

REGIONAL DIFFERENCES IN THE COMPETITIVENESS OF FARMS IN POLAND

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Abstract. The aim of the study is to assess the competitiveness of the regional diversity of farms in Poland. The study was conducted on a sample of commodity holdings participating in the Polish FADN in 16 voivodeships for the years 2010–2012. The study was based on indicators of competitiveness in terms of production factors and results. Research shows that labour resources and the effectiveness of their use are important aspects of regional diversity of competitiveness of farms. In regions where this factor is present in excess (Małopolskie, Świętokrzyskie, Mazowieckie, Łódzkie and Lubelskie voivodeships), labor productivity was relatively low. These regions are also characterized by lower production potential expressed by the agricultural area of an average farm. The greatest competitive advantages in terms of production profitability were achieved by farms in Dolnośląskie voivodeship, where there were also some of the highest rates of profitability of assets.

Key words: competitiveness, rural farm, Poland, voivodeships

INTRODUCTION

In the global economy, competitiveness is one of the major determinants of the evaluation of the enterprise's functioning on the market, as well as an important determinant of its development (Stankiewicz, 2002). Since this phenomenon is a complex one, and it depends on many factors, both exogenous and endogenous, a lot of different criteria are used for its assessment.

According to the European Commission, the most reliable indicator of the competitiveness in the long term is productivity (European Commission, 2009). Latruffe (2010) in turn divided the measure of competitiveness of agriculture into those which are related to strategic management (eg. production costs, profitability, productivity) and those related to trade. Competitiveness can be assessed also by the actions or by the effects, and according to this criterion one can distinguish the competitiveness of the production factors (defined as a potential to compete) and the competitiveness of the results (expressed in the place in economic competition) (Józwiak, 2012). The first one emphasizes what determines the ability of companies to perform actions creating basis for effective competition, while the competitiveness of the results emphasizes the results of competitive activities (Stankiewicz, 2005). This approach in assessment of the regional competitiveness was applied, among others, by Wojarska (2014).

The aim of the study was to assess the competitiveness of farms in 16 voivodeships in Poland, according to the criterion of actions or effects. A set of selected indicators of factor and results competitiveness was used. Since competitiveness is a relative phenomenon, the indicators calculated for the national level were adopted as the point of reference for indicators of individual voivodeships. The period of 2010–2012 was adopted for the study and the indicators of competitiveness were calculated as an average of the three studied years.

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THE CONDITIONS OF COMPETITIVENESS OF AGRICULTURAL FARMS

The abundance of definitions of competitiveness is a result of the fact that it originates from at least three areas of economics: theory of international trade, economic growth theory and microeconomics (Strojny, 2010). Kulawik and Wieliczko (2012) define competitiveness as “the ability of any economic system to function effectively (the continuation) and to develop under the existing competition”. Therefore the competitiveness is defined as a process by which the given system gains the attributes to be competitive. Walczak (2010) in turn defines competitiveness as a multi-dimensional feature of the company, both consequential to its intrinsic characteristics, and associated with the ability to adapt to changes in the environment.

Frączek (2009) emphasizes that the quality of company’s resources and managerial skills to use these resources for improvement of the company’s competitiveness determine the microeconomic competitiveness. On the other hand, the fundamental factor in assessing competitiveness in terms of microeconomics is the economic efficiency (Poczta and Siemiński, 2010), which is also mentioned in the work of Porter (2000) where competitiveness is identified with productivity. Hence, the competitiveness of individual companies, including commercial farms, stems from the effects of competitive advantage, which can emerge from, for instance, lower production costs, higher quality or better performance compared to that of competitors.

Considering the fact, that farms operate within polipolistic forms of the market, it can be said that their opportunities of shaping competitive advantages are limited in comparison to other forms of market (Wrzosek, 2006). This also means that their competitive abilities are shaped more by internal resources (eg. the production technologies, resources of production factors) rather than by the market. However, the role of creating competitive advantage should not be assigned only to them, because their use depends largely on external factors that determine the competitive arena and its course (Cebulak et al., 2008).

The nature of competitive relations in agriculture has a certain specificity resulting from the fact that they are formed by natural conditions to a greater extent than in other sectors of the economy (Józwiak, 2012). The factor that also determines the specificity of agricultural

competitiveness research and its subjects is limited mobility of production factors involved in this sector (Nosecka et al., 2011). This applies especially to the land, which – since immovable – is related to natural and climatic conditions, typical for the area. This affects the difficulty of changing the structure of agriculture in the short and medium term. Meanwhile, the fragmented structure of agricultural farms limits the possibility of obtaining the benefit of scale that typically exists in other sectors of the economy (Wieliczko, 2012). Moreover, the level and the nature of competition between farmers are shaped by several factors, among which Niezgodna (1999) mentions:

- The manufacturers’ focus on the production and not on the market;
- Large differences in production methods in the sector;
- Diversified agricultural environmental suitability for production;
- Different location of farms in reference to the markets;
- A strong bargaining position of purchasers of agricultural products and suppliers of agricultural resources;
- The possibility of the emergence of agricultural products substitutes.

The importance of local conditions is increasingly emphasized together with the above-mentioned factors of competitiveness. Each subject has its own spatial reference, its location, and farms also have their own, usually relatively vast space, on which the agricultural production is arranged. The competitiveness of the agricultural holdings depends largely on the characteristics of the natural environment predestinating them to the actual production. Location of the farm not only shapes the availability of production factors, but it also has a significant impact on the choice of the receiver (Zwołńska-Ligaj and Guza-Dec, 2006). The variety of factors affecting the competitiveness of farms can be classified into a group of external and internal factors relative to the examined subject. This approach is advocated by Dobiegała-Korona and Kasiewicz (2000) – according to them the company’s competitiveness in the market is a result of the synergistic interactions of many internal factors inherent to the company and mechanisms and external conditions existing in the environment.

It should also be stressed that competitiveness is relative. This means that, in assessing the level of

competitiveness of a company, sector, region or a country its proper measures should be taken into account, as well as choosing the appropriate reference object (Gorynia, 2002). Also, as mentioned above, in this work, the point of reference is an average farm in Poland.

MATERIALS AND METHODS

The study is based on data from commercial farms participating in the Polish FADN (Farm Accountancy Data Network). It is a database in which data is collected according to uniform rules, and farms make up a statistically representative sample of farms operating within the EU. The analysis was conducted for empirical materials relating to 16 voivodeships with selected indicators

as an average results from the period of 2010–2012. The number of farms surveyed in each voivodeship is presented in Table 2.

Table 1 shows a list of indicators used to assess the competitiveness of farms in Poland in 16 voivodeships, divided into both factor and production results indicators. Each indicator is assigned the symbol so that repeating the full name of the indicator in the rest of the work can be avoided.

RESULTS OF THE RESEARCH

Table 2 shows the indicators of production factor competitiveness of farms, corresponding to the three factors of production - land, labor and capital. However,

Table 1. Indicators of farms' competitiveness

Tabela 1. Wskaźniki oceny konkurencyjności gospodarstw rolnych

| Type of indicator Rodzaj wskaźnika | Indicators of competitiveness Wskaźniki oceny konkurencyjności |
|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Indicators of production factor competitiveness Wskaźniki konkurencyjności czynnikowej | <p>A – Average size of a farm (ha) A – Przeciętna powierzchnia gospodarstwa rolnego (ha)</p> <p>B – Labour input per 1 ha (h/ha) B – Nakłady pracy na 1 ha UR (h/ha)</p> <p>C – Value of total fixed assets per 1 ha of UAA C – Uzbrojenie techniczne ziemi (aktywa trwałe/1 ha UR)</p> <p>D – The value of total fixed assets per one Annual Work Unit D – Uzbrojenie techniczne pracy (aktywa trwałe/AWU)</p> <p>E – Total inputs per 1 ha of UAA (PLN/ha) E – Koszty ogółem na 1 ha UR (zł/ha)</p> |
| Indicators of result's competitiveness Wskaźniki konkurencyjności wynikowej | <p>F – Profitability index = (output/total inputs) × 100 F – Wskaźnik opłacalności = (produkcja/koszty) × 100</p> <p>G – Production profitability ratio = (farm net income/output) × 100 G – Wskaźnik dochodowości produkcji = (dochód z gosp. rolnego / produkcja) × 100</p> <p>H – Profitability ratio of fixed assets = (farm net income / fixed assets) × 100 H – Wskaźnik dochodowości aktywów trwałych = (dochód z gosp. rolnego / aktywa trwałe) × 100</p> <p>I – Land productivity (output/UAA) I – Wskaźnik produktywności ziemi (produkcja/UR)</p> <p>J – Labour productivity (output/AWU) J – Wskaźnik produktywności pracy (produkcja/AWU)</p> <p>K – Capital productivity (output/ fixed assets) K – Wskaźnik produktywności kapitału (produkcja/aktywa trwałe)</p> |

Source: own elaboration based on Goraj and Mańko, 2009, p. 182–190.

Źródło: opracowanie własne na podstawie Goraj i Mańko, 2009, s. 182–190.

Table 2. Selected indicators of factor's competitiveness of farms in Poland by voivodeships and the number of farms in the sample (average over 2010–2012)

Tabela 2. Wybrane wskaźniki konkurencyjności czynnikowej gospodarstw rolnych w Polsce według województw oraz liczebność gospodarstw w próbie (średnia z lat 2010–2012)

| Voivodeships Województwa | Number of farms in the sample Liczebność gospodarstw w próbie | Indicators of production factor competitiveness Wskaźniki konkurencyjności czynnikowej | | | | |
|-----------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------|--------------------------|----------------------------|--------------------------|
| | | A (ha) | B (h/ha) | C (PLN/ha) (zł/ha) | D (PLN/AWU) (zł/AWU) | E (PLN/ha) (zł/ha) |
| Dolnośląskie | 511.3 | 65.4 | 73.8 | 9 326.5 | 288 332.2 | 3 479.5 |
| Kujawsko-pomorskie | 1 173.3 | 48.9 | 106.6 | 15 272.3 | 324 959.4 | 5 662.5 |
| Lubelskie | 781.3 | 29.4 | 153.3 | 16 374.1 | 240 037.9 | 4 786.9 |
| Lubuskie | 194.0 | 81.5 | 58.6 | 9 145.7 | 353 473.7 | 4 087.9 |
| Łódzkie | 753.3 | 25.2 | 194.5 | 20 505.7 | 242 619.3 | 5 826.2 |
| Małopolskie | 318.7 | 21.5 | 205.5 | 19 687.2 | 217 149.1 | 5 929.9 |
| Mazowieckie | 1 328.7 | 23.6 | 193.1 | 20 300.0 | 241 788.9 | 5 600.6 |
| Opolskie | 447.3 | 101.2 | 64.2 | 11 197.6 | 391 227.5 | 4 974.0 |
| Podkarpackie | 191.3 | 32.9 | 138.9 | 12 219.7 | 198 519.3 | 4 449.3 |
| Podlaskie | 747.3 | 36.1 | 131.7 | 18 245.1 | 322 352.1 | 5 422.7 |
| Pomorskie | 528.7 | 64.1 | 79.5 | 12 662.1 | 364 022.1 | 4 655.5 |
| Śląskie | 244.3 | 43.9 | 115.4 | 16 577.6 | 328 729.6 | 5 165.0 |
| Świętokrzyskie | 255.0 | 25.7 | 194.8 | 19 414.0 | 228 816.8 | 5 780.2 |
| Warmińsko-mazurskie | 455.7 | 93.4 | 68.0 | 10 384.7 | 346 344.7 | 4 482.2 |
| Wielkopolskie | 1 662.0 | 39.7 | 134.0 | 17 096.6 | 289 952.8 | 7 255.2 |
| Zachodniopomorskie | 383.0 | 122.4 | 49.0 | 6 820.0 | 315 845.3 | 3 667.3 |
| Poland Polska | 9 975.3 | 47.2 | 107.5 | 13 954.4 | 295 740.1 | 5 184.0 |

Source: own elaboration basing upon unit empirical data from Polish FADN monitoring.

Źródło: opracowanie własne na podstawie jednostkowych danych empirycznych monitoringu Polskiego FADN.

in Table 3, all of the indicators examined in particular voivodeships were related to indicators calculated at the country level, and thus determine their competitive position in terms of its potential production. Note, however, that not only the abundance of various factors of production determines the level of competitiveness of farms, but also the ability to use existing resources and the formation of an optimal relationship between them (Wysocki and Kozera, 2012).

As shown in Table 2, in Poland there are large regional differences in productive potential of farms defined by farmland resources. The average size of a farm in 2010–2012 ranged on average, from 21.5 hectares in the Małopolskie voivodeship to 122.4 hectares in Zachodniopomorskie voivodeship. Besides the Zachodniopomorskie, among the voivodeships with the largest average size of farms are Opolskie, Warmińsko-Mazurskie and Lubuskie voivodeships. The smallest farms are in:

Table 3. Competitive advantages in terms of production factors of Polish farms with consideration of voivodeship to national average ratio (average over 2010–2012)

Tabela 3. Przewagi w zakresie konkurencyjności czynnikowej gospodarstw rolnych w Polsce według województw w relacji do średniej krajowej (średnia z lat 2010–2012)

| Voivodeships Województwa | Advantages in terms of production factor competitiveness Przewagi konkurencyjne w odniesieniu do wskaźników konkurencyjności czynnikowej | | | | |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|-------|
| | A | B | C | D | E |
| Dolnośląskie | 138.5 | 68.6 | 66.8 | 97.5 | 67.1 |
| Kujawsko-pomorskie | 103.6 | 99.2 | 109.4 | 109.9 | 109.2 |
| Lubelskie | 62.3 | 142.6 | 117.3 | 81.2 | 92.3 |
| Lubuskie | 172.5 | 54.5 | 65.5 | 119.5 | 78.9 |
| Łódzkie | 53.3 | 180.9 | 146.9 | 82.0 | 112.4 |
| Małopolskie | 45.6 | 191.1 | 141.1 | 73.4 | 114.4 |
| Mazowieckie | 49.9 | 179.5 | 145.5 | 81.8 | 108.0 |
| Opolskie | 214.2 | 59.7 | 80.2 | 132.3 | 95.9 |
| Podkarpackie | 69.6 | 129.2 | 87.6 | 67.1 | 85.8 |
| Podlaskie | 76.3 | 122.5 | 130.7 | 109.0 | 104.6 |
| Pomorskie | 135.6 | 73.9 | 90.7 | 123.1 | 89.8 |
| Śląskie | 93.0 | 107.3 | 118.8 | 111.2 | 99.6 |
| Świętokrzyskie | 54.3 | 181.2 | 139.1 | 77.4 | 111.5 |
| Warmińsko-mazurskie | 197.7 | 63.2 | 74.4 | 117.1 | 86.5 |
| Wielkopolskie | 84.0 | 124.7 | 122.5 | 98.0 | 140.0 |
| Zachodniopomorskie | 259.2 | 45.6 | 48.9 | 106.8 | 70.7 |
| Poland Polska | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: own elaboration basing upon unit empirical data from Polish FADN monitoring.

Źródło: opracowanie własne na podstawie jednostkowych danych empirycznych monitoringu Polskiego FADN.

Mazowieckie, Łódzkie, Świętokrzyskie, Podkarpackie and Lubelskie voivodeships.

Another factor of agricultural production is labor which, in contrast to the factors of land and capital, is of active and creative character. It emerges from numerous scientific studies that excessive resources of work associated with agriculture in Poland constitute a significant structural problem (Mrówczyńska-Kamińska, 2013; Kołodziejczak, 2014). The indicator of land and work relation, which was established as the number of hours of labour per one hectare of agricultural land, shows large regional differences. The highest level of the index was observed in the Małopolskie, Świętokrzyskie,

Mazowieckie, Łódzkie and Lubelskie (respectively 191.1%, 181.2%, 179.5%, 180.9% and 142.6% of the national level). Three of these regions belong to a macro-region of Eastern Poland, where there are structural problems in agriculture, including very high levels of employment in this sector. The lowest level of work and land relation can be observed in Zachodniopomorskie, Lubuskie and Opolskie, where there was a relatively large average size of a farm. In these voivodeships the researched indicator reached respectively 45.6%, 54.5% and 59.7% of national rate (Table 3).

The resources of capital in the agricultural farm can be assessed by the value of assets involved per 1 ha of

farmland. This indicator, defined as the technical equipment of the land, reached the highest value during the researched period in the Łódzkie region and Mazowieckie (over 20,000 PLN/ha), whereas in the Zachodniopomorskie it was the lowest (6820 PLN/ha). These differences should be associated with the area structure of farms in different regions and also with different level of adjustment of the production structure to the farms' potential.

An important indicator of the productive potential of agricultural holdings is the technical equipment of work, measured by the value of assets per one person employed full time (AWU). According to the research,

the highest level of this index is observed in farms in the Opolskie voivodeship (391,227.5 PLN/1 AWU), Pomorskie (364,022.1 PLN/1 AWU) and Lubuskie (353,473.7 PLN/1 AWU). On the other hand, in the worst situation in this regard remained in voivodeships of Podkarpackie, Małopolskie, Świętokrzyskie, Lubelskie and Mazowieckie. In these regions the indicator of technical equipment of work showed respectively 32.9%, 26.6%, 22.6%, 18.8% and 18.2% lower than the national average.

Among the indicators of economic efficiency of the farm there is an indicator, determined by the rate of the total costs per 1 ha of agricultural land, which points to

Table 4. Selected indicators of result's competitiveness of farms in Poland by voivodeships (average over 2010–2012)

Tabela 4. Wybrane wskaźniki konkurencyjności wynikowej gospodarstw rolnych w Polsce według województw (średnia z lat 2010–2012)

| Voivodeships Województwa | Indicators of result's competitiveness Wskaźniki konkurencyjności wynikowej | | | | | |
|-----------------------------|--------------------------------------------------------------------------------|----------|----------|--------------------------|----------------------------|---------------------------|
| | F (%) | G (%) | H (%) | I (PLN/ha) (zł/ha) | J (PLN/AWU) (zł/AWU) | K (PLN/PLN) (zł/zł) |
| Dolnośląskie | 135.1 | 48.8 | 24.6 | 4 699.8 | 145 294.8 | 0.5 |
| Kujawsko-pomorskie | 122.8 | 36.6 | 16.7 | 6 956.3 | 148 013.3 | 0.5 |
| Lubelskie | 133.7 | 45.6 | 17.8 | 6 398.1 | 93 794.1 | 0.4 |
| Lubuskie | 129.6 | 44.8 | 26.0 | 5 298.0 | 204 763.3 | 0.6 |
| Łódzkie | 132.5 | 39.8 | 15.0 | 7 718.9 | 91 328.4 | 0.4 |
| Małopolskie | 131.5 | 39.5 | 15.7 | 7 796.7 | 85 997.2 | 0.4 |
| Mazowieckie | 137.3 | 42.8 | 16.2 | 7 689.7 | 91 590.5 | 0.4 |
| Opolskie | 120.9 | 35.4 | 19.0 | 6 015.9 | 210 187.9 | 0.5 |
| Podkarpackie | 126.6 | 42.2 | 19.5 | 5 632.9 | 91 511.1 | 0.5 |
| Podlaskie | 133.1 | 42.0 | 16.6 | 7 219.8 | 127 557.6 | 0.4 |
| Pomorskie | 121.8 | 38.8 | 17.4 | 5 668.2 | 162 955.3 | 0.4 |
| Śląskie | 131.5 | 40.1 | 16.4 | 6 790.1 | 134 646.0 | 0.4 |
| Świętokrzyskie | 133.3 | 43.8 | 17.4 | 7 705.8 | 90 822.0 | 0.4 |
| Warmińsko-mazurskie | 121.0 | 36.7 | 19.2 | 5 421.7 | 180 820.5 | 0.5 |
| Wielkopolskie | 122.3 | 31.4 | 16.3 | 8 871.9 | 150 463.4 | 0.5 |
| Zachodniopomorskie | 117.5 | 40.2 | 25.4 | 4 308.7 | 199 541.3 | 0.6 |
| Poland Polska | 126.2 | 38.5 | 18.1 | 6 539.7 | 138 598.7 | 0.5 |

Source: own elaboration basing upon unit empirical data from Polish FADN monitoring.

Źródło: opracowanie własne na podstawie jednostkowych danych empirycznych monitoringu Polskiego FADN.

the level of intensity of production on the farm (Goraj and Mańko, 2009). The highest level of production intensity in 2010–2012 occurred in the greater Polish voivodeship, where the level of total costs incurred for 1 ha of arable land was 40% higher than the national average and more than 2 times lower than in the region with the lowest level of production intensity (Małopolskie). Low costs per 1 ha of farmland were incurred in Zachodniopomorskie voivodeship (3667.3 PLN/1 ha) and Lubuskie (4087.9 PLN/1 ha). The intensity of production which was higher than the national average could be observed in Małopolskie, Łódzkie, Świętokrzyskie, Kujawsko-Pomorskie, Mazowieckie and Podlaskie.

The second part of the evaluation of the competitiveness of agricultural holdings is constituted by indicators characterizing the results of economic production. Table 4 summarizes the values of indicators included in this analysis, while Table 5 shows the relationship of these indicators from individual voivodeships to the average value calculated for Poland. Among indicators of financial performance a special attention deserves the profitability index indicator established as the ratio of production value to the value of total costs. As is shown in Table 4, agricultural production in the examined farms in all the regions of the country in 2010–2012 was profitable. Profitability index ranged between

Table 5. Competitive advantages in terms of results of Polish farms with consideration of voivodeships to national average ratio (average over 2010–2012)

Tabela 5. Przewagi w zakresie konkurencyjności wynikowej gospodarstw rolnych w Polsce według województw w relacji do średniej krajowej (średnia z lat 2010–2012)

| Voivodeships Województwa | Advantages in terms of result's competitiveness Przewagi konkurencyjne w odniesieniu do wskaźników konkurencyjności wynikowej | | | | | |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|
| | F | G | H | I | J | K |
| Dolnośląskie | 107.1 | 126.6 | 136.1 | 71.9 | 104.8 | 107.5 |
| Kujawsko-pomorskie | 97.4 | 94.9 | 92.3 | 106.4 | 106.8 | 97.2 |
| Lubelskie | 106.0 | 118.5 | 98.8 | 97.8 | 67.7 | 83.4 |
| Lubuskie | 102.7 | 116.4 | 143.9 | 81.0 | 147.7 | 123.6 |
| Łódzkie | 105.0 | 103.3 | 83.0 | 118.0 | 65.9 | 80.3 |
| Małopolskie | 104.2 | 102.6 | 86.7 | 119.2 | 62.0 | 84.5 |
| Mazowieckie | 108.8 | 111.0 | 89.7 | 117.6 | 66.1 | 80.8 |
| Opolskie | 95.9 | 92.0 | 105.4 | 92.0 | 151.7 | 114.6 |
| Podkarpackie | 100.4 | 109.5 | 107.7 | 86.1 | 66.0 | 98.4 |
| Podlaskie | 105.5 | 109.0 | 92.0 | 110.4 | 92.0 | 84.4 |
| Pomorskie | 96.5 | 100.6 | 96.1 | 86.7 | 117.6 | 95.5 |
| Śląskie | 104.2 | 104.2 | 91.1 | 103.8 | 97.1 | 87.4 |
| Świętokrzyskie | 105.7 | 113.8 | 96.3 | 117.8 | 65.5 | 84.7 |
| Warmińsko-mazurskie | 95.9 | 95.4 | 106.2 | 82.9 | 130.5 | 111.4 |
| Wielkopolskie | 96.9 | 81.6 | 90.4 | 135.7 | 108.6 | 110.7 |
| Zachodniopomorskie | 93.1 | 104.2 | 140.5 | 65.9 | 144.0 | 134.8 |
| Poland Polska | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: own elaboration basing upon unit empirical data from Polish FADN monitoring.

Źródło: opracowanie własne na podstawie jednostkowych danych empirycznych monitoringu Polskiego FADN.

117.5%–137.3%, with the national average of 126.2%. This means that the regional differentiation of this indicator was relatively small.

Another indicator characterizing competitiveness of the results is the profitability of production, defined as the relationship between the farm's income to the production value. The highest profitability of production characterizes farms in Małopolskie, where the figure was 26% higher than the national average. The income from agriculture farms accounted for the smallest share of the value of production in regions such as Wielkopolskie and Opolskie. Sometimes agricultural farms are burdened with too big value of fixed assets, which circulation rate is much lower than that of current assets. The profitability of assets was the highest in commodity farms in Lubuskie (26%), Zachodniopomorskie (25.4%) and Dolnośląskie (24.6%), while the national average reached 18.1%.

Another commonly used measurement of competitiveness at different levels of analysis is productivity. In this paper, three partial productivity indicators were used for evaluation in relation to the factors of land, labour and capital. Land productivity is calculated as the ratio of production value to the agricultural area. The highest level of this indicator was recorded in Wielkopolskie region, where it was 35.7% higher than the national average. The productivity of land was higher than the country's average in Małopolskie, Łódzkie, Mazowieckie, Świętokrzyskie, Podlaskie, Kujawsko-pomorskie and Śląskie voivodeships. The lowest value of production per 1 ha was recorded in Zachodniopomorskie and Dolnośląskie, where there was a low intensity of production.

Labour productivity is generally the most important measure of productivity (Poczta, 2003). The importance of labour productivity stems from the fact that this measure defines the income situation, and the possibility of internal accumulation in agriculture (Poczta and Kołodziejczak, 2008). It is a determinant of both economic strength and prospects for development (Kowalski, 1998). Labour productivity measured by value of production attributed to one person employed full-time on the farm was strongly differentiated regionally. The highest efficiency in the use of this factor in production was recorded in farms in Opolskie voivodeship (210,187.9 PLN/1 AWU), Lubuskie (204,763.3 PLN/1 AWU), and Zachodniopomorskie (199,541.3 PLN/1 AWU). On the other hand, in regions such as

the Małopolskie voivodeship, Świętokrzyskie, Łódzkie, Podkarpackie, Mazowieckie and Lubelskie, the indicator of labour productivity showed 70% lower than the national average.

The potential productivity of capital, determined by the relation of production value to the value of fixed assets, was less diverse than the productivity of land and labor. The test rate ranged from 0.4 PLN/1 PLN to 0.6 PLN/1 PLN, with the national average of 0.5 PLN/1 PLN.

CONCLUSIONS

The analysis of indicators adopted for research shows that the competitiveness of farms in Poland is regionally differentiated. Diversification covers both the production potential characterized by indicators of competitiveness of factors, as well as the production and economic results identified by indicators of competitiveness of production results. An important aspect of the regional diversity of competitiveness of farms are labor resources and the effectiveness of their use. In regions where this factor seems to be in excess (Małopolska, Świętokrzyskie, Mazowieckie, Łódzkie and Lubelskie voivodeships), labour productivity was relatively low. These regions are also characterized by a lower production potential expressed by the agricultural area in an average farm.

The greatest competitive advantages in terms of profitability was achieved by production farms of Dolnośląskie, where there were also some of the highest rates of profitability of fixed assets. It can be assumed that the structural changes taking place in Polish agriculture, as well as measures available under the Common Agricultural Policy will contribute to improving the competitiveness of farms. A big role in balancing regional disparities in this respect is also played by cohesion policy aimed at reducing the variations in the level of development of the various regions, including their rural areas.

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REGIONALNE ZRÓŻNICOWANIE KONKURENCYJNOŚCI GOSPODARSTW ROLNYCH W POLSCE

Streszczenie. Celem opracowania jest ocena regionalnego zróżnicowania konkurencyjności gospodarstw rolnych w Polsce. Badania przeprowadzono na próbie gospodarstw towarowych uczestniczących w Polskim FADN w układzie 16 województw za lata 2010–2012. W pracy wykorzystano wskaźniki konkurencyjności czynnikowej i wynikowej. Z badań wynika, że istotnym aspektem regionalnego zróżnicowania konkurencyjności gospodarstw rolnych są zasoby pracy oraz efektywność ich wykorzystania. W regionach, gdzie czynnik ten występuje w nadmiarze (województwa: małopolskie, świętokrzyskie, mazowieckie, łódzkie i lubelskie), produktywność pracy była relatywnie niska. Regiony te charakteryzują się także mniejszym potencjałem produkcyjnym wyrażonym powierzchnią użytków rolnych przeciętnego gospodarstwa rolnego. Największe przewagi konkurencyjne w zakresie dochodowości produkcji osiągały gospodarstwa rolne województwa dolnośląskiego, gdzie występowały także jedne z najwyższych wskaźników dochodowości aktywów trwałych.

Słowa kluczowe: konkurencyjność, gospodarstwo rolne, Polska, województwa

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