ECONOMIC AND SOCIAL FEATURES OF SMALL-SCALE FARMS IN POLAND AGAINST A BACKGROUND OF AVERAGE RESULTS FOR AGRICULTURE

Key words: small scale farms, economic and social results, questionnaire, Poland

ABSTRACT. The purpose of the paper is to determine the economic and social features of small-scale farms in Poland in light of the results for agriculture or the countryside, in general. Small-scale farms form an integral part of Polish agriculture. Thanks to the multifunctional role they play in rural areas, their functioning is crucial for the future of agribusiness, due to the growing expectations of society regarding traditional methods of food production, targeting agricultural policy to maintain the vitality of such entities, as well as limited possibilities of working outside agriculture. That is why, in the public debate, an opinion about the need for greater support of this group of farms takes place more and more often. Their closer familiarization will help direct the support in a more appropriate way. Basic characteristics of the surveyed entities, production and income data as well as conditions defining the standard of living are presented. The work uses the results of own surveys and data of the Central Statistical Office. A descriptive approach with elements of inductive reasoning, meta-analysis based on data from questionnaire surveys and comparative analysis were used. The data shows that surveyed small-scale farms achieve less favorable production and income results, have a lower production scale and are less specialized. Although the living conditions are similar to those of households in urban areas, and even better than among rural households, the assessment of the material situation of such farms is worse. This suggests that the assessment depends on the current income situation, rather than on the long-term standard of living.

INTRODUCTION

The development of agriculture in historical terms was inseparably connected with the functioning of small (or small-scale) farms. They were the basis for food production for society, provided services to the rural population, looked after the natural environment and cultivated culture as well as tradition. To this day, in many countries, such entities form the basis of the agricultural sector. It is estimated that there are around 570 million farms in the world, of which around 4% are located in highly developed...
countries [FAO 2014, Lowder et al. 2016]. The vast majority of them, especially in less wealthy economies, are still small farms, and the number of units with an area smaller than 2 ha of UAA is estimated at around 475-500 million [Wiggins et al. 2010, IFAD-UNEP 2013]. On the other hand, in some parts of the world, the dominant, in the second half of the twentieth century, market orientation of agriculture, coupled with an increase in productivity, led to structural changes in the countryside, which is manifested by land concentration, an increase in production scale and the consolidation of farms [Czyżewski, Stępień 2018]. The primacy of economic efficiency, supported by neoliberal political doctrine, assumed the development of agriculture through its industrialization, not looking at the external costs of this process (environmental and social). Along with the emergence of negative effects of industrial agriculture, the awareness of the need to return to traditional methods of food production and care for providing various types of public goods by agriculture grew.

The approach to traditional, small-scale farms has also changed direction to maintain viability. The family form of farming in the agricultural sector has become a priority of the Common Agricultural Policy [OECD 2010, EC 2017], and economic efficiency is not the only criterion for assessing EU budget spending on agricultural policy [Swinnen 2015]. Support for small family farms is justified by the conviction that, in the long term, and taking into account all the benefits and costs of their functioning, these farms may prove to be both economically, socially and environmentally effective [Aubert, Perrier-Cornet 2009, Hazel et al. 2010, Szumelda 2013].

In recent years, the issue of small farms in the European Union occupies an important place in public debate. This topic has become vital with the accession of new Member States to the EU, including, above all, Poland, Romania and Bulgaria. The specificity of the agricultural sector of these countries differs significantly from the majority of countries of the “old EU”, with a dominating number of larger farms, which are more mechanized and have a higher degree of specialization. This article is, therefore, an additional contribution to the discussion. The purpose of the paper is to determine the economic and social features of small-scale farms in Poland in light of the results for agriculture or the countryside in general. Basic characteristics of the surveyed entities, production and income data as well as conditions defining the standard of living will be presented. The answer will be given regarding the question of how different the economic and social situation of the surveyed farms is compared to the average situation of farmers and / or residents of the village. The paper also about demonstrates whether it is justifiable to think of small farms as backward and unproductive, and thus an obstacle to the development of agribusiness and the entire economy.

RESEARCH MATERIAL AND METHODS

Before we discuss the main topic of this part of the publication, the criteria for the term “small-scale” farm should be defined. The diversification of the agrarian structure in EU countries and the world does not allow to clearly define the definition of a “small” or “small-scale” farm. The question “what is a small farm” has many answers and depends
on the chosen context in which this issue is considered. Most often, for this purpose, the physical size of a given unit, expressed in hectares of agricultural land, the level of labour input and the degree of self-consumption or economic size (once expressed in units of the standard direct economic surplus ESU, and currently standard production SO) can be applied. For example, in EU methodology, a small farm is the unit with an area not exceeding 5 ha of utilised agricultural area UAA (there are less than 10 million in the EU), or with an economic size below 8 ESU (there are about 10 million in the EU). In order to supplement the above-mentioned features and emphasize the differences between small and large units, the way in which an enterprise is managed, its outside labour input used (contract workers), its share of non-agricultural activities examined, its degree of specialization, technological and innovation advancement, risk management, etc., can be described. When defining the criteria for small farms, the issue of applying a relative approach for different countries or regions is required. Otherwise, what would be a small farm in one country, in another would not necessarily hold true [EC 2011]. Because there is no single official definition of a small farm [Guiomar et.al. 2018], different criteria are used to determine the number of small farms in Poland [Hornowski, Kryszak 2016]. According to Polish statistics, in 2016, in Poland, small farms (max. 5 ha) represented almost 54% of the 1.4 million Polish farms and used about 13% of utilised agricultural area UAA [Central Statistical Office 2018]. As many as 65% were units with an economic size up to 8,000 SO and as much as 78% of size up to 15 thousand SO [GUS 2016a].

Taking the above into consideration, in this study, a small-scale farm is defined by its economic size. FADN² typology of very small and small farm (nES9 type 1 and 2) was applied, according to which a very small and small farm is a farm of the following economic size: 4,000² – 15,000 EUR of Standard Output [Goraj, Olewnik 2014]. Standard Output (SO) of an agricultural product is the average monetary value of agricultural output at a farm-gate price (in euro per hectare or per head of livestock). There is a regional SO coefficient for each product, as an average value over a reference period. The sum of all SO per hectare of crop and per head of livestock in a farm is a measure of its overall economic size expressed in euro. The additional criteria of 75% of farm Annual Work Unit (AWU) is also set to be engaged in farm activities. AWU corresponds to the work performed by one person who is occupied on a farm, on a full-time basis. Full-time means the minimum hours required by the relevant national provisions governing contracts of employment. In Poland, as a full-time equivalent, 2120 working hours a year were adopted, i.e. 265 working days, 8 hours a day.

This study is based on a sample of 674 small-scale farms from 16 Polish voivodships. The sample was collected between January and March 2018 by a net of national agricultural

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² FADN (Farm Accountancy Data Network) is a European system of sample surveys conducted every year to collect micro-economic farm data. The FADN data collection is based on a sampling frame that provides a sample representative of the agricultural sector. The FADN is used as an instrument for evaluating the income of agricultural holdings and the impacts of Common Agricultural Policy measures in MS countries

³ Despite the definition of very small farms ranging between 2,000 to 8,000 euro, it should be remembered that, in Poland, there are only farms with an SO value of not less than EUR 4,000 (according to the threshold including the farm for Polish FADN research).
extension officers who provide data for the Polish FADN. For the sake of clarity, FADN data was not used, but instead the FADN sampling methodology to design the size of a sample of farms that meet the study’s size (4,000-15,000 EUR SO) and labour engagement (> 75% AWU dedicated to agricultural activity) criteria. The sample determined by the stratified selection process covered a total of 710 small-scale farms. These households were visited, and household managers were interviewed face-to-face, using a structured questionnaire that was carefully designed and pretested. After closer inspection, 36 surveys had to be discarded due to unreliable responses. The final data set of 674 farms capture general household characteristics, socio-economic and environmental characteristics, as well as information on farm connections with the market. The gathered data refers to 2017. In turn, the data from the Central Statistical Office was used for a comparative analysis of surveyed farms with average results of farms in Poland. Due to the availability of data, information on farms in Poland is related to 2016. It was assumed that this difference should not reflect disproportions in terms of features described, as most of them are of permanent character. At the same time, it should be noted that, due to the targeted choice of study sample, the results for small-scale farms are not representative of all small farms in Poland. In the sample, the results of agricultural production (ie. global output, level of agricultural income) are higher due to the inclusion of farms strongly oriented towards agricultural activity (high commitment of labor input).

The work uses a descriptive approach with elements of inductive reasoning and meta-analysis based on data from questionnaire surveys. Due to the nature of the data, the analysis is static. Moreover, a comparative analysis was used, compiling the results of the survey with the average results of farms (rural households) in Poland. The comparison of two groups of units concerns the average values of given features, due to the availability of this information in public statistics.

RESULTS

The average area of surveyed entities (hereinafter referred to as small-scale) was less than 9 ha of UAA and was lower by 1.5 ha than the average in Poland. In turn, the annual value of global production amounted to almost 9,000 euro SO, compared to 16,000 euro (Table 1). In terms of agricultural area, farms belonging to the economic class of 8-15 thousand euro SO were similar to the surveyed units. For lower economic classes the area of land was smaller, respectively, 2.2 ha for class 0-2 thousand euro, through 3.6 ha for 2-4 thousand euro, up to 5.8 hectares for 4-8 thousand euro [GUS 2016a]. Small-scale farms were characterized by higher overall AWU work input, which confirms, as described in the literature, an inverse dependence between the size of a farm and intensity of labor input [Rapsomanikis 2015, Hazell, Diao 2005, M. Bhatt, S. Bhat 2014, Waceke, Kimenju 2007]. It may also be a result of greater involvement in more labor-intensive animal production [cf. Bojarszczuk, KSIężAK 2010] – this activity was carried out by 73% of surveyed units, compared to 51%, on average, for the country (Table 2), and a higher share concerned both cattle and pigs (for poultry the ratio was the opposite). The scale of production (herd size) of these two animal species was lower in small-scale farms, there was also less land per animal than the national average, which resulted in lower density
As far as crop production is concerned, over 90% of surveyed entities cultivated cereal, compared to 75%, on average, in Poland. Grain was the dominant crop and accounted for about 70% of sown area (Table 2).

Less than 40% of small-scale farms specialized in field crops (mainly cereal), and almost every fifth farm in grazing animal production (dairy and slaughter cattle). Other production types were represented by a small number of farms. At the same time, over 1/3 of units belonged to the “mixed production” type. In comparison with average results for the country, the specialization of small-scale farms was lower. Diversification of production could, therefore, be a kind of protection against production and price risks, as well as serve to meet household consumption needs, which is typical for this type of unit [Davidova et. al. 2012, Popescu 2014].

The income situation of examined small-scale farms was less favorable than the average for farms in Poland. Both agricultural income per one farm and disposable income of household per capita were lower by 27% and 8%, respectively [GUS 2018]. The targeted choice of a sample (only active farmers, 75% AWU dedicated to agricultural activity) resulted in a high 80% share of agricultural income in the total income of a small-scale farm (for comparison, the average for the country was 62%). As part of other sources, 29% of surveyed entities achieved income from contract work, 26% from retirement/pension, 7% from non-agricultural activity and 21% from other non-profit sources. The relatively high share of the latter source is the effect of covering agricultural families (like all others) with transfers from the state budget under the 500+ programme. As data shows, this money is very important for shaping the income of the farm [PPS 2018].

In this case, due to a lack of data for all farms in Poland, data for FADN farms for 2017 were used.

Table 1. Main characteristics of small-scale farms in comparison to average results for farms in Poland (respectively 2017 and 2016)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Small-scale farms</th>
<th>Farms on average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average farm area size [ha UAA]</td>
<td>8.8</td>
<td>10.3</td>
</tr>
<tr>
<td>Average annual output (global production [thous. euro])</td>
<td>8.9</td>
<td>16.1</td>
</tr>
<tr>
<td>Average annual agricultural income [thous. EUR per farm]</td>
<td>7.2</td>
<td>9.9*</td>
</tr>
<tr>
<td>Share of subsidies in agricultural income [%]</td>
<td>38</td>
<td>65*</td>
</tr>
<tr>
<td>Share of agricultural income in total household income [%]</td>
<td>80</td>
<td>62</td>
</tr>
<tr>
<td>Average monthly disposable income [EUR per 1 member of household]</td>
<td>245</td>
<td>267</td>
</tr>
<tr>
<td>Labour input [AWU per 1 farm]</td>
<td>1.6</td>
<td>1.2</td>
</tr>
<tr>
<td>Share of farms mainly producing for self-supply [%]</td>
<td>24</td>
<td>18</td>
</tr>
</tbody>
</table>

*data for FADN farms

Source: own calculations based on the authors’ survey and CSO data [GUS 2016a, 2016b, 2018]
Farm income was supplemented with EU funds, mainly direct payments, which were used by 100% of surveyed units. The share of direct payments in total support amounted to 83%, which shows the high importance of this type of financing. Funding from the Rural Development Programme covered 2/3 of entities, more than in the case of the national average – 52% (which may result from the typical agricultural nature of activity of surveyed units). The vast majority concerned payments for less-favored areas and agri-environmental payments – 57% of farms, 6% of farms received ecological support, and only a small part – 2% of farms – received funds for modernization as well as the purchase of machinery and equipment. It can be concluded that, although small-scale farms were actively involved in obtaining funds from the Common Agricultural Policy, these means were primarily used for current consumption and, to a lesser extent, pro-investment ones [see OECD 2018]. In addition, the amount of funds obtained by smaller farms was lower, which translates into the share of support in agricultural income – for surveyed entities 38% vs. 65% for all FADN farms. The phenomenon of capturing CAP funds by a large agricultural holding has been repeatedly described in the literature [incl. EC 2015, Velazquez 2008, Stępień et al. 2017].

Table 2. Agricultural production in small scale farms in comparison to average results for farms in Poland (2017 and 2016 respectively)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Small-scale farms</th>
<th>Farms on average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of farms with animals [%]</td>
<td>73</td>
<td>51</td>
</tr>
<tr>
<td>Share of farms with cattle [%]</td>
<td>52</td>
<td>24</td>
</tr>
<tr>
<td>Cattle herd per 1 farm</td>
<td>14.1</td>
<td>17.3</td>
</tr>
<tr>
<td>Cattle herd per 100 ha UAA</td>
<td>49.5</td>
<td>40.9</td>
</tr>
<tr>
<td>Share of farms with pigs [%]</td>
<td>29</td>
<td>12</td>
</tr>
<tr>
<td>Pigs herd per 1 farm</td>
<td>43.9</td>
<td>63.8</td>
</tr>
<tr>
<td>Pigs herd per 100 ha UAA</td>
<td>101.5</td>
<td>75.5</td>
</tr>
<tr>
<td>Share of farms with poultry [%]</td>
<td>20</td>
<td>36</td>
</tr>
<tr>
<td>Share of farms with cereal [%]</td>
<td>93</td>
<td>75</td>
</tr>
<tr>
<td>Share of cereals in total crop area [%]</td>
<td>68</td>
<td>70</td>
</tr>
<tr>
<td>Share of permanent grass in total UAA [%]</td>
<td>23</td>
<td>19</td>
</tr>
</tbody>
</table>

Source: Source: own calculations based on the authors’ survey and CSO data [GUS 2016a]

Table 3. Agricultural production types in small-scale farms in comparison to average results for farms in Poland (2017 and 2016 respectively)

<table>
<thead>
<tr>
<th>Production type</th>
<th>Fieldcrop cereal</th>
<th>Horticulture</th>
<th>Permanent crop</th>
<th>Grazing livestock</th>
<th>Granivorous</th>
<th>Mixed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small-scale farms</td>
<td>38.4</td>
<td>3.1</td>
<td>2.1</td>
<td>18.8</td>
<td>3.2</td>
<td>34.4</td>
</tr>
<tr>
<td>Farms on average</td>
<td>56.2</td>
<td>1.9</td>
<td>4.1</td>
<td>11.2</td>
<td>2.3</td>
<td>24.3</td>
</tr>
</tbody>
</table>

Source: Source: own calculations based on the authors’ survey and CSO data [GUS 2016a]
Table 4. Living conditions and the subjective assessment of the financial situation in small-scale farms in comparison to other social groups in Poland (2017 and 2016 respectively)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Flat/house floor space [m²]</th>
<th>Access to running water [%]</th>
<th>Central heating [%]</th>
<th>Computer with internet access</th>
<th>Access to satellite/cable TV</th>
<th>Private car</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small-scale farms</td>
<td>120</td>
<td>99</td>
<td>91</td>
<td>78</td>
<td>59</td>
<td>97</td>
</tr>
<tr>
<td>Rural households</td>
<td>93</td>
<td>99</td>
<td>85</td>
<td>73</td>
<td>53</td>
<td>76</td>
</tr>
<tr>
<td>Urban households</td>
<td>78</td>
<td>99</td>
<td>88</td>
<td>77</td>
<td>67</td>
<td>61</td>
</tr>
</tbody>
</table>

Subjective assessment of financial situation [% of responses]

<table>
<thead>
<tr>
<th></th>
<th>bad or rather bad</th>
<th>average</th>
<th>good or very good</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small-scale farms</td>
<td>21</td>
<td>70</td>
<td>9</td>
</tr>
<tr>
<td>Farms on average</td>
<td>8</td>
<td>64</td>
<td>28</td>
</tr>
<tr>
<td>All households in Poland</td>
<td>13</td>
<td>53</td>
<td>34</td>
</tr>
</tbody>
</table>

Source: own calculations based on the authors’ survey and CSO data [GUS 2016b, 2018, 2019]

Although small farms are generally perceived as low-income units [Gioia 2017, EC 2010], research shows that their living conditions do not differ significantly from urban households, and compared to rural families are even better (Table 4). Nevertheless, the subjective assessment of the financial situation is lower both in relation to other farms and households in general, in Poland – a higher percentage of “bad” or “rather bad” responses, lower for a “good” or “very good” response. This means that this assessment is made primarily through the prism of current production and income results, not housing conditions and household equipment. In addition, in the case of small-scale farms, income differentiation is greater. The estimated Gini coefficient for this group amounted to 52%, similarly to the total number of farmers in Poland (54%), but much more than for groups of employees – 31%, self-employed – 35% and retirees – 22% [GUS 2016b].

CONCLUSIONS

The presented results indicate that surveyed farms were characterized by a lower value of agricultural production and income, as well as disposable income in comparison with farms in Poland, on average. They were more diversified as regards the structure of agricultural production, as evidenced by a higher share of “mixed type” farms. At the same time, the percentage of units involved simultaneously in plant production (mainly cereal) and animal production was relatively high, although the average size of stock was lower than the national average. Diversification also meant a higher share of farms mainly producing for self-supply. In addition, the lower level of specialization was associated with higher labor input per one small-scale farm (such dependence has been described in the literature, e.g. Gollin 2018, Sobierajska 2015). A further feature differentiating surveyed entities and
average farms in Poland was the lower share of subsidies in agricultural income. Social
determinants of the functioning of small-scale farms, described by selected measures of
living standards, did not differ significantly from urban households, and were even better
in relation to rural households. Nevertheless, the subjective assessment of the financial
situation among surveyed units was less favorable, which means that the assessment is
mainly a result of the current production and income situation.

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EKONOMICZNE I SPOŁECZNE CECHY DROBNOTOWAROWYCH GOSPODARSTW ROLNYCH W POLSCE NA TLE PRZECIĘTNYCH WYNIKÓW DLA ROLNICTWA

Słowa kluczowe: gospodarstwa drobnotowarowe, wyniki ekonomiczne i społeczne, badania ankietowe, Polska

ABSTRAKT

Celem artykułu jest określenie ekonomicznych i społecznych cen drobnotowarowych gospodarstw rolnych w Polsce w świetle średnich wyników dla rolnictwa i obszarów wiejskich. Gospodarstwa drobnotowarowe stanowią integralną część polskiego rolnictwa. Dzięki wielofunkcyjnej roli, jaką odgrywają na obszarach wiejskich, ich funkcjonowanie jest kluczowe dla przyszłości agrobiznesu. Właśnie dlatego w debacie publicznej coraz częściej pojawiają się głosy o potrzebie wsparcia tej grupy producentów. Ich bliższe poznanie pomoże zdefiniować kierunek pomocy w bardziej adekwatny sposób. Zaprezentowano podstawowe charakterystyki badanych jednostek, dane dotyczące produkcji i dochodów, jak również informacje opisujące warunki życia. Wykorzystano wyniki badań ankietowych i wtórnych danych Głównego Urzędu Statystycznego. Wykorzystano w niej analizę opisową z elementami wnioskowania indukcyjnego i metaanalizy oraz analizę porównawczą danych pochodzących z kwestionariuszy i średnich wyników dla kraju. Wyniki wskazują, że badane gospodarstwa drobnotowarowe cechują się mniej korzystnymi efektami produkcyjno-dochodowymi, mają niższą skalę produkcji i poziom specjalizacji. Chociaż warunki życia są zbliżone do gospodarstw miejskich, a nawet lepsze niż gospodarstw wiejskich, subiektywna ocena sytuacji materialnej jest gorsza. Sugeruje to, że ocena ta zależy głównie od bieżącej sytuacji dochodowej, a nie od standardu życia w długim okresie.

AUTHORS

SEBASTIAN STĘPIEŃ, DR HAB.
ORCID: 0000-0001-9475-8418
Poznań University of Economics and Business
Department of Macroeconomics and Agricultural Economics
10 Niepodległości Av., 61-875 Poznań, Poland

ANDREEA MUNTEAN, PHD
ORCID: 0000-0002-9008-9509
“I Decembrie 1918” University of Alba Iulia
Department of Economics and Business Administration
5 Strada Gabriel Bethlen, Alba Iulia 510009, Romania