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## THE USE OF SERVICES ON FARMS IN POLAND (BASED ON THE FADN DATA)\*

Małgorzata Kołodziejczak✉

Poznań University of Life Sciences

**Abstract.** The aim of the paper was to assess the changes in level and structure of services on farms in Poland. The study was based on unpublished statistics, which were collected and processed with the Farm Accountancy Data Network (FADN). The research covered services according to the regions and classes of economic size in 2004–2012. In all the regions under investigation there was an increase in the value of services purchased by farms. The highest value reached services for crop production, and then services for animal production and transport services. An increase in value and share of services for operating activities was observed. The following dependence was noticeable – the larger the farm was, the greater the share of veterinary services in the structure of total services was and the lesser the shares of crop production and transport services were.

**Key words:** services, regions, farms, economic size (ESU), FADN, Poland

### INTRODUCTION

Changes in the significance of role of services are both the consequence and stimulator of transformations and modernisation in the structure of economy.

Socioeconomic transformations and changing conditions of agricultural activity, especially resulting from the enlargement of the European Union, first cause the need to use services and later they create the conditions for taking actions to develop and popularise service-providing activities in different sectors, including agriculture (Kołodziejczak, 2015). The main reason for using services is the fact that doing specific activities or field works on one's own cannot be economically justified. The service is more efficient and it is not necessary (or possible) to invest money in expensive equipment. Farms often use services because of technical regulations and standards required by the EU (e.g. in animal production). They may also use services because of the shortage of labour or the farm owner's need to generate leisure time.

The aim of the article was to present changes in the level and structure of using services by farms in Poland in a spatial aspect (at a regional level) and according to the economic size of farms.

The value of services purchased by farms was analysed. The structure of services was presented with a particular focus on agricultural services (specialised services for crop and animal production), building (repair) services, transport services, agritourist services,

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✉ dr inż. Małgorzata Kołodziejczak, Katedra Ekonomii i Polityki Gospodarczej w Agrobiznesie, Uniwersytet Przyrodniczy w Poznaniu, ul. Wojska Polskiego 28, 60-637 Poznań, Poland, e-mail: małgorzata.kolodziejczak@up.poznan.pl

forest production services, non-agricultural services and other operational activity services<sup>1</sup>.

The analysis spanned the years 2004–2012. Due to the long period of time under analysis it was necessary to use a measure enabling comparability of the indices investigated. In order to achieve this, the consumer price index (CPI) was used to eliminate the influence of price variation and the results were expressed as fixed prices of 2012. The study was based on unpublished statistics, which were collected and processed with the Farm Accountancy Data Network (FADN)<sup>2</sup> system of collection and use of accounting data from farms in the EU and reference publications.

The research was conducted in two approaches: one – concerning regional diversification and the other – concerning classes of the economic size of farms. In 2004 the sample included 11,104 representative farms for the field of observation comprising 744,167 farms, whereas in 2012 there were 10,909 representative farms for the field of observation comprising 735,486 farms.

## USE OF SERVICES BY REGIONS

Between 2004 and 2012 in all the regions under analysis there was an increase in the value of services purchased (Table 1). The greatest increase was noticeable in Mazowsze and Podlasie as well as in Małopolska and Pogórze (30% in each region), followed by Pomorze and Mazury (18%). The increase was the smallest in Wielkopolska and Śląsk (6%). However, during the period under analysis the value of services purchased in this region was the greatest, as it amounted to more than 6,000 PLN in 2012. This value was slightly lower in Pomorze and Mazury (5.8 thousand PLN) and in

Mazowsze and Podlasie (4.9 thousand PLN). The lowest value was observed in Małopolska and Pogórze (3.5 thousand PLN). The mean value in Poland was 5 thousand PLN (Table 1).

Among all groups of services purchased by farms, crop production services were predominant. Similarly to the total services, the highest value of crop production services was noted in Wielkopolska and Śląsk (2.7 thousand PLN), whereas the lowest value was in Małopolska and Pogórze (1.4 thousand PLN). The value of crop production services increased in all the regions except Pomorze and Mazury, where it dropped by 8%. Depending on the region and year, the value of animal production services was 2–3.5 times smaller than the value of crop production services. The value of animal production services was the greatest in Wielkopolska and Śląsk and in Pomorze and Mazury, where it exceeded 1 thousand PLN, whereas it was 1.3–2.5 times smaller in the other two regions. Apart from that, in two of the regions under study (in Pomorze and Mazury and in Małopolska and Pogórze) the value of animal production services decreased, which was chiefly caused by a decrease in the value of specialised animal production services<sup>3</sup>. Although the value of animal breeding services was minimal, it was possible to observe the growing importance of these services in Pomorze and Mazury. These services almost disappeared from the other regions. The value of veterinary services increased in all the regions under study. The increase was the greatest in Mazowsze and Podlasie (65%, in 2012 the value was 706 PLN). The highest value (1.1 thousand PLN) of veterinary services was noted in Wielkopolska and Śląsk.

Apart from crop and animal production services, farms also used building services, transport services, agritourist services, forest production services, non-agricultural services and other operational activity services. Among these services the greatest value of transport services was observed. Their value decreased only in Wielkopolska and Śląsk (by 14%). As a result, while this region was characterised by the greatest value of these services in 2004 (1.3 thousand PLN), it dropped to the third place in 2012, following Pomorze and Mazury and Małopolska and Pogórze. Simultaneously, in

<sup>1</sup> It is a service classification system for coding all events taking place on a farm according to the Polish FADN (Goraj et al., 2009). There are different systems of classifications of farm-related services in the literature. Wojciechowska (1979) defined all production services for agriculture as a system of agricultural production services, which consisted of preproduction, production and postproduction services. Tomczak (1981) based his classification on the criterion of activity to which a particular service is addressed and he distinguished services addressed to house-keeping, agricultural production and rural building. However, the classification of the Central Statistical Office is the most common – it distinguishes four groups of services provided to agriculture (Radwan, 2010): technological, building, agricultural and transport services.

<sup>2</sup> Standard FADN results apply to a medium-sized farm.

<sup>3</sup> Specialised animal production services mostly include animal breeding (cattle, pigs and other animals). During the period under study there were no sheep, goat or poultry breeding services provided to farms in Poland.

**Table 1.** Values of services purchased by farms in Polish regions in 2004–2012 (PLN), constant 2012 prices  
**Tabela 1.** Wartość usług w gospodarstwach rolnych w regionach w latach 2004–2012 (zł), ceny stałe z 2012 roku

Specification Wyszczególnienie	Pomorze and Mazury Pomorze i Mazury		Wielkopolska and Śląsk Wielkopolska i Śląsk		Mazowsze and Podlasie Mazowsze i Podlasie		Małopolska and Pogórze Małopolska i Pogórze		Total Razem	
	2004	2012	2004	2012	2004	2012	2004	2012	2004	2012
1	2	3	4	5	6	7	8	9	10	11
Farms represented Liczba reprezentowanych gospodarstw	75 348	74 168	185 342	174 799	356 368	343 956	127 108	142 563	744 167	735 486
Sample farms Liczba gospodarstw w próbie	1 478	1 712	3 730	3 951	4 549	3 997	1 347	1 249	11 104	10 909
Services in total Usługi ogółem	4 937.5	5 810.8	5 760.8	6 082.8	3 753.0	4 877.3	2 718.3	3 510.3	4 196.2	4 993.0
Services for crop production Usługi do produkcji roślinnej	2 405.9	2 207.1	2 584.0	2 731.1	1 844.2	2 193.7	1 302.1	1 528.5	1 992.7	2 193.9
Specialised services for crop production Usługi specjalistyczne do produkcji roślinnej	127.9	237.1	250.2	175.2	145.5	128.5	105.2	171.7	162.9	158.9
Other specialised services for crop production Pozostałe usługi do produkcji roślinnej	2 278.1	1 970.0	2 333.8	2 555.9	1 698.7	2 065.2	1 196.9	1 356.8	1 829.8	2 034.9
Services for animal production Usługi do produkcji zwierzęcej	1 089.0	1 066.7	1 086.9	1 250.0	528.8	816.4	500.0	486.3	719.6	880.7
Specialised services for animal production Usługi specjalistyczne do produkcji zwierzęcej	178.3	130.8	127.8	100.3	70.6	94.2	83.9	55.5	98.0	91.9
Animal breeding services Usługowy odchów zwierząt	0.9	3.1	2.1	0.1	0.7	0.3	0.9	0.0	1.1	0.4
Cattle breeding services Usługowy odchów bydła	0.0	3.0	0.1	0.0	0.3	0.0	0.0	0.0	0.2	0.3
Pig breeding services Usługowy odchów trzody chlewnej	0.0	0.0	1.9	0.0	0.1	0.0	0.8	0.0	0.6	0.0
Other animals' breeding services Usługowy odchów pozostałych zwierząt	0.9	0.1	0.1	0.0	0.3	0.3	0.1	0.0	0.3	0.1
Other specialised services for animal production Inne usługi specjalistyczne do produkcji zwierzęcej	177.3	127.8	125.7	100.3	70.0	93.9	82.9	55.5	96.9	91.4
Veterinary services Usługi weterynaryjne	849.1	869.1	915.0	1 104.4	428.1	705.7	375.4	411.7	583.0	759.9
Other services for animal production Pozostałe usługi do produkcji zwierzęcej	61.7	66.8	44.1	45.2	30.1	16.5	40.8	19.2	38.6	28.9

**Tabela 1 – cont. / Table 1 – cd.**

1	2	3	4	5	6	7	8	9	10	11
Building services Usługi remontowe	607.4	826.6	768.9	835.2	442.2	441.4	406.2	467.2	534.1	578.8
Services related with running repairs of buildings, structures and irrigation systems Usługi do remontów bieżących budynków, budowli i melioracji	280.0	381.2	237.7	242.4	107.3	111.3	153.2	128.1	165.1	172.9
Services related with running repairs of means of transport and machinery Usługi do remontów bieżących środków transportowych i maszyn	327.4	445.3	531.1	592.8	334.9	330.1	253.0	339.1	369.0	405.9
Transport services Usługi transportowe	786.8	1 502.5	1 250.9	1 073.3	905.5	1 292.7	473.7	895.1	905.8	1 184.6
Agritourist services Usługi agroturystyczne	13.2	1.7	2.2	0.0	2.7	1.1	0.8	0.4	3.3	0.8
Forest production services Usługi do produkcji leśnej	0.1	0.58	0.6	1.87	0.5	0.61	1.8	0.72	0.7	0.93
Non-agricultural services Usługi do produkcji nierolniczej	7.7	1.85	15.9	1.41	0.8	1.63	1.1	0.81	5.3	1.44
Other operational activity services Usługi pozostałe do działalności operacyjnej	27.3	173.22	51.4	160.19	28.3	111.30	32.6	102.72	34.7	127.50

Source: Unpublished data of FADN (2014).  
Źródło: Niepublikowane dane FADN (2014).

Pomorze and Mazury and in Małopolska and Pogórze there was the greatest increase in the value of these services, i.e. about 90%. Farms in Wielkopolska and Śląsk and in Pomorze and Mazury were the greatest users of repair services (a 36% increase) and the value of these services was greater than 800 PLN (the mean value in Poland was about 600 PLN), whereas in the other regions the value of repair services was twice smaller. However, the values of repair services were diversified, depending whether these were running repairs of buildings, structures and irrigation systems or repairs of means of transport and machinery. Farms spent much more money on the latter group. These values were from 1.2 times (Pomorze and Mazury) to 3 times (Mazowsze and Podlasie) greater. The values of agritourist services, forest production services and non-agricultural services were minimal (the mean values in Poland were 0.8, 0.9 and 1.4 PLN, respectively). During the period under investigation in all the regions there was a decrease in

the values of agritourist services and non-agricultural services (except Mazowsze and Podlasie), but there was an increase in forest production services (except Małopolska and Pogórze). The greatest increase was observed in the value of operational activity services. It was from two to five times greater in Pomorze and Mazury, where their value was the greatest (173 PLN), and it was slightly smaller in Wielkopolska and Śląsk.

During the period under investigation there were changes in the structure of services provided to farms (Table 2). In all the regions there was a noticeable increase in the share of other operational activity services, a decrease in the share of crop production services as well as specialised and other animal production services. Apart from that, there was a slight increase in the share of services related with running repairs of buildings, structures and irrigation systems (Pomorze and Mazury), but there was a decrease in the share of services related with running repairs of means of transport

**Table 2.** Structure of using of services purchased by farms in Polish regions in 2004–2012 (PLN), constant 2012 prices

**Tabela 2.** Struktura korzystania z usług w gospodarstwach rolnych w regionach w latach 2004–2012 (zł), ceny stałe z 2012 roku

Specification Wyszczególnienie	Pomorze and Mazury Pomorze i Mazury		Wielkopolska and Śląsk Wielkopolska i Śląsk		Mazowsze and Podlasie Mazowsze i Podlasie		Małopolska and Pogórze Małopolska i Pogórze		Total Razem	
	2004	2012	2004	2012	2004	2012	2004	2012	2004	2012
1	2	3	4	5	6	7	8	9	10	11
Services in total Usługi ogółem	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Services for crop production Usługi do produkcji roślinnej	48.7	38.0	44.9	44.9	49.1	45.0	47.9	43.5	47.5	43.9
Specialised services for crop production Usługi specjalistyczne do produkcji roślinnej	2.6	4.1	4.3	2.9	3.9	2.6	3.9	4.9	3.9	3.2
Other specialised services for crop production Pozostałe usługi d o produkcji roślinnej	46.1	33.9	40.5	42.0	45.3	42.3	44.0	38.7	43.6	40.8
Services for animal production Usługi do produkcji zwierzęcej	22.1	18.4	18.9	20.5	14.1	16.7	18.4	13.9	17.1	17.6
Specialised services for animal production Usługi specjalistyczne do produkcji zwierzęcej	3.6	2.3	2.2	1.6	1.9	1.9	3.1	1.6	2.3	1.8
Animal breeding services Usługowy odchów zwierząt	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cattle breeding services Usługowy odchów bydła	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pig breeding services Usługowy odchów trzody chlewnej	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other animals' breeding services Usługowy odchów pozostałych zwierząt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other specialised services for animal production Inne usługi specjalistyczne do produkcji zwierzęcej	3.6	2.2	2.2	1.6	1.9	1.9	3.1	1.6	2.3	1.8
Veterinary services Usługi weterynaryjne	17.2	15.0	15.9	18.2	11.4	14.5	13.8	11.7	13.9	15.2
Other services for animal production Pozostałe usługi do produkcji zwierzęcej	1.2	1.1	0.8	0.7	0.8	0.3	1.5	0.5	0.9	0.6
Building services Usługi remontowe	12.3	14.2	13.3	13.7	11.8	9.1	14.9	13.3	12.7	11.6

**Table 2 – cont. / Tabela 2 – cd.**

1	2	3	4	5	6	7	8	9	10	11
Services related with running repairs of buildings, structures and irrigation systems Usługi do remontów bieżących budynków, budowli i melioracji	5.7	6.6	4.1	4.0	2.9	2.3	5.6	3.6	3.9	3.5
Services related with running repairs of means of transport and machinery Usługi do remontów bieżących środków transportowych i maszyn	6.6	7.7	9.2	9.7	8.9	6.8	9.3	9.7	8.8	8.1
Transport services Usługi transportowe	15.9	25.9	21.7	17.6	24.1	26.5	17.4	25.5	21.6	23.7
Agritourist services Usługi agroturystyczne	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0
Forest production services Usługi do produkcji leśnej	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Non-agricultural services Usługi do produkcji nierolniczej	0.2	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Other operational activity services Usługi pozostałe do działalności operacyjnej	0.6	3.0	0.9	2.6	0.8	2.3	1.2	2.9	0.8	2.6

Source: Unpublished data of FADN (2014) and own calculations.  
Źródło: Niepublikowane dane FADN (2014) i obliczenia własne.

and machinery (Mazowsze and Podlasie). Only in Wielkopolska and Śląsk there was a decrease in the share of transport services in the structure of total services. As far as agritourist services, forest production services and non-agricultural services are concerned, it is difficult to observe any changes in their share in the structure of total services due to very low values of these services.

In 2012 the following types of services had the greatest share in the structure of total services: crop production services (38–45%), transport services (about 25%; only in Wielkopolska and Śląsk it was 18%), veterinary services (12–18%). The share of services related with running repairs of means of transport and machinery ranged from 7% to 10%, whereas the share of services related with running repairs of buildings, structures and irrigation systems ranged from 2.5% to 6.5%. The following types of services had the smallest share in the structure of total services: specialised (1.5–2%) and other services (0.3–1%) related with animal production and other operational activity services (about 3%).

## USE OF SERVICES BY CLASSES OF ECONOMIC SIZE OF FARMS

As results from the data in Table 3, the value of services purchased by farms increased along with their economic size. However, there were some exceptions to the rule. For example, in 2004 the value of other specialised services related with animal production purchased by large farms was slightly smaller than the value purchased by medium-large farms. Apart from that, in 2012 we could not observe this dependence in forest production services and non-agricultural services because these values decreased in medium-large and smaller farms. Agritourist services were purchased by very small, small, medium-small and medium-large farms (only in 2004). The value of these services increased only in the group of medium-small farms. It is noticeable that farms were gradually abandoning animal breeding services. In 2004 it was still possible to see minimal values of these services purchased by very small to medium-large farms. In 2012 these services were almost completely



**Table 3.** Values of services purchased by farms according to the economic size classes in 2004–2012 (PLN), constant 2012 prices  
**Tabela 3.** Wartość usług w gospodarstwach rolnych według wielkości ekonomicznej w latach 2004–2012 (zł), ceny stałe z 2012 roku

Specification Wyszczególnienie	Very small Bardzo małe (<4 ESU)		Small Małe (4 ≤ 8 ESU)		Medium-small Średnio małe (8 ≤ 16 ESU)		Medium-large Średnio duże (16 ≤ 40 ESU)		Large Duże (40 ≤ 100 ESU)		Very large Bardzo duże (≥100 ESU)		Total Razem		
	2004	2012	2004	2012	2004	2012	2004	2012	2004	2012	2004	2012	2004	2012	
Farms represented Liczba reprezentowanych gospodarstw	169 889	305 884	319 770	326 053	179 404	179 404	72 561	62 874	21 478	21 478	403	403	744 167	735 486	
Sample farms Liczba gospodarstw w próbie	903	1 150	2 358	4 256	3 430	3 430	3 416	1 735	869	727	128	21	11 104	10 909	
Services in total Usługi ogółem	2 285.8	3 167.1	3 020.8	4 631.8	5 149.2	5 149.2	8 281.1	8 319.4	13 680.3	15 276.2	27 055.3	69 204.5	129 478.4	4 196.2	4 993.0
Services for crop production Usługi do produkcji roślinnej	1 398.0	1 692.2	1 706.7	2 210.2	2 323.1	2 323.1	3 095.4	2 951.3	4 152.9	4 651.6	6 434.3	20 848.1	7 235.9	1 992.7	2 193.9
Specialised services for crop production Usługi specjalistyczne do produkcji roślinnej	78.8	112.4	116.7	125.5	196.8	196.8	309.6	325.9	428.4	538.4	1 033.2	3 809.0	1 292.1	162.9	158.9
Other specialised services for crop production Pozostałe usługi do produkcji roślinnej	1 319.2	1 579.8	1 590.0	2 084.7	2 126.3	2 126.3	2 785.8	2 625.4	3 724.5	4 113.2	5 401.1	17 039.1	5 943.8	1 829.8	2 034.9
Services for animal production Usługi do produkcji zwierzęcej	226.7	241.8	388.5	620.2	849.0	849.0	2 030.8	2 141.4	4 430.2	4 204.8	11 225.4	17 965.7	66 558.3	719.6	880.7
Specialised services for animal production Usługi specjalistyczne do produkcji zwierzęcej	20.9	11.4	47.6	45.4	96.8	96.8	297.5	364.4	724.4	546.6	1 222.0	3 443.0	2 495.2	98.0	91.9
Animal breeding services Usługi odchow zwierząt	0.1	0.0	0.6	0.0	0.6	0.6	0.1	7.4	0.3	2.8	34.0	0.0	0.0	1.1	0.4
Cattle breeding services Usługi odchow bydła	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.2	0.1	1.6	23.8	0.0	0.0	0.2	0.3
Pig breeding services Usługi odchow trzody chlewnej	0.0	0.0	0.3	0.0	0.1	0.1	0.0	5.6	0.0	0.3	0.0	0.0	0.0	0.6	0.0
Other animals' breeding services Usługi odchow pozostałych zwierząt	0.1	0.0	0.0	0.0	0.5	0.5	0.1	1.6	0.2	0.9	10.2	0.0	0.0	0.3	0.1



**Table 3 – cont. / Tabela 3 – cd.**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Other specialised services for animal production Inne usługi specjalistyczne do produkcji zwierzęcej		20.8	11.4	46.9	45.4	96.2	297.4	357.0	724.2	543.8	1 188.0	3 443.0	2 495.2	96.9	91.4
Veterinary services Usługi weterynaryjne		195.5	224.6	314.6	554.6	709.2	1 664.9	1 654.9	3 566.8	3 550.1	9 582.4	13 682.5	61 352.3	583.0	759.9
Other services for animal production Pozostałe usługi do produkcji zwierzęcej		10.3	5.8	26.4	20.3	43.0	68.4	122.2	139.0	108.2	421.0	840.2	2 710.8	38.6	28.9
Building services Usługi remontowe		188.3	274.1	311.5	522.4	682.5	1 046.3	1 426.5	2 129.2	3 056.3	4 284.4	9 609.2	27 049.9	534.1	578.8
Services related with running repairs of buildings, structures and irrigation systems Usługi do remontów bieżących budynków, budowli i melioracji		53.6	78.8	90.8	151.2	187.4	285.5	524.9	687.5	1 199.6	1 278.4	2 570.1	16 505.9	165.1	172.9
Services related with running repairs of means of transport and machinery Usługi do remontów bieżących środków transportowych i maszyn		134.7	195.3	220.6	371.1	495.2	760.8	901.7	1 441.7	1 856.6	3 006.1	7 039.1	10 544.0	369.0	405.9
Transport services Usługi transportowe		440.2	866.1	588.9	1 167.4	1 251.3	1 760.1	1 720.5	2 374.5	3 153.8	4 090.1	19 050.2	24 161.4	905.8	1 184.6
Agri-tourist services Usługi agroturystyczne		10.2	0.2	0.0	0.4	3.2	5.1	2.4	0.0	0.0	0.0	0.0	0.0	3.3	0.8
Forest production services Usługi do produkcji leśnej		0.6	0.26	0.3	0.20	1.0	7.40	1.4	0.05	1.3	0.00	24.9	0.00	0.7	0.93
Non-agricultural services Usługi do produkcji nierolniczej		0.1	0.00	1.5	1.62	3.3	5.81	6.3	5.23	7.5	0.14	960.1	0.00	5.3	1.44
Other operational activity services Usługi pozostałe do działalności operacyjnej		21.8	83.94	23.4	86.17	35.7	282.07	69.6	496.76	200.9	775.39	746.2	4 472.80	34.7	127.50

Source: Unpublished data of FADN (2014).  
Źródło: Niepublikowane dane FADN (2014).

abandoned. Large farms were an exception to the rule. During the period under analysis there was a relatively high increase in services related with breeding cattle and other animals. The value of animal production services (except veterinary services) decreased in the groups of very small, small and very large farms. The value of crop production services decreased in the group of very large farms. Medium-small farms (except animal breeding services) and large farms (except non-agricultural services) were the only farm types where the value of all the services under analysis increased (Table 3).

As far as classes of the economic size of farms are concerned, the structure of services was diversified. In the groups of very small, small and medium-small farms crop production services (37–53%) were predominant in the structure of total services and their share decreased along with the increasing size of economic classes of farms (Table 4). We can suppose that the smaller the farm was, the more cost-effective the purchase of services seemed to be. Transport services (21–27%) were the second most common in this group of farms. In the group of very small farms these were services related with running repairs of buildings, structures and irrigation systems (9%), whereas in the group of small and medium-small farms these were veterinary services. In this group of farms we can also distinguish services related with running repairs of means of transport and machinery (6–9%). The smallest share could be observed in specialised services and other animal production services (0.5–3.6%) as well as in other operational activity services (2–3.5%). Medium-large farms were distinguished from the other farms by their different structure of total services. The greatest share could be observed in crop production services (30%), followed by veterinary services (26%), transport and repair services (17% each). Services related with running repairs of means of transport and machinery were predominant in this group. Specialised services related with crop and animal production and other operational activity services were characterised by the smallest share. The structure of the largest farms, i.e. large and very large farms, was predominated by veterinary services (35% and 47%, respectively), followed by crop production services (23%) and transport and repair services (15% each) in the group of large farms. On the other hand, in the group of very large farms veterinary services were immediately followed by repair services. However, in contrast to the group of smaller farms, in this group services related

with running repairs of buildings, structures and irrigation systems were predominant.

The structure of the share of services according to classes of the economic size of farms was characterised by the following dependence – the larger the farm was, the greater the share of veterinary services in the structure of total services was and the lesser the shares of crop production and transport services were. Apart from that, during the period under investigation there was an increase in the share of veterinary services and other operational activity services along with a decrease in the share of other groups of services, especially crop production services. In the group of very large farms we could observe the greatest decrease in the share of crop production services in the structure of total services, i.e. from 30% to nearly 6%.

## CONCLUDING REMARKS

The article was an attempt to present the level and structure of the use of services on farms in Poland. The research resulted in the following observations:

1. Between 2004 and 2012 in all the regions under investigation there was an increase in the value of services purchased by farms. The value increased the most in Mazowsze and Podlasie as well as in Małopolska and Pogórze (by 30% in each region). The smallest increase was observed in Wielkopolska and Śląsk (6%). However, during the period under analysis the value of services purchased in this region was the greatest, but it was the lowest in Małopolska and Pogórze. Crop production services were predominant. Depending on the region and year their value was 2–3.5 times greater than the value of animal production services.

2. Apart from crop and animal production services, farms also purchased building services, transport services, agritourist services, forest production services, non-agricultural services and other operational activity services. Transport services reached the greatest value, whereas the value of agritourist services, forest production services and non-agricultural services was the smallest.

3. During the period under investigation there were changes in the structure of services. In all the regions there was a noticeable increase in the share of other operational activity services, a decrease in the share of crop production services as well as specialised and other animal production services. Apart from that, there was

**Table 4.** Structure of using of services purchased by farms according to the economic size classes in 2004–2012 (PLN), constant 2012 prices

**Tabela 4.** Struktura korzystania z usług w gospodarstwach rolnych według wielkości ekonomicznej w latach 2004–2012 (zł), ceny stałe z 2012 roku

Specification Wyszczególnienie	Very small Bardzo małe (<4 ESU)		Small Małe (4 ≤ 8 ESU)		Medium-small Średnio małe (8 ≤ 16 ESU)		Medium-large Średnio duże (16 ≤ 40 ESU)		Large Duże (40 ≤ 100 ESU)		Very large Bardzo duże (≥100 ESU)		Total Razem	
	2004	2012	2004	2012	2004	2012	2004	2012	2004	2012	2004	2012	2004	2012
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Services in total Usługi ogółem	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Services for crop production Usługi do produkcji roślinnej	61.2	53.4	56.5	47.7	45.1	37.4	35.5	30.4	30.5	23.8	30.1	5.6	47.5	43.9
Specialised services for crop production Usługi specjalistyczne do produkcji roślinnej	3.4	3.5	3.9	2.7	3.8	3.7	3.9	3.1	3.5	3.8	5.5	1.0	3.9	3.2
Other specialised services for crop production Pozostałe usługi do produkcji roślinnej	57.7	49.9	52.6	45.0	41.3	33.6	31.6	27.2	26.9	20.0	24.6	4.6	43.6	40.8
Services for animal production Usługi do produkcji zwierzęcej	9.9	7.6	12.9	13.4	16.5	24.5	25.7	32.4	27.5	41.5	26.0	51.4	17.1	17.6
Specialised services for animal production Usługi specjalistyczne do produkcji zwierzęcej	0.9	0.4	1.6	1.0	1.9	3.6	4.4	5.3	3.6	4.5	5.0	1.9	2.3	1.8
Animal breeding services Usługowy odchow zwierząt	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Cattle breeding services Usługowy odchow bydła	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Pig breeding services Usługowy odchow trzody chlewnej	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other animals' breeding services Usługowy odchow pozostałych zwierząt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other specialised services for animal production Inne usługi specjalistyczne do produkcji zwierzęcej	0.9	0.4	1.6	1.0	1.9	3.6	4.3	5.3	3.6	4.4	5.0	1.9	2.3	1.8
Veterinary services Usługi weterynaryjne	8.6	7.1	10.4	12.0	13.8	20.1	19.9	26.1	23.2	35.4	19.8	47.4	13.9	15.2
Other services for animal production Pozostałe usługi do produkcji zwierzęcej	0.4	0.2	0.9	0.4	0.8	0.8	1.5	1.0	0.7	1.6	1.2	2.1	0.9	0.6
Building services Usługi remontowe	8.2	8.7	10.3	11.3	13.3	12.6	17.1	15.6	20.0	15.8	13.9	20.9	12.7	11.6

**Table 4 – cont. / Tabela 4 – cd.**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Services related with running repairs of buildings, structures and irrigation systems Usługi do remontów bieżących budynków, budowli i melioracji	2.3	2.5	3.0	3.3	3.6	3.4	6.3	5.0	7.9	4.7	3.7	12.7	3.9	3.5
Services related with running repairs of means of transport and machinery Usługi do remontów bieżących środków transportowych i maszyn	5.9	6.2	7.3	8.0	9.6	9.2	10.8	10.5	12.2	11.1	10.2	8.1	8.8	8.1
Transport services Usługi transportowe	19.3	27.3	19.5	25.2	24.3	21.3	20.7	17.4	20.6	15.1	27.5	18.7	21.6	23.7
Agritourist services Usługi agroturystyczne	0.4	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Forest production services Usługi do produkcji leśnej	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-agricultural services Usługi do produkcji nierolniczej	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	1.4	0.0	0.1	0.0
Other operational activity services Usługi pozostałe do działalności operacyjnej	1.0	2.7	0.8	1.9	0.7	3.4	0.8	3.6	1.3	2.9	1.1	3.5	0.8	2.6

Source: Unpublished data of FADN (2014) and own calculation.  
Źródło: Niepublikowane dane FADN (2014) i obliczenia własne.

a slight increase in the share of services related with running repairs of buildings, structures and irrigation systems (Pomorze and Mazury), but there was a decrease in the share of services related with running repairs of means of transport and machinery (Mazowsze and Podlasie). As far as agritourist services, forest production services and non-agricultural services are concerned, due to very low values of these services it is difficult to observe any changes in their share in the structure of total services.

4. According to classes of the economic size of farms, the structure of services was diversified. In the groups of very small, small and medium-small farms crop production services (37–53%) were predominant and their share decreased along with the increasing size of economic classes of farms. We can suppose that the smaller the farm was, the more cost-effective the purchase of services seemed to be. The following dependence was noticeable – the larger the farm was, the greater the share of veterinary services in the structure

of total services was and the lesser the shares of crop production and transport services were.

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## KORZYSTANIE Z USŁUG W GOSPODARSTWACH ROLNYCH W POLSCE (NA PODSTAWIE DANYCH FADN)

**Abstrakt.** Celem artykułu jest przedstawienie zmian w poziomie i strukturze korzystania z usług w gospodarstwach rolnych w Polsce. Badanie przeprowadzono z wykorzystaniem bazy danych systemu rachunkowości rolnej FADN. Analizą objęto usługi według regionów i klas wielkości ekonomicznej w latach 2004–2012. We wszystkich regionach zwiększyła się wartość zakupu usług ogółem. W badanych latach największa była wartość usług do produkcji roślinnej, a w dalszej kolejności do produkcji zwierzęcej oraz usług transportowych. Nastąpił wzrost wartości i udziału usług do działalności operacyjnej. Zauważalna jest zależność, że im większe gospodarstwo rolne, tym większy udział usług weterynaryjnych w strukturze usług ogółem, natomiast zmniejsza się w nich udział usług do produkcji roślinnej i transportowych.

**Słowa kluczowe:** usługi, regiony, gospodarstwa rolne, wielkość ekonomiczna (ESU), FADN, Polska

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