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COST EFFECTIVENESS ON FARMS IN POLAND COMPARED TO THE EUROPEAN UNION

Key words: farm, farm production, costs, FADN, Poland, EU

ABSTRACT. The aim of the study was to assess the cost effectiveness of farms in Poland compared to the European Union, depending on the type of farming. The value and cost structure of the studied farms were determined and the cost-production relation was assessed. The research covered farms participating in the FADN (Farm Accountancy Data Network) European system for collecting accountancy data from farms. As a part of the main objective, an analysis of the structure and dynamics of costs of the researched farms and the cost-production relationship were assessed. The research period covered the years 2013-2018. On the basis of the conducted research, a high cost burden on production was found both in Poland and the entire EU. In the cost structure, direct costs had the largest share, which were particularly important in farms focused on animal production. There was a differentiation in both the cost structure and cost effectiveness depending on the type of farming. The highest production costs were characteristic for farms of the agricultural type – other grazing livestock, and the lowest for farms specialized in horticultural crops and breeding milk cows. In 2018, compared to 2013, there was an increase in the cost effectiveness of Polish farm production, while a slight decrease in the EU average. The increase in costs and the increase in the cost effectiveness of Polish farm production testifies to a general increase in the prices of production factors used in agricultural production and a decrease in cost competitiveness on the European market.

INTRODUCTION

Conducting activity, including agricultural activity, requires incurring certain costs, regardless of the type of produced goods or services, which constitute the starting point in the economic thinking of each economic unit. In the Accounting Act, they are defined as a decrease in economic benefits of a reliably determined value in the form of a decrease in the value of assets or an increase in liabilities in a given financial year. It results in a decrease in equity or an increase in its shortage, other than a withdrawal of funds by owners or shareholders [Journal of Laws, 1994.121.591].

Agricultural farms are subject to the same economic laws as other entities conducting economic activity. The main goal of the activity is a specific economic effect, the achievement of which is the result of specific decisions. Having basic knowledge about costs allows to make the right decisions, both operational and strategic, and thus manage a farm properly [Hajduga 2015].

In dynamically changing farming conditions, the ability to rationally manage costs determines the efficiency and competitiveness of farms. The assessment of the level and structure of costs and the study of their relationship with the obtained effects forms the basis for making production, financial and investment decisions [Felczak 2011, Skarżyńska 2011, Zawadzka, Strzelecka 2013, Gunerka et al. 2016]. Costs are a key element in the analysis of the profitability of various types of undertakings in a farm. Therefore, for management purposes, it is advisable for farmers to keep the necessary cost records to have a basic knowledge of them. The knowledge of the specificity of costs in agriculture, the methods of their settlement and the reasons influencing their level supports making decisions leading to the optimization of the adopted economic objective criterion [Łapińska 2012]. In agriculture, the size of the costs incurred, apart from economic and market factors, is influenced by natural factors, e.g. climatic conditions, which is related to the biological nature of production. Additionally, the rational use of various energy sources available to farms can significantly affect the level of costs [Martinho 2020]. Attention is also paid to the dependence between the cost effectiveness of production and the economic size of a farm and the specialization of agricultural production [Wasilewski 2007, Zawadzka et al. 2013, Felczak 2011, Gunerka et al. 2016].

RESEARCH MATERIAL AND METHODS

The aim of the study is to assess the cost effectiveness of farms in Poland and compare the obtained results with the average in the European Union (EU). As part of the main objective, the value and structure of farm costs were determined and the degree of burdening production with costs (cost effectiveness of production), depending on the activity profile, was examined. The subject of the research were farms that participated in the FADN (Farm Accountancy Data Network) European system for collecting accountancy data from farms in 2013-2018¹. The study covered the last 6 years, and the adopted period resulted from the availability of data. The FADN field of observation covers commercial farms that produce about 90% of the value of Standard Output in a given region or country. The uniqueness of the data collected under the FADN stems from the fact that it is the only database for which data is collected according to uniform rules, which allows the comparison of farms operating in different regions of the European Union.

¹ The accounting data was used from the EU FADN [FADN 2020a].

Cost analysis was carried out for groups of farms distinguished by types of farming, defined on the basis of the share of individual types of activity in the creation of the total value of standard farm output. The following types of farming are included: field crops, horticultural crops, permanent crops, milk cows, other grazing livestock, granivores, and mixed animals. The number of farms in the surveyed sample in Poland in 2013-2018, broken down by agricultural type, is presented in Table 1. Polish farms accounted for approx. 14% of the European FADN sample.

Table 1. The number of farms in the surveyed sample in Poland from 2013 to 2018, broken down by farming type

Farming type	Number of farms					
	2013	2014	2015	2016	2017	2018
Field crops	3,215	3,342	3,411	389	4,049	4,263
Horticulture	364	349	354	337	304	276
Other permanent crops	439	432	437	437	445	438
Milk cows	2,652	2,735	2,782	2,749	2,659	2,539
Other grazing livestock	451	470	522	651	739	846
Granivores	919	919	865	789	745	665
Mixed	4,282	4,083	3,942	3,446	3,352	3,193

Source: own study based on FADN data

When analysing the structure of farm costs, direct and intermediate costs were distinguished. In accordance with the FADN methodology, direct costs that have a direct impact on the production volume can, without any doubt, be included in specific production activity and their amount is proportionally related to the production scale. These costs include, among others, costs of seeds, fertilizers, crop protection products and feed. On the other hand, intermediate costs are costs that cannot be clearly assigned to a specific production activity, e.g. depreciation costs, total farming overheads and costs of external factors [Florianczyk et al. 2018]. The cost effectiveness of production was calculated as the ratio of total costs to the production value and expressed as a percentage. This indicator reflects the production cost of a production unit.

The data presented in the article are weighted averages for a specific group of farms, which means that these results can be generalized to the entire research population².

² Average values for a given group are determined in accordance with the methodology in force in the FADN [FADN 2020b].

FINDINGS

Figure 1 presents the commercial production value of farms in Poland and the European Union in 2013-2018. In the analysed period, the total production of an average farm in Poland ranged from EUR 26,700 in 2016 up to EUR 30,200 in 2013, while in the EU this level was much higher with a clear growing trend (from EUR 69,500 in 2013 to EUR 88,600 in 2018). The value of production in individual EU regions is influenced by a number of factors, including the level of socio-economic development, structural features of agriculture, agricultural policy, production potential and environmental factors [Nowak, Wójcik 2013, Panagos et al. 2018].

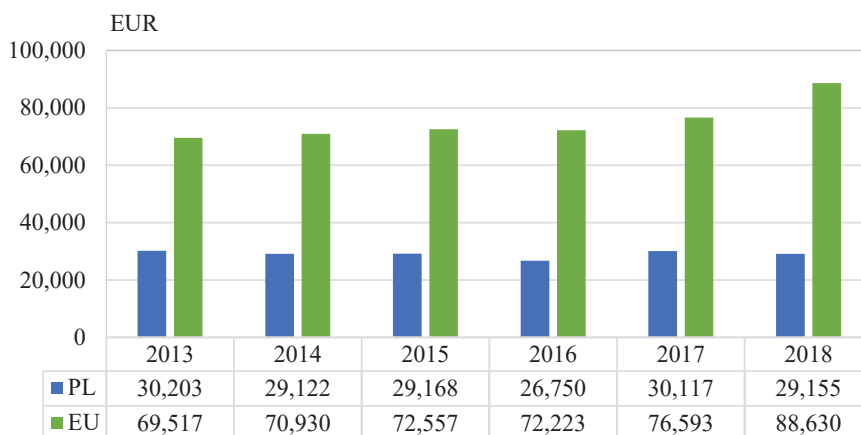


Figure 1. The value of production in farms in Poland and the European Union from 2013 to 2018

Source: own study based on FADN data

Similar relationships were observed when analysing the total costs³ of farms (Table 2). The average value of costs in the analysed period was EUR 25,700 in Poland and EUR 67,300 in the EU. Taking the type of farming of researched farms into account, it was found that in Poland and the entire EU, the highest costs were incurred by farms specialized in breeding granivores. In addition, in 2018, compared to 2013, an increase in these costs was recorded, by 8% in Poland and 16% in the EU, respectively. Relatively high costs were also achieved by farms of the agricultural type «horticulture», the average value of

³ Total costs include all costs related to the basic/ operating activity of an agricultural farm incurred for the production achieved in a given accounting year (direct costs, depreciation, total farming overheads and costs of external factors). These costs do not include taxes, fees or the value of purchased animals.

Table 2. The value of total costs in farms in Poland and the European Union from 2013 to 2018, by farming type

Farming type	Region	Value of total costs [EUR]						Change 2018-2013
		2013	2014	2015	2016	2017	2018	
Field crops	PL	21,229	21,281	20,554	18,931	20,121	20,090	-1,139
	EU	58,147	61,455	57,973	56,906	56,665	65,299	7,152
Horticulture	PL	49,330	48,216	47,570	47,286	42,791	45,214	-4,116
	EU	140,190	137,688	153,901	155,383	157,899	173,140	32,950
Other permanent crops	PL	23,232	21,896	20,608	20,602	19,294	19,284	-3,948
	EU	23,032	27,509	27,129	27,052	27,242	29,272	6,240
Milk cows	PL	27,745	28,688	29,845	27,606	32,142	31,527	3,782
	EU	100,215	95,173	102,940	96,737	101,762	140,968	40,753
Other grazing livestock	PL	14,882	13,620	14,827	13,561	14,200	14,579	-303
	EU	43,724	45,345	48,495	48,020	50,832	55,916	12,192
Granivores	PL	150,696	159,640	184,527	146,869	167,817	162,213	11,517
	EU	319,046	299,321	299,305	316,672	333,733	368,701	49,655
Mixed	PL	20,532	20,149	20,886	20,666	21,526	22,189	1,657
	EU	44,412	44,400	45,078	45,776	46,389	61,253	16,841
Average	PL	25,984	25,915	26,043	24,367	25,963	26,082	98
	EU	62,666	64,340	65,865	65,290	66,736	78,949	16,283

Source: own study based on FADN data

which in 2013-2018 in Poland was approx. EUR 47,000 , and in the entire EU more than EUR 153,000. A low level of costs was found in farms specializing in other permanent crops (from EUR 19,300 in 2017 in Poland to EUR 29,300 in 2018 in the entire EU). In Poland, in the analysed period, the lowest costs were incurred by farms of the other grazing livestock type, on average about EUR 14,000. Moreover, these units in 2018 recorded a decrease in the value of costs compared to 2013. When analysing the level of costs in selected groups of farms, large differences were found depending on the specialization of agricultural production.

The structure of costs in individual types of farms is presented in Tables 3 (Poland) and 4 (the EU). Both in Poland and the entire EU, direct costs constituted the highest share in the cost structure, although it varied among individual types of farming. The greatest importance of this cost category was noted in farms focused on animal production, where

Table 3. The structure of costs in farms in Poland from 2013 to 2018, by farming type

Farming type	Costs*	Structure of costs [%]						Change 2018-2013 [p.p.]
		2013	2014	2015	2016	2017	2018	
Field crops	dc	41.33	41.04	40.80	40.52	39.67	38.56	-2.76
	tfo	27.25	26.88	25.72	25.68	26.56	28.03	0.78
	d	21.02	21.51	22.36	22.96	23.02	22.36	1.34
	ef	10.40	10.57	11.12	10.84	10.75	11.05	0.65
Horticulture	dc	39.01	36.93	41.08	37.92	36.79	36.26	-2.75
	tfo	29.62	29.88	27.23	28.60	30.70	31.90	2.28
	d	15.47	16.51	16.19	15.95	15.86	14.86	-0.60
	ef	15.89	16.67	15.51	17.53	16.66	16.97	1.08
Other permanent crops	dc	24.77	23.11	23.58	22.35	22.63	21.86	-2.90
	tfo	21.54	20.95	21.64	21.31	20.39	22.04	0.50
	d	34.56	37.53	37.08	38.85	42.24	38.98	4.42
	ef	19.12	18.41	17.70	17.49	14.74	17.12	-2.01
Milk cows	dc	50.81	50.12	49.84	49.67	49.91	49.91	-0.90
	tfo	23.73	24.19	23.21	23.50	24.46	24.81	1.08
	d	21.29	21.37	22.59	22.47	21.33	20.25	-1.04
	ef	4.16	4.32	4.35	4.36	4.30	5.03	0.86
Other grazing livestock	dc	36.83	39.51	37.62	39.62	40.35	38.90	2.07
	tfo	30.55	28.88	26.17	27.39	27.56	29.29	-1.26
	d	24.11	23.28	25.43	27.93	27.45	26.61	2.50
	ef	8.51	8.33	10.78	5.05	4.65	5.19	-3.32
Granivores	dc	80.22	80.55	79.58	75.06	75.81	75.99	-4.23
	tfo	9.48	9.06	9.19	11.29	10.73	10.89	1.41
	d	6.70	6.82	6.92	8.32	8.07	7.66	0.96
	ef	3.60	3.56	4.31	5.33	5.39	5.47	1.86
Mixed	dc	52.50	51.05	51.01	49.92	49.15	49.25	-3.25
	tfo	23.41	23.75	22.49	22.89	23.48	23.51	0.10
	d	17.54	18.17	18.09	18.62	18.70	18.75	1.21
	ef	6.55	7.03	8.42	8.57	8.67	8.48	1.94
Average	dc	50.63	50.13	49.70	48.07	48.28	47.66	-2.97
	tfo	22.87	22.76	21.87	22.58	22.96	23.84	0.97
	d	18.40	18.85	19.43	20.22	19.97	19.39	0.99
	ef	8.10	8.26	9.00	9.13	8.79	9.10	1.00

* Costs: dc – direct costs, tfo – total farming overheads, d – depreciation, ef – external factors

Source: own study based on FADN data

animal feed is the dominant cost component. In this respect, farms specialized in breeding granivorous stood out, where the share of direct costs in total costs ranged from 75 to 80% in Poland and from 65 to 67% in the entire EU. The lowest importance of direct costs in the cost structure was recorded in farms of the agricultural type- other permanent crops (on average 23-24% in Poland and the entire EU).

In Polish farms, the lowest share in total costs was represented by the costs of external factors, which, according to the FADN methodology, include wages and salaries, rent paid and interest paid (8.7% on average). This is due to a relatively low level of employment in agriculture and financing the activity mainly with equity. Sometimes, the low level of debt of farms results from difficult access to external sources of financing [Ma, Tian 2006, Mądra 2010, Pailwar et al. 2010, Strzelecka 2013]. The greatest significance of the costs of involvement of external factors of production was found in farms specialized in other permanent crops. It is worth noting that, in an average farm in the EU, the share of this cost category was on average twice as high as in Poland. In the analysed period, the costs of depreciation of an average farm constituted, on average, 19% in Poland and 14% in the entire EU of total costs. In Poland, these costs were of greatest importance in units specializing in other permanent crops, where their share ranged from approx. 35 to 42% and in the analysed period increased by over 4 p.p. The increase in depreciation costs proved the investment activities undertaken, as a result of which the value of fixed assets increased. The share of total farming overheads, such as the costs of maintaining machines and buildings, energy, fuels and services, in the entire EU and in Poland, was at a similar level and accounted for about 23-26% of total costs. In Poland, these costs were of greatest importance in horticultural farms, and in the EU – in farms of the agricultural type – field crops. In 2018, in these groups, they accounted for 31.9 and 29.85% of all costs, respectively.

Table 5 presents the cost effectiveness of production of the researched farms in 2013-2018. Its level was determined by relating the value of total costs to production produced in a given period. High cost effectiveness was found, at a similar level, both for farms in Poland and the entire EU (from 86 to 91%). The highest costs for agricultural production in Poland were recorded in 2016, and in the EU in 2015. Relatively low cost effectiveness was found in 2017. Compared to the previous year, this ratio decreased the most, which was caused by an increase in the production value at a faster pace than costs. In 2018, compared to 2013, an increase in the cost effectiveness of an average farm in Poland by less than 4 p.p. was recorded, and in the EU – a decrease by 1.06 p.p.

When analysing the farming type, it was found that farms specializing in breeding other grazing livestock were characterized by the highest cost effectiveness, both in Poland and the entire EU. In Polish farms with this type of farming, production costs ranged from EUR 1.02 to EUR 1.11 per unit of production value, which means a loss. On the other hand, in an average farm in the EU, costs only exceeded the production value in 2013 and

Table 4. The structure of costs in farms in the European Union from 2013 to 2018, by farming type)

Farming type	Costs*	Structure of costs [%]						Change 2018-2013 [p.p.]
		2013	2014	2015	2016	2017	2018	
Field crops	dc	34.64	35.15	35.50	35.51	34.49	34.36	-0.28
	tfo	30.59	29.98	29.02	28.59	29.56	29.85	-0.74
	d	16.32	15.89	16.13	16.15	15.86	15.34	-0.98
	ef	18.46	18.98	19.35	19.76	20.10	20.45	1.99
Horticulture	dc	32.56	36.83	36.50	36.16	36.40	36.41	3.85
	tfo	31.15	26.43	25.37	24.96	25.21	25.46	-5.69
	d	10.40	10.56	10.33	10.29	10.05	8.95	-1.45
	ef	25.89	26.18	27.81	28.58	28.34	29.19	3.30
Other permanent crops	dc	22.85	25.16	24.20	24.11	24.15	24.15	1.30
	tfo	29.98	27.93	27.86	27.67	28.65	28.16	-1.82
	d	20.00	18.66	18.77	18.95	18.13	17.74	-2.26
	ef	27.17	28.25	29.17	29.28	29.07	29.95	2.78
Milk cows	dc	47.26	48.02	48.13	47.66	47.48	48.31	1.05
	tfo	25.57	25.59	24.78	24.92	25.51	25.29	-0.28
	d	14.91	13.87	14.34	14.48	14.19	13.70	-1.21
	ef	12.26	12.52	12.74	12.94	12.81	12.71	0.45
Other grazing livestock	dc	46.36	46.62	47.07	47.15	47.19	47.47	1.11
	tfo	26.56	26.72	26.24	26.23	26.38	26.67	0.11
	d	15.95	14.98	15.19	15.17	14.82	14.46	-1.49
	ef	11.13	11.68	11.50	11.45	11.62	11.39	0.26
Granivores	dc	66.73	65.75	66.60	65.53	64.95	65.41	-1.32
	tfo	14.80	14.93	14.49	14.82	15.41	15.31	0.51
	d	8.54	8.84	8.59	8.63	8.66	8.39	-0.15
	ef	9.94	10.49	10.31	11.02	10.98	10.88	0.94
Mixed	dc	45.22	45.24	45.35	44.96	44.30	45.19	-0.03
	tfo	26.12	25.53	25.00	24.77	25.40	25.25	-0.87
	d	14.47	14.52	14.49	14.80	14.67	14.06	-0.41
	ef	14.19	14.72	15.16	15.47	15.63	15.50	1.31
Average	dc	42.56	43.11	43.27	43.04	42.71	42.99	0.43
	tfo	26.65	26.07	25.41	25.26	25.82	25.89	-0.76
	d	14.59	14.10	14.20	14.27	14.02	13.52	-1.07
	ef	16.19	16.73	17.11	17.43	17.45	17.61	1.42

* Costs: dc – direct costs, tfo – total farming overheads, d – depreciation, ef – external factors
Source: own study based on FADN data

Table 5. The cost effectiveness of production in farms in Poland and the European Union from 2013 to 2018, by farming type

Farming type	Region	Cost effectiveness of production [%]						Change 2018-2013 [p.p]
		2013	2014	2015	2016	2017	2018	
Field crops	PL	90.31	92.19	92.81	97.25	93.90	93.58	3.26
	EU	93.44	97.00	95.33	98.28	94.22	92.86	-0.59
Horticulture	PL	74.31	72.89	68.41	74.94	75.88	74.80	0.49
	EU	83.60	83.80	81.14	79.09	78.90	76.14	-7.46
Other permanent crops	PL	73.28	97.82	74.28	86.22	78.72	90.67	17.40
	EU	72.14	73.76	69.26	68.79	66.25	70.49	-1.65
Milk cows	PL	76.19	76.28	84.58	81.50	69.55	75.07	-1.12
	EU	88.40	87.58	93.96	93.75	83.83	90.09	1.70
Other grazing livestock	PL	102.00	103.72	103.19	111.69	104.64	107.43	5.43
	EU	100.38	98.30	98.06	98.89	99.78	103.00	2.61
Granivores	PL	83.82	84.55	84.33	82.64	82.21	86.05	2.23
	EU	90.50	91.04	90.39	84.86	84.48	90.48	-0.01
Mixed	PL	94.31	99.21	101.64	100.31	94.87	100.77	6.45
	EU	97.84	99.10	100.35	100.51	96.58	99.79	1.95
Average	PL	86.03	88.99	89.29	91.09	86.21	89.46	3.43
	EU	90.14	90.71	90.78	90.40	87.13	89.08	-1.06

Source: own study based on FADN data

2018, by 0.4% and 3%, respectively. The increase in this ratio is alarming, which signifies deteriorating conditions for conducting this activity type. It was caused by a decrease in the production value at a faster pace than costs. Relatively high cost effectiveness was also noted in non-specialized farms, which results from the fact that a lack of a one-way production did not allow for the minimizing costs of supplies or keeping stock [Felczak 2011]. Research shows that farms of the agricultural type – other grazing livestock and mixed animals are characterized by low effectiveness of the conducted activity [Galecka 2017]. This may be due to the high cost effectiveness of these farms [Krupa et al. 2016].

In most of the studied years, the most favourable ratio of costs to production value (the lowest cost effectiveness) was found in farms focused on horticulture (73.37% on average in Poland). In this group, in 2018, the analysed indicator was lower than the EU average by over 14 p.p. It should be noted that horticultural production differs from typical

agricultural production in the certain specificity of production and management, it is more intense and capital-intensive [Jabłońska et al. 2017, Poczta et al. 2018]. Previous studies show that despite the fact that this type of activity is characterized by a high demand for labour inputs, which is associated with high costs, horticultural farms are able to use them effectively [Vrolijk et al. 2009, A. Marcysiak, A. Marcysiak 2018]. Additionally, in Poland, farms specialized in breeding milk cows were characterized by a relatively low cost effectiveness of production (from 75 to 85%). In 2018, these farms recorded a production cost effectiveness lower by 15 p.p. compared to the average farm of this type in the EU. It is estimated that investments carried out in recent years as well as technical and biological progress in milk production contributed to an increase in production scale and, at the same time, to the improvement of competitiveness on the European market [Skarżyńska 2017]. Farms with the agricultural type of other permanent crops were characterized by high variability of the analysed indicator. In this group, in the analysed period, there was a significant increase in the burden of production costs, from 73.28% in 2013 to 90.67% in 2018 (by 17.4 p.p.), which is a negative phenomenon. At the same time, an increase in the share of depreciation costs was observed, which proves greater investment activity, which, in the future, may contribute to an increase in the scale of production and an improvement in the competitiveness of these farms.

CONCLUSIONS

The aim of the study was to assess the cost effectiveness of farms in Poland as compared to an average farm in the EU, depending on the type of farming. Particular attention was paid to the value and structure of costs as well as the degree of burdening production with total costs. Based on the analyses, the following conclusions were drawn:

1. In the analysed period, the value of total costs of an average farm in Poland was over 2.5 times lower than in the EU, which resulted from a smaller size of activity (lower production value) and lower prices of factors of production.
2. The highest costs, both in Poland and the entire EU, were incurred by farms specialized in breeding granivorous animals, and the lowest by farms of the agricultural type- other grazing livestock and other permanent crops. It was found that production specialization is one of the factors influencing the level of farm costs.
3. In the structure of farm costs, direct costs accounted for the highest share. In Polish farms, the costs of external factors were the least important in total costs, which resulted from a low level of employment in agriculture, low costs of hired labour and financing activities mainly with equity. A relatively high share of this cost category was recorded for farms specialized in other permanent and horticultural crops, which is related to the specific nature of their activity.

4. The highest cost effectiveness, with a growing tendency, was found in farms specialized in breeding other grazing livestock. In this group of farms, the conducted activity was unprofitable as costs exceeded the production value. In Poland, the lowest cost of production of a production unit was recorded by farms of the agricultural type, horticultural crops and milk cows, while in the EU those specialized in other permanent crops. In 2018, compared to 2013, there was an increase in the cost effectiveness of Polish farms, while a slight decrease was visible on the average farm in the EU. This was due to an increase in operating costs to a greater extent than the production value.

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KOSZTOCHŁONNOŚĆ GOSPODARSTW ROLNYCH W POLSCE NA TLE UNII EUROPEJSKIEJ

Słowa kluczowe: gospodarstwo rolne, produkcja rolnicza, koszty, FADN,
Polska, Unia Europejska

ABSTRAKT

Celem badań była ocena kosztouchłoności gospodarstw rolnych w Polsce na tle Unii Europejskiej w zależności od typu rolniczego. Określono wartość i strukturę kosztów badanych gospodarstw rolnych oraz oceniono relację: koszty – produkcja. Badaniami objęto gospodarstwa uczestniczące w europejskim systemie zbierania danych rachunkowych z gospodarstw rolnych FADN (Farm Accountancy Data Network). Okres badawczy obejmował dane za lata 2013-2018. Na podstawie przeprowadzonych badań stwierdzono wysokie obciążenie produkcji gospodarstw rolnych kosztami, zarówno w Polsce, jak i w całej UE. W strukturze kosztów największy udział miały koszty bezpośrednie, które szczególnie istotne były w gospodarstwach nastawionych na produkcję zwierzęcą. Zaobserwowano zróżnicowanie w strukturze kosztów i kosztouchłoności w zależności od typu rolniczego. Najwyższą kosztouchłonością produkcji charakteryzowały się gospodarstwa o typie rolniczym zwierzęta trawożerne, a najniższą gospodarstwa wyspecjalizowane w uprawach ogrodniczych i hodowli krów mlecznych. W 2018 roku w stosunku do 2013 roku odnotowano wzrost kosztouchłoności produkcji polskich gospodarstw rolnych, a średnio w UE niewielki spadek. Wzrost kosztów i zwiększanie się kosztouchłoności produkcji polskich gospodarstw świadczy o ogólnym wzroście cen czynników wytwórczych wykorzystywanych w produkcji rolniczej i spadku konkurencyjności kosztowej na rynku europejskim.

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