change in the situation in this area is connected with the necessity of pro-effective transformations of agricultural structures. This transformation will be associated with a decline in the number of people working in farming.

The main factor limiting the pace of change in agriculture is the large number of employees in this sector. Generally, this situation results in the lack of significant improvement in equipping farms with land and capital, which in turn is not conducive to the increase in labour productivity (Kowalski, 1998; Baer-Nawrocka, Poczta, 2014). Acceleration of the desired structural changes in agriculture requires the outflow of people working in farming to non-agricultural activities. The issue of reducing employment in agricultural activity and shifting labour resources from agriculture to non-agricultural sectors is an essential condition for improving the agrarian structure, increasing the efficiency of farming and ameliorating income situation not only of farmers, but also other rural residents. The process of population outflow from agriculture is also a factor in modernizing the entire economy (Potori, Chmieliński, Fieldsend, 2015; Sikorska et. al., 2009). Activating the process of diversification of professional activity of the agricultural population is hindered not only by macroeconomic conditions, especially the imbalance in the labour market, but also by the socio-demographic characteristics of this population.

Methodology

The article discusses the progress of changes in the area structure of individual farms and related to this changes in the number of workers in agriculture as well as the issue of unused labour resources in individual farms. The research material are public statistics data (Polish Statistical Office – GUS) and the results of own research carried out at IAFE-NRI.

Results

The analysis of available public statistics data shows that progress in rationalization of agricultural structures, professionalization of farms and commercialization of agricultural production takes place in an evolutionary way. This process creates opportunities for more efficient use of agricultural land and better use of economies of scale to improve the competitiveness of Polish farms. The pace of these changes is evidenced, inter alia, by the scale of the decline in the number of farms (Table 1).

Table 1. Number of farms in the 2011-2016

	Number of farms			
		of which	Individual farms	
				of which
Year	Total	> 1 ha UAA	Total	> 1 ha UAA
2011	1,656.7	1,618.5	1,653.1	1,614.9
2012	1,477.9	1,456.4	1,474.3	1,452.9
2013	1,429.0	1,394.6	1,425.4	1,391.1
2014	1,413.0	1,381.6	1,408.9	1,377.6
2015	1,409.6	1,382.0	1,405.5	1,377.9
2016*	1,407.7	1,381.2	1,403.7	1,377.2

* agricultural holdings with arable land

Source: (CSO, 2012ab, CSO, 2017)

According to CSO data, in 2016, there were 1,407,700 farms in Polish agriculture. (Table 1). The number was by 0.1% smaller than a year before, and by 0.4% compared to 2014. In 2011, there were 1,656,700 entities operating in the agricultural production sector. Thus, the number of farms in 2016 was by 15.0% lower than in 2011, so on average each year around 1.6% of holdings were liquidated.

Table 2. Dynamics of changes in the number of farms in 2011-2016 (previous year = 100)

	Index of changes in the number of farms (previous year = 100)			
		of which	Individual farms	
				of which
Year	Total	> 1 ha UAA	Total	> 1 ha UAA
2011	109.7	100.9	109.8	108.8
2012	89.2	90.0	89.1	90.0
2013	96.7	95.8	96.6	95.7
2014	98.9	99.1	98.8	99.0
2015	99.8	100.0	99.8	100.0
2016*	99.9	99.9	99.9	99.9

* agricultural holdings with arable land

Source: (CSO, 2012ab, CSO, 2017).

The comparison of the rate of decrease in the number of farms shows that in subsequent years in the period 2011-2016 the tendency to liquidate farms gradually weakened (Table 2). It was also lower than in the first decade of the 21st century.

Table 3. Changes in the number of farms by area groups

Specification	Year	Total	Farm size in ha UAA						
			>1	1-5	5-10	10-15	15-20	20-50	50+
Number of farms (in '000)	2011	1,656.7	38.2	922.8	338.0	159.0	74.5	97.7	26.5
	2012	1,477.9	21.5	758.9	349.4	143.8	73.7	101.4	29.2
	2013	1,429.0	34.4	732.9	315.2	141.3	70.2	103.2	31.8
	2014	1,413.0	31.4	719.0	309.6	147.3	70.1	102.5	33.1
	2015	1,409.6	27.6	707.0	322.6	145.9	71.4	102.3	32.9
	2016	1,407.7	26.5	718.6	314.3	142.7	70.2	102.3	33,1
Change indicator (previous year = 100.0)	2012	89.2	56.2	82.2	103.3	90.4	98.9	103.8	110,2
	2013	96.7	160.0	96.6	90.2	98.3	95.3	101.8	108,9
	2014	98.9	91.3	98.1	98.2	99.0	99.9	99.3	104,1
	2015	99.8	87.9	98.1	98.2	99.0	101.9	99.8	99,4
	2016	99.9	96.0	101.6	97.4	97.8	98.3	100.0	100,6
Change indicator in the period 2011-2016 (100 = 2011)		85.0	69.4	77.9	93.0	89.7	94.2	104.7	124.9

Source: (CSO, 2012, CSO, 2014b; CSO, 2017)

However, regardless of the analysed period, the universal regularity were very varied changes in the number of farms depending on the area of the farm (Table 3). In general, the number of farms with a relatively small area of up to 20 ha of UAA was decreasing. The strongest loss was noted in the group of entities with an area up to 5 UR, which, as a rule, could not provide work and support for the average farming family. Different processes became apparent in the group of relatively larger entities, i.e. with an area of at least 20 ha of UAA, and especially in the group operating on an area of 50 hectares and larger, which, according to research, are usually able to compete effectively on the market for agricultural products.

Table 4. Changes in the area structure of farms

Specification	Year	Total	Farm size in ha UAA						
			>1	1-5	5-10	10-15	15-20	20-50	50+
Farm structure	2011	100.0	2.3	55.7	20.4	9.6	4.5	5.9	1.6
	2012	100.0	1.5	51.3	23.6	9.7	5.0	6.9	2.0
	2013	100.0	2.4	51.3	22.1	9.9	4.9	7.2	2.2
	2014	100.0	2.2	50.9	21.9	10.4	5.0	7.3	2.3
	2015	100.0	2.0	50.2	22.9	10.3	5.1	7.2	2.3
	2016	100.0	1.9	51.0	22.3	10.1	5.0	7.3	2.4

Source: (CSO, 2012a, CSO, 2017).

Despite the differences in the direction and scale of changes in the number of farms in individual area groups, this transformation have not contributed to major changes in the structure of entities according to the area of agricultural land owned, as these processes are revealed only in longer time periods. However, in general, progress in the area structure of farms is more and more clearly visible. Despite the fact that the area structure of farms has improved (Table 4), farms up to 5 ha of UAA are still the most numerous. In 2016 they constituted 52.9% of all farms. At the same time, despite the dynamic growth in the number of larger entities, they still constitute a small group. In 2016, the percentage of farms with an area of at least 50 ha of UAA was 2.4%.

Changes in the number of employed in agriculture

Among the most important factors determining the rationalization of agricultural structures, the size of employment in this area of economic activity should be mentioned. In Polish agriculture, the trend of decreasing the number of employees is becoming more and more visible, and the process of desagrarisation is of a permanent and evolutionary character (Woś, 1999, Rudnicki, 2005). These changes are reflected in the systematic decrease in the share of employed in the agricultural sector in general employment in Poland. As a result, according to data from the Labour Force Survey (LFS), in 2014, 11.5% of all employed in Poland worked in agriculture (CSO, 2014a) (including 10.5% in private farming). In rural areas, 26.9% of rural inhabitants worked in agriculture (including individual farming – 25.0%).

When comparing the working population in 2014 with the earlier period, it should be stated that the process of outflow of labour from agricultural sector progressed. Despite the decline in the percentage of people working in Polish agriculture, it belongs to one of the highest among all EU countries (Baer-Nawrocka, Poczta, 2014) which is mainly associated with area fragmentation.

A detailed analysis of the decline in the share of people working in agriculture among the total number of employed in our country indicates that in the recent period the scale of decline in the value of this indicator is accelerating. These tendencies were mainly the result of a much larger than before increase in the number of non-agricultural workers, especially among rural residents (Frenkel, 2014).

The changes in the number of employed in Polish agriculture compared to the total number of employed persons were also a consequence of changes taking place directly in agricultural production, in particular the processes of diversification of their professional activity and changes in labour relations in individual farms.

The specifics of family farms leads to a situation where employment is provided not only to those whose work is needed but also those family members

whose work for economic reasons is unnecessary. However, the involvement of this community in the work on the farm has very important social and psychological aspects, because it reduces the negative effects of exclusion. It also represents a significant reduction in the burden on public finances.

As mentioned before, the family nature of production organization in the majority of individual farms, in the aspect of work for family members, results in the fact that practically no one is out of work, because as a rule all people do something (Frenkiel. 2014), although their work is not necessary, that is, they represent a surplus of labour. For this reason, surplus labour force in private farming is mainly marked as hidden unemployment, and its effect is excessive employment (hidden unemployment). The reasons for the existence of hidden (latent) unemployment are most often attributed to the relatively low demand for labour of persons from families with a farm user in relation to supply. However, it may be conditioned by all factors that cause unemployment in general, and in particular also by structural mismatches in the labour market. At the same time, non-compliance in the demand-supply relationship of labour resources is a significant hindrance to improving the situation on the labour market (Boserup, 1965).

Generating hidden unemployment is characteristic mainly for rural areas, especially agriculture, which is why it is often called agrarian because with a dominant family organization of production in agriculture there is always a group of people who can leave the farm without any loss of production. Nevertheless, the fact of existence of unused labour resources in agriculture is not that important, as much more important is its scope. In a situation where the number of people unnecessary on family farms increases significantly and exceeds the level of so-called natural unemployment (Dasgupta, Ray, 1986), as a rule, problems with reconstruction and modernization of socio-economic systems in agriculture and in rural areas intensify. This is particularly important from the perspective of the dynamics of pro-efficiency processes of agricultural transformations in Poland and the income situation of farming families. However, under certain conditions a relatively strong link between an agricultural holding and the fate of the family and a relatively small mobility of economic structures in Polish agriculture may be useful, as this segment welcomes the unemployed and becomes a buffer for social tensions.

The analysis of data on the amount of work performed by people for whom the farm is the sole or main place of professional activity shows that unnecessary, from the point of view of agricultural activity, employees occur irrespective of the area size of the farm (Chmielinski, Karwat-Woźniak, 2015). Although this situation is most often observed in relatively small entities, along with the development of mechanization, the phenomenon of incomplete use of labour potential also affects farms which, as for Polish conditions, are relatively large in terms of the UAA occupied by them. Data from field studies of IAFE-NRI create possibilities for determining the characteristics of the group of redundant persons according to the subjective criterion (opinion of farm manager) as well as the objective one (AWU). Each method of determining unnecessary

employees is burdened with certain imperfections, which result mainly from the complexity of the essence of unemployment in family farms. In determining this phenomenon, the criterion of unused working time was considered the most appropriate based on the survey material (Frenkel, 2013).

Table 5. Assessed hidden unemployment in Polish regions (as on 31.12.2015).

Region	Number of unemployed (in thousand)		Hidden unemployment (tousand inhab.)
	Rural population	Farming families	
Poland	596.4	37.0	489.8
Dolnośląskie	32.1	0.2	20.3
Kujawsko-pomorskie	44.6	0.7	39.5
Lubelskie	50.8	4.5	41.5
Lubuskie	13.7	0.04	34.1
Łódzkie	30.6	3.6	30.7
Małopolskie	50.0	2.9	34.6
Mazowieckie	86.6	6.9	51.6
Opolskie	14.4	0.2	11.1
Podkarpackie	66.4	9.8	45.2
Podlaskie	18.1	1.2	21.9
Pomorskie	27.5	0.2	19.3
Śląskie	27.1	1.3	18.4
Świętokrzyskie	32.2	4.3	31.9
Warmińsko-Mazurskie	35.0	0.3	49.1
Wielkopolskie	37.5	1.1	21.4
Zachodniopomorskie	26.6	0.03	19.2

Source: data of CSO, regional Labour Offices and IAFE-NRI survey, 2011.

According to this condition, based on the available CSO statistics and the results of empirical IAFE-NRI research on unused labour resources in private farming, it can be estimated that at the end of 2015, about 490,000 people in working age redundant from the perspective of the needs of the farm (which determines the estimated amount of hidden unemployment in the agricultural sector) and they accounted for almost 20% among those working during the year in agricultural activity at the age of statutory professional activity (Table 5).

Discussion

The overall socio-economic conditions in agriculture and the necessary structural changes in this sector of the economy, aimed at improving competitiveness and ensuring satisfactory income from agricultural activities are associated with a reduction in the number of employees in individual farms. The reduction in the number of employees in the sphere of agricultural production will largely be related to changes in the area structure and modernization of agricultural activity. In accordance with the current development tendencies, usually the diversification of professional activity precedes the area transformation (Van Huylenbroeck et al., 2008).

Taking into account the presented situation with regard to the competitiveness of our farms, also in the resource area, the number of people working in private farming should decrease by about 50%.

Taking into account the above-mentioned socio-economic situation of farmers and their family members, and aiming at creating conditions supporting those involved in farming in the process of finding employment outside of the agricultural sector must be associated with solving problems not only of the population related to faming but of the entire rural community. These issues should be considered, bearing in mind not only issues related to ensuring the competitiveness of agricultural activity and adequate income from work on farms, but also to ensuring the vitality of rural areas (Oberholtzer, Grow, 2003).

Rural areas and agriculture in Poland in the last decades, especially after the accession to the EU, have changed favourably. However, despite the progress being made, further significant changes are still needed in many aspects, as it is very difficult to remove large long-term negligence in rural and agriculture development. The distance that separates us from highly developed EU countries is still large. The elimination of these differences will be associated with professional diversification of the agricultural (rural) population and activation of multifunctional rural development processes (FAO, 2003, Lewis, 1954).

The greatest opportunities in the present conditions for an increase in earnings outside agriculture are to be found in human capital, whose features are determined by bottom-up development initiatives, i.e. local development. Currently, in the aspect of demographic characteristics of rural residents, the situation should be considered satisfactory despite some symptoms of aging. Demographic forecasts show that in the next few (2-4) years, the number of people at the age of professional activity will continue to increase. This situation will result in an increase in the demand for non-agricultural workplaces. This imbalance in the rural labour market will also be intensified by development processes in agriculture, which are already characterized by high overcrowding. At the same time, within 5-10 years, a decline in the number of people in the statutory age of professional activity to increase the aging processes of the population, also in rural areas, is expected. This trend will require solving problems related to ensuring decent living conditions for older people, especially in terms of providing them with proper living conditions and medical care. In the situation of large negligence in this area, the necessary improvement in the state of care and treatment services is associated with relatively large investment spending. These signalled issues should be resolved in advance and in this area one should also look for opportunities to diversify the professional activity of persons from families with farm users, by creating conditions for taking up care services based on farm property.

The level of education of their inhabitants plays an important role in the process of development of rural areas and the growth of their de-agrarisation. When analysing the education level of the rural population (including agri-

culture), it should be recognized that despite significant improvement in this respect, large disparities still persist in comparison with urban residents. It can be concluded that people with higher and even secondary education in rural areas constitute a kind of "rare good". Most often such situations occur in areas located at a considerable distance from development centres (on the outskirts of voivodships). In these areas, various unfavourable conditions overlap, in particular the large distance to higher education institutions and the lack (deficiency) of secondary schools in place. In some situations, the quality of education is also low. In addition, young people, preferably educated, emigrate from these areas. In this situation, the crucial problem is the equalization of educational opportunities for children and youth in rural areas in relation to their peers from cities. One of the most important tasks is to ensure a comparable start in the education process by popularizing pre-school care in rural areas. It is also important to build a lifelong learning system whose offer would reflect the needs of the establishments creating the labour market for rural residents, thus contributing to the adjustment of the demand and supply side in the labour market. The possibility of retraining or further training would give a chance to those who, for various reasons, neglected education or whose qualifications meet with a reduced demand on the market.

In the diversification of the rural economy, it is right to see solutions to problems with the development of rural areas and small towns. The current tendencies of rapid development of several agglomerations and their closest environment, to some extent hinders the development of entrepreneurship in areas of inferior location. This situation should be combined with the fact that rural areas are deprived of service facilities and are characterized by an insufficiently qualified labour force and lack of industrial heritage. For this reason, some rural areas will be condemned to relatively slow development.

The acceleration of multifunctional development of rural areas is associated with the existence of many factors, in particular: individual entrepreneurship of residents, the activity of local authorities, good advice for business entities, adequate education of residents, comprehensive infrastructure development.

The increase in the professional diversification of members of faring families and the improvement of the use of labour force in agriculture should be combined with supporting the development of economic activity of rural residents. These activities largely depend on local authorities, which, shaping economic policy at the local level, and investment activities create conditions for the development of entrepreneurship, as well as affect the improvement of the quality of community life and strengthening the residential functions of rural areas.

In the context of the growing importance of non-agricultural professional activity of rural residents, the future of rural development in Poland will be closely related to the strengthening of the residential (housing) function of the village, the importance of which will grow with the development of transport and communal infrastructure that determines the quality of life in rural

areas. Research shows that the size of the labour market will be limited not by distance but by travel time to the place of employment. The development of infrastructure not only inhibits the migration of rural residents to cities, but also intensifies the opposite tendencies – the flow of urban population to the countryside (but primarily to towns located near the agglomeration or on major transport routes) and increasing spatial mobility. The phenomenon of circular migration of rural residents will continue to spread as the level of education increases, while decisions about permanent migration will depend on the difference in the quality of life between the village and urban agglomerations. This is indicated by the process of alignment with the lifestyle of the inhabitants of these areas. Along with access to mass information, unification of life and consumption patterns, the aspirations of these groups become similar. As a result, the scope of needs considered basic is also changing. They include not only satisfying living needs (i.e. basic commercial and service infrastructure), but also access to cultural and entertainment offer, medical care and specialized services. Shortages in the development of rural infrastructure may be substituted by the development of road infrastructure and mass transport systems only to a certain extent. Infrastructure investments would allow to extend the range of impact of economic development centres (placed in urban agglomerations) and to mitigate the effects of structural unemployment in rural areas.

The increase in the professional diversification of persons from families with farm users and the improvement of the use of labour force in agriculture should be combined with supporting the development of economic activity of rural residents. These activities largely depend on local authorities, which, shaping economic policy at the local level, and investment activities create conditions for the development of entrepreneurship, as well as affect the improvement of the quality of community life and strengthen of the residential functions of rural areas.

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