

GRAŻYNA NACHTMAN

DOI: 10.30858/zer/83065

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## VAT IN THE OPERATION OF FARMS IN 2010-2013

### Abstract

*Agricultural activity in Poland, just like business activity, is covered by VAT scheme. In agriculture it is permissible to settle VAT under general principles or as flat-rate. Settlement of VAT under general principles is voluntary, except for farmers keeping account books. From the subject literature it follows, however, that increasingly more often farmers choose the status of an active VAT payer; such trend was also observed among Polish FADN farms.*

*The paper analyses the results of VAT settlement under general principles at farms forming a panel in 2010-2013, grouped according to economic size. Regardless of the economic size class, in each group the average VAT balance always showed a negative value, which meant refund of overpaid VAT to the farm. The VAT amount to be refunded was considerably increased by the VAT output, included in investment purchases. It can be assumed that investments were the main stimuli to resign from the status of flat-rate farmer. The amount of refunded VAT for farmers – active VAT payers, is not a component of family farm income (FFI), just like in the case of other taxpayers. It is a separate value, undoubtedly generating monetary income of a farmer, which over the four years in the researched farms constituted a huge support for them. A cut on investments and better effects of farming can result in reversal of the VAT settlement effect to the advantage of the Tax Office. Then a farmer can return to the flat-rate status, but one of the conditions of leaving the VAT scheme is the necessity to adjust the deducted VAT, which may not be favourable for the farmer.*

**Keywords:** VAT in agriculture, flat-rate farmer, VAT under general principles, VAT balance.

## Introduction

VAT (Value Added Tax) is the dominating component of the consumption taxes, most significant in drawing up the budgets of many countries of the European Union, including Poland (Tyszko (ed.), 2013), which constitutes over 40% of budget receipts<sup>1</sup>. Taxation with VAT in Poland works on the basis of the Act on value added tax of 11 March 2004<sup>2</sup> as amended. These regulations cover also farming activities. Article 43 of the Act stipulates that delivery (i.e. sales) of agricultural products from own farming activities or provision of agricultural services are released from the VAT settlement obligation. Two types of settlement of VAT on farming activities are acceptable – as a flat-rate or according to general rules. The flat-rate form does not have to be registered in the Tax Office, and the farmer is not obliged to issue invoices to contractors or run sales records; VAT on sales of crops is settled by the purchaser. A farmer can voluntarily chose settlement in line with general rules and register as an active taxpayer. The voluntariness means that a farmer is not obligated – like other VAT payers – to report to the Tax Office as a VAT payer after exceeding the sales limit, which in case of other taxpayers is PLN 100 thousand in 2010, and as of 2011 – PLN 150 thousand. In case of farmers there was a lower limit of revenues (PLN 20 thousand), entitling to resign from the status of a flat-rate farmer, which was revoked as of 2011. Inclusion of agriculture to the VAT system allowed to deduct VAT included in the purchase invoices, which is especially important when making purchases linked to investments in a farm.

Recently, farmers increasingly more often resign from the status of a flat-rate farmer to become active VAT payers. The possibility to deduct VAT, especially from capital expenditures, fosters upgrade of resources and supports farm development. This is evidenced by both research of experts (Brodzińska, 2015; Dziemianowicz, 2006), and experiences of the very farmers (Zabielska, 2011). The increasingly more common phenomena of settlement of VAT by farmers according to the general rules is largely the result of investment programmes targeted at farmers under the Rural Development Programme funded by the EU (Turowska, 2010). Financial aid from the RDP for most of the activities is provided to the net value of investments. A farmer can recover the paid VAT, included in the gross capital expenditures, if the farmer is an active VAT payer, i.e. makes settlements under general rules.

Rich empirical material to assess the role of VAT in agriculture is provided by data of farms keeping accounts in the Polish FADN. The paper aims to identify the effects of resigning from the flat-rate VAT settlement at individual farms and transferring to general rules, especially the impact of results of VAT settlement on the economic results of farms in dynamic terms.

<sup>1</sup> Own calculations based on <http://www.finanse.mf.gov.pl/budzet-panstwa/wplywy-budzetowe>.

<sup>2</sup> Act of 11 March 2004 on value added tax (Journal of Laws of 2004, no. 54, item 535).

### **The essence of VAT, research material, method**

The obligation on account of VAT towards the Tax Office is the balance of settlement of output VAT amount on goods and services sold (delivery of goods and provision of services), and the amount of input VAT, contained in the goods and services purchased (acquisition). The obligation to pay VAT exists when the balance of output and input VAT settlement is positive. In case of higher amount of input over output VAT, the settlement balance is negative and the taxpayer is entitled to reimbursement of the surplus tax amount.

The size and structure of deliveries (sales) and purchases of goods and services as well as VAT rates assigned to them show what is the VAT balance at the payers' of this tax for a given period.

In case of agriculture the VAT rates for agricultural products and many means of production are preferential, because the main aim of agriculture taxation with this tax was providing support to its development. This translates not only into chances of recovering input VAT in agriculture by active VAT payers, but also lowers the VAT burden on products for the consumers. Taxation of agricultural products with lower rates marking output VAT on these products causes that it is more difficult to balance input VAT, included in the purchased means of production (including especially the fixed ones), taxed with the basic rate.

Preferences as regards VAT rates in agriculture are justified by its specificity and separate treatment as compared to other sectors of the economy. The EU Member States, including Poland create their own tax system, compliant with the overriding Community acquis, bearing in mind the level of economic development of the country, including agriculture. The specificity of this sector of the economy requires separate solutions. Given its fragmentation, it is necessary to stimulate the growth in farmers' income, transformations, upgrade of farms, and thus growth in competitiveness of agriculture (Tyszko, 2014). Consequently, in the VAT system created in Poland, considering the Sixth Council Directive 77/388/EEC<sup>3</sup> the adopted VAT rates for agricultural products and means of agricultural production had to be lower than 15% in the standard rate and lower than 5% in the lowered rate (Szelałowska, 2014). Therefore, the standard VAT rate in Poland was set at 22% and it was at that level until 2010. Moreover, as a result of derogations from the EU provisions, a lowered 3% VAT rate was used on agricultural and food products in Poland by the end of 2010. As of 2011, because of the difficult situation of the State budget, the standard rate was increased to 23% and it is to be binding by 2016 (Article 41 of the Act). At the same time, the rates in agriculture lowered from 3% and 7% as of 2011, were increased to the level of 5% and 8%<sup>4</sup>.

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<sup>3</sup> Sixth Council Directive 77/388/EEC of 17 May 1977 on the harmonization of the laws of the Member States relating to turnover taxes – Common system of value added tax: uniform basis of assessment (OJ L.145 of 13 June 1977, as amended).

<sup>4</sup> Appendix no. 3 and 10 of the Act of 11 March 2004 on value added tax (Journal of Laws of 2011 no. 177, item 1054).

Tax rates thus constructed allow a farmer, who is an active VAT payer, to recover the VAT paid in capital expenditures, although it was not possible based on the level of sales receipts.

This is compliant with the opinion on neutrality of VAT from agricultural activities, which does not have fiscal character (Dziemianowicz, 2006; Brodzińska, 2015). However, it needs to be kept in mind that as a consequence of choosing the status of an active VAT payer a farmer loses some independence being subject to strict tax law provisions, and also an obligation on regular registration of purchases and sales, and settlements with the Tax Office. A farmer having the status of a flat-rate farmer is not a beneficiary of such settlements. For not invoiced sales a farmer is not entitled to VAT reimbursement, only selling agricultural products based on VAT RR invoice a farmer recovers 7% of flat-rate VAT reimbursement.

As already mentioned, farmers see changes of VAT reimbursement (input VAT surpluses over output VAT), but the decision on going under general rules settlement should be thoroughly analysed. Because a return to the flat-rate form of taxation is possible only after three years from the date of resignation from the VAT release, expressed in a written notice to the head of the Tax Office before the start of the month (quarter) when the farmer wants to re-apply the release<sup>5</sup>. This also involves the obligation of settlement of input VAT deducted when making investments. In line with Article 91 of the Act on VAT, a taxpayer is obliged to make an annual VAT correction on that account and in case of resignation from settlement under general rules, the taxpayer is obliged to reimburse a part of VAT, if the value of investments exceeded PLN 15 thousand. The correction is made within 5 years for depreciable goods and services included on the basis of provisions concerning income tax on fixed assets and intangible assets (e.g. tractors, machinery), or 10 years for properties and perpetual usufruct of land (e.g. barn, mushroom-growing cellar). Therefore, if, for example, a farmer deducted VAT from purchase of a combine harvester (5-year depreciation), but after three years from the purchase the farmer decides to return to the flat-rate form of settlement, then the farmer is obliged to return 2/5 of the amount of VAT deducted on the investment. Given the above-regulations, the return to VAT release for many farmers can be difficult.

An increase in interest in obtaining the status of an active VAT payer is visible among individual farmers keeping accounts in the Polish FADN<sup>6</sup>. In 2010-2013, the number of such farms grew from 2,497 to 4,082 (Table 1). This can be explained by the fact that it is easier to acquire for research in the Polish FADN farms keeping accounts of sales and purchases for the needs of VAT. However,

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<sup>5</sup> Article 43(5) of the Act of 11 March 2004 on value added tax.

<sup>6</sup> Farm Accountancy Data Network.

unpublished data of the Ministry of Finance show a year-on-year increase in the number of entities involved in agriculture that settle VAT under general rules<sup>7</sup>.

For the purposes of this paper, a group of individual farms was selected as the research material. These farms continuously participated over 4 years in keeping accounts and were at the time active VAT payers (in total 1,888).

Table 1  
*Structure of the sample of individual farms of the Polish FADN by participation in the VAT system*

Years	Number of individual farms in the sample of the Polish FADN		
	total	settling VAT under general rules	settling VAT under general rules in the research sample – panel
2010	11,004	2,497	
2011	10,890	2,831	
2012	10,909	3,361	1,888
2013	12,117	4,082	

Source: Polish FADN data.

The effects of VAT settlement under general rules can be considered in different configurations, e.g. by production specialisation or area size. In this paper farms were assessed according to their economic size expressed in Standard Output (SO)<sup>8</sup>, dividing them into four groups: small ( $8,000 \leq \text{EUR SO} < 25,000$ ), medium-small ( $25,000 \leq \text{EUR SO} < 50,000$ ), medium-large ( $50,000 \leq \text{EUR SO} < 100,000$ ) and large ( $100,000 \leq \text{EUR SO} < 500,000$ )<sup>9</sup>. The Tables use only the group names without the economic size assigned to them. In the classification of farms made according to the economic size in the ES6 system, there are six size classes, but in the research population of 1,888 farms the class

<sup>7</sup> There are no detailed statistical data on the number of individual farmers being active VAT payers in Poland. Unpublished data of the Ministry of Finance show that the **number of taxpayers settled under general rules**, who declared as their basic type of activity section 01 of the Polish Classification of Activities (PKD) of 2004 entitled GROWING OF CROPS, RAISING AND BREEDING OF ANIMALS, HUNTING, INCLUDING SERVICE ACTIVITIES (*excluding service activities – group 01.4 – and wildlife management – group 01.5 – and section 01 of PKD of 2007 (excluding service activities – group 01.6) and hunting (group 01.7)*), **in 2013 it amounted to 53,089, in 2014 – 55,691 and in 2015 – 63,434 of taxpayers** (source: Hurtownia danych SPR/VAT as on 22.06.2015 and on 16.03.2016).

<sup>8</sup> Standard Output (SO) is a parameter applied in farm classification according to the EU standards, which is defined as 5-year average output value from a specified plant or livestock activity per 1 ha or 1 livestock unit over 1 year, under average conditions for a given region. SO is used to determine, e.g., economic size of a farm in EUR.

<sup>9</sup> According to the binding regulations, farms in 2010-2012 were classified for the needs of FADN by SO “2004”, and in 2013 by SO “2007”. For the needs of this analysis all farms in all years were classified uniformly by the set “SO 2007”.

of very small (below EUR 8,000 SO) and very large (from EUR 500,000 SO) farms was not represented. In line with the principles of accounting data protection in FADN the analysis can cover a group of at least 15 farms.

Such representation was lacking for very small and very large farms.

To implement the designated target the following were characterised: resources of farms, their manner of funding, VAT balances, incomes and assets reproduction status. The values of respective parameters are the arithmetic means from the set of analysed farms.

Given that the paper concerns the impact of VAT on the economic results, the structure of the family farm income (FFI) needs to be explained. In FADN it is the basic income category. According to the FADN methodology, the family farm income is the gross margin which remains after deduction of total costs from the production value, and addition of subsidies and taxes balance to the operating activity and subsidies and taxes balance to the investment activity. These balances include, in turn, balances of the VAT on operating and investment activity. In case of farm reports transferred to the European Commissions for farms making settlements under general rules, the output and input VAT is not showed and as a result family farm income does not include VAT<sup>10</sup>.

In case of farms in Poland, only farmers settling VAT under general rules (active VAT payers) are obliged to make settlements with the Tax Office. As a result, there are two ways to capture VAT in the output accounts of farms participating in the Polish FADN. The role of the balance of the tax is different for farms settling VAT under general rules and different for flat-rate VAT reimbursement. In case of farms settling VAT under general rules, the general income account is done based on net value of revenues and costs. The amounts of value added (output VAT) to revenues (sales) and purchases (input VAT) determine the VAT balance, but for income (FFI) of farms making settlements under general rules it is a neutral value – it does not reduce it (in case of a need to pay) and it does not increase it (in case of a reimbursement from the Tax Office). The VAT balance value is, thus, included in the cash flows and farm balance.

In case of flat-rate farmers, the VAT balance value on operating and investment activities is included in the income account. For its calculation, revenues and costs in their farms are calculated in the net value and by adding the VAT balance we get the gross income value.

### **Discussion of results**

As already mentioned the research covered a panel of farms in 2010-2013. At that time, the number of farms in respective economic classes slightly fluctuated given the mutability in the production and economic situation of these units; some of them moved across groups (Table 2). The smallest number of farmers

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<sup>10</sup> Family farm income (FFI) for farms making settlements under general rules, the VAT is calculated from the net value of revenues and costs.

had the status of active VAT payers in the group with the lowest economic size (class “small”), but also they noted the benefits following from active participation in the VAT system, which exceeded the transaction costs involved in the need to keep detailed records of purchases and sales and periodic settlement with the Tax Office.

The most numerous group of entities settling VAT was annually among “medium-large” farms. Over four years the number of farms in the two economically smallest groups dropped, while in the group of “large” farms their number grew and finally in 2013 it was by ca. 12% higher against 2010. The economic potential of the largest farms clearly improved, growing each year from EUR 159,860 SO in 2010 to EUR 164,276 SO in 2013. In the other groups, the value of this variable fluctuated going slightly up or down.

The economically largest farms had from 108 ha (2010) to 113 ha (2013) of utilised agricultural area (UAA), out of which 40% was additionally leased, the most from all the groups. Moreover, they were marked by the lowest value of assets per 1 ha of UAA (from PLN 32 thousand to PLN 34 thousand in subsequent years) and the lowest labour inputs per 100 ha of UAA (ca. 3 AWU<sup>11</sup>), while as much as 41-43% were hired labour inputs. These farms also funded their assets with borrowed capital to the greatest extent (14-15% of the value of assets).

In the class of “small” farms the UAA was ca. 19-20 ha, in the class of “medium-large” farms it was ca. 35 ha and in the class of “medium-large” – 60-62 ha. Along with a growth in the economic size the value of assets decreased to 1 ha of UAA and the value of labour inputs per 100 ha of UAA also dropped, while the share of leased UAA and, in general, hired labour input increased. The economically weaker the farms were, the smaller was their inclination to use external factors of production and borrowed capital (Table 2).

At a farm registered as an active VAT payer, output VAT to the tax authorities is set by the sold value and not production value. The sold agricultural products were taxed with 5% rate (in 2010 – 3%) or 8% rate (in 2010 – 7%). The 5% rate covers, e.g., cereal seed, potatoes, fresh fruit and vegetables, eggs, milk; and 8% rate – pigs for fattening, cattle for fattening, poultry for fattening, sheep, goats, hay, straw. The input VAT is sourced from purchase of goods and services defined in the cost account as direct costs and farming overheads (together forming intermediate consumption) and capital expenditures. Mineral fertilisers, industrial feedingstuffs, agricultural and veterinary services are taxed with 8% rate (in 2010 – 7%), and other, e.g. electricity, fuel, tractors, machinery, agricultural equipment, spare parts have the 23% rate (in 2010 – 22%).

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<sup>11</sup> AWU (Annual Work Unit) – labour inputs under operating activities of farms, expressed in full-time employees. Total labour inputs include labour input of unpaid employees – FWU (Family Work Unit). 1 AWU equals 2,120 hours of work.

Table 2

*Information on the production potential of the researched farms*

Years	Economic size classes	Number of farms	Economic size in EUR	UAA		Labour input		Total assets – PLN per ha of UAA	Borrowed capital in external assets (%)
				total (ha)	share of additional lease (%)	AWU per 100 ha of UAA	share of hired labour (%)		
2010	small	179	19,263	19	22.4	9.2	12.5	40,827	7.3
	medium-small	519	37,924	35	30.2	5.8	14.1	35,807	8.9
	medium-large	720	71,509	60	33.9	3.7	17.1	33,494	10.8
	large	457	159,860	108	40.8	3.0	41.2	32,301	14.2
2011	small	174	18,727	19	22.3	9.6	13.1	42,916	6.6
	medium-small	512	38,016	35	30.1	5.9	15.7	37,177	7.7
	medium-large	710	71,429	60	32.8	3.7	17.4	35,590	10.5
	large	481	159,649	110	40.9	3.1	42.7	33,242	13.5
2012	small	177	18,472	20	20.5	9.0	13.1	43,327	7.0
	medium-small	494	37,571	35	29.7	5.9	16.1	38,752	8.5
	medium-large	706	71,274	62	33.7	3.5	14.7	36,044	10.5
	large	499	161,626	113	40.3	3.0	41.1	34,396	14.0
2013	small	154	18,412	20	21.5	9.0	11.9	44,052	6.4
	medium-small	485	37,169	35	28.4	6.0	18.0	38,578	9.0
	medium-large	717	71,892	62	33.7	3.5	15.6	35,660	10.6
	large	514	164,276	113	37.8	3.0	40.7	34,355	15.0

Source: Polish FADN data, own calculations.

In the researched groups of farms, sales as regards the level of generated production, in each year had the highest share at “large” farms – from 88.5% to 95.5% (Table 3). The highest share of production sold was noted in all groups of farms in 2013. In each case, sales of generated production were lower than 82%.

Economically smaller farms to a greater extent use their products as self-supply, both for the needs of a family and a farm<sup>12</sup>.

The value of sales in the economically smallest farms (“small”) was at PLN 91-108 thousand and in economically larger ones from PLN 698 thousand to

<sup>12</sup> This is proved by the FADN results – Standard results of 2013, obtained by farms of natural persons participating in the Polish FADN (Bocian and Malanowska, 2015).



PLN 986 thousand. Sales grew year-on-year in all of the researched groups of farms, but its highest growth over four years was noted in the group of “large” farms – by 41.3% (Table 3), which was supported by the production scale and concentration.

In the remaining groups the growth in sales totalled, on average, from nearly 15% (“small”) to 32% (“medium-large”). The value of this sales, and differentiation in the share of individual products presently taxed with the rate of 5% or 8% decides on the output VAT level. The data shows that at “small” and “medium-small” farms higher share in production was noted for products taxed with the 5% rate (3% in 2010), because, for instance, plant production and cow milk in total accounted in the former farms for 75-81%, and in the latter ca. 62-64% in respective years (Table 3). The share of production taxed with this rate at farms from two subsequent groups was lower – the highest at 58.3%, and in some years it dropped to the level of ca. 52%. Thus, it can be roughly stated that the remaining production was taxed with 8% rate.

Almost identical to the growth in sales was the level of growth in costs of intermediate consumption, reflecting the purchases of means of production and services, being the source of input VAT on operating activities. The production volume is mainly determined by the incurred inputs for means of production and services, which in the cost accounting are registered as intermediate consumption (the sum of direct costs and farming overheads). In the researched groups of farms the costs of intermediate consumption grew more dynamically than the production value, which probably is a barrier to farm development. In the research period between 2010 and 2013, only at “small” farms the production growth was at a similar level as growth of these costs. In the remaining groups the production growth was by ca. 7-9% lower than the growth in intermediate consumption. The incurred direct costs and farming overheads generating input VAT from operating activities fluctuated around 60% of the value of generated production in respective years. As presented in Table 3, along with a growth in economic size the structure of intermediate consumption changed – the share of direct costs increased (e.g. seeds, fertilisers, veterinary medicines and animal treatment); hence, those to which the 8% VAT rate (in 2010 – 7%) is assigned. At economically weaker farms, farming overheads were of greater importance in the structure of intermediate consumption, in general with the VAT rate at 23% (e.g. fuel, spare parts).

Table 3

*Production, sales and costs of intermediate consumption of researched farms*

Years	Economic size classes	Total production (PLN)	Share of plant production and dairy production (%)	Sales (PLN)	Share of sales in production (%)	Intermediate consumption <sup>a</sup>		Share of intermediate consumption in production (%)
						total (PLN)	including direct costs (%) <sup>a</sup>	
2010	small	104,846	74.4	90,958	86.8	60,388	56.5	57.6
	medium-small	183,499	62.6	155,140	84.5	102,718	63.4	56.0
	medium-large	339,815	54.1	293,010	86.2	198,025	69.3	58.3
	large	772,230	58.3	698,096	90.4	456,787	71.5	59.2
2011	small	113,969	76.2	93,864	82.4	67,348	57.0	59.1
	medium-small	214,431	62.0	177,713	82.9	122,713	65.6	57.2
	medium-large	392,996	52.4	334,446	85.1	233,967	70.5	59.5
	large	904,494	57.5	800,286	88.5	538,799	72.7	59.6
2012	small	123,353	80.9	108,148	87.7	71,824	58.0	58.2
	medium-small	232,276	64.4	194,965	83.9	134,856	66.8	58.1
	medium-large	437,981	56.0	374,605	85.5	259,892	70.7	59.3
	large	1,031,661	57.6	917,395	88.9	616,506	73.6	59.8
2013	small	118,553	77.8	104,470	88.1	68,874	57.8	58.1
	medium-small	219,587	64.2	198,268	90.3	132,333	65.5	60.3
	medium-large	424,436	52.5	387,049	91.2	263,363	70.7	62.1
	large	1,033,253	52.5	986,534	95.5	642,740	74.4	62.2
Change dynamics 2013/2010 – %								
X	small	113.1		114.9		114.1		
	medium-small	119.7	x	127.8	x	128.8		X
	medium-large	124.9		132.1		133.0		
	large	133.8		141.3		140.7		

<sup>a</sup> Intermediate consumption, including direct costs captured in this table, express the value of purchased means of production generating input VAT.

Source: Polish FADN data, own calculations.

Table 3a

*Structure of the panel of 1,888 farms as regards VAT settlement in 2010-2013*

VAT final balance	Years			
	2010	2011	2012	2013
	Number of farms			
To be reimbursed	1,060	986	1,015	981
Zero	23	44	35	53
To be paid	805	858	838	854

Source: Polish FADN data.

As a result, in all of the analysed groups of farms, at the binding VAT rates (lower in 2010) in all of the researched years VAT was reimbursed, on average, for groups (Table 4), which is evidenced by negative VAT balance. In case of operating activities in all groups of farms input VAT was always higher than output VAT. These are averaged data for groups and they present the status of VAT settlement over a marketing year. In the panel of observed farms there were entities, where the VAT settlement had a negative as well as positive balance (obligation to pay VAT) and zero balance. However, the number of farms reaching VAT reimbursement was higher (Table 3a). The highest VAT amounts to be reimbursed (negative VAT balance) from operating activities were noted in 2010, which probably results from lower VAT rates on sold agricultural products, mostly taxed with 3% rate and all together the lowest value of sales over four years. Therefore, output VAT amounts in 2010 were much lower than in subsequent years, and the difference in output and input VAT was higher (balance). Although, in the next years, in all groups there was clear gradual growth in sales, but there was also a growth in VAT rates which caused higher output VAT amount and lower VAT balance on operating activities. Despite this, it was always at a negative level.

Analysis of variability of output VAT amounts can lead to a conclusion that at farms from the first three economically weaker groups, more goods were sold at lower VAT rate and in the group of "large" farms a significant part of sales was taxed with 8% rate (in 2010 – 7%), which covers, e.g., cattle and poultry for fattening.

The beneficial, for a farmer, result of settlement of VAT on operating activities in the researched farms which was reinforced by input VAT deduction, included in investments. In case of remaining in the status of the flat-rate farmer, this input VAT would only increase the costs of activities. The benefits on account of being a VAT payer are especially evident in the case of economically stronger farms.

Table 4

## Average VAT balance at researched farms

Years	Economic size classes	VAT on operating activities (PLN)		VAT balance on operating activities <sup>a</sup>	VAT on investment activities (PLN)		VAT balance on investment activities <sup>a</sup>	Total VAT balance (PLN)
		output	input	(PLN)	output	input	(PLN)	
2010	small	2,960	7,159	-4,199	0	8,678	-8,678	-12,877
	medium-small	4,943	10,718	-5,776	60	15,383	-15,323	-21,099
	medium-large	9,108	18,866	-9,758	207	25,776	-25,569	-35,327
	large	21,110	43,070	-21,959	255	37,334	-37,079	-59,038
2011	small	5,359	8,733	-3,374	0	5,595	-5,595	-8,969
	medium-small	10,396	14,520	-4,124	1	10,296	-10,295	-14,419
	medium-large	19,751	26,418	-6,667	87	20,469	-20,382	-27,049
	large	47,808	60,973	-13,166	301	32,041	-31,739	-44,905
2012	small	6,142	9,249	-3,106	0	8,753	-8,753	-11,859
	medium-small	11,343	14,918	-3,575	107	14,219	-14,112	-17,687
	medium-large	21,839	28,058	-6,219	200	21,574	-21,374	-27,593
	large	55,191	67,063	-11,872	763	36,296	-35,533	-47,405
2013	small	5,954	9,029	-3,074	52	5,325	-5,273	-8,348
	medium-small	11,431	15,021	-3,591	128	8,876	-8,748	-12,338
	medium-large	22,508	28,623	-6,115	526	18,694	-18,168	-24,283
	large	59,584	70,640	-11,056	490	39,507	-39,016	-50,072

<sup>a</sup> VAT balance expresses the difference in the amount of output VAT on sales of products and assets of farms and the amount of input VAT on purchase of means of production and assets (investments). Negative balance (Table 4) means a VAT amount to be reimbursed to the farmer; positive balance means VAT to be paid to the Tax Office.

Source: Polish FADN data, own calculations.

In the investment activities of a farm, just like in operating activities, output VAT needs to be paid on account of sales of fixed assets and deduction of input VAT on capital expenditures. Output VAT calculation on sales involves only these fixed assets for which during purchase VAT was deducted. The amounts of this output VAT are usually small, because a farm aims at agricultural production and its volume depends, e.g., on the level of resources of assets and their multiplication, upgrade. Farmers rather rarely sell fixed assets or equipment from their farm and thus output VAT on investment activities at researched farms in all groups was at zero or reached relatively low values; its maximum amount was PLN 763 at “large” farms in 2012 (Table 4). Farms, however, executed a rather extensive scale of investments, which were the source of input VAT. Understandably, the level of investments grew along with a growth in the

economic size and farm area. Except for “small” farms in 2011 and 2013 extended replacement of assets was made (Table 5).

This replacement was supported by growing income (Table 6) and state aid in the form of investment subsidies. The implemented investments are a proof of farm development, but undoubtedly the obtained surpluses of financial means on account of VAT also had an impact on the situation.

As a result of conducted investments, the economically strongest and, simultaneously, largest in terms of area (“large”) farms in 2010-2013 recovered from ca. PLN 32 thousand to PLN 39 thousand of input VAT included in the price of the investments (Table 4). The economically smallest units deducted, on average, ca. PLN 5-9 thousand. Analysing the data from Table 4, it should be noted that even running investment activities, farmers from researched farms would get a VAT reimbursement, as input VAT on operating activities was always higher than output VAT. The trends in VAT settlement for reimbursement (negative balance on operating activities) within subsequent years was hampered, though. It needs to be kept in mind that these are averaged values; many farmers paid VAT to the Tax Office, although most of them obtained a reimbursement of input VAT over output VAT. Better economic situation in the agricultural market, a drop in costs on operating activities can easily lead to a change in relations – advantage of output over input VAT and emergence of an obligation against the Tax Office.

Table 5

*The level of assets replacement at the researched farms in 2010-2013*

Years	Economic size classes	Gross investments (PLN)	Net investments (PLN)
2010	small	43,092	16,815
	medium-small	79,808	44,842
	medium-large	135,065	82,795
	large	230,556	140,621
2011	small	27,294	-2,284
	medium-small	52,264	11,996
	medium-large	108,721	48,955
	large	172,000	69,898
2012	small	46,085	15,388
	medium-small	73,246	31,273
	medium-large	122,718	57,790
	large	237,436	132,318
2013	small	24,198	-8,987
	medium-small	60,017	14,237
	medium-large	126,199	55,756
	large	285,950	168,076

Source: Polish FADN data, own calculations.

In the discussed four-year research period participation in the VAT system was, undoubtedly, beneficial for the researched (individual) farms. The general VAT balance, being the sum of VAT balance on operating and investment activities, was always negative (Table 4). The reimbursed VAT constituted additional amount to farm budgets over the generated farm income (FFI) – Table 6. In case of “small” farms, the annual amount of reimbursed VAT constituted in 2010 as much as 1/3 of the value of the income, it was the highest also in subsequent years as compared to other groups (Figure 1). These were important funds for the current operation of these farms and investment efforts made (Table 5); these farms also obtained investment subsidies (Table 6). The amount of reimbursed VAT dropped in relation to the family farm income, along with a growth in the economic size, despite this in the group of “large” farms it was from 12.2% to 19.3% of the income value (Figure 1).

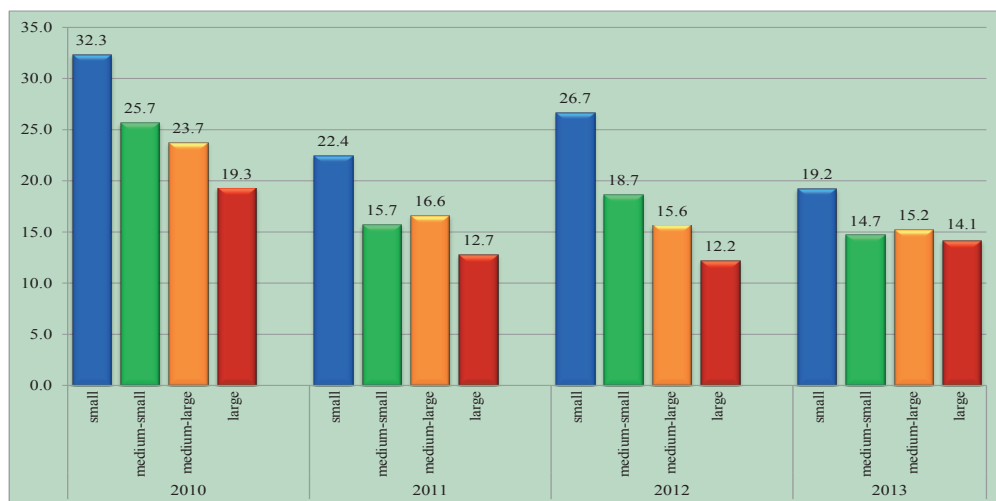


Fig. 1. Relation of reimbursed VAT to family farm income (FFI) at researched farms – %.

Source: Polish FADN data, own calculations.

As already mentioned, the income of farms settling VAT under general rules is calculated on the net value of revenues and costs. It is obvious that its value per farm increased along with a growth in the economic size class of a farm, but also income efficiency – measured with the value of income per 1 ha of own UAA and full-time employee from the farmer’s family (FWU)<sup>13</sup> – grew along with a growth in economic size. The two ratios increased year-on-year

<sup>13</sup> FFI is the economic margin constituting the payment for use of own factors of production, including labour of a farmer and his family. This income category is the value left after deduction from the net value added the costs of external factors of production, i.e. hired labour, leased land and costs of using borrowed capital.

in the first three years of research, being hampered or even reduced in 2013. At “small” farms family farm income per ha of own UAA was at PLN 2.6-2.8 thousand, and at the largest farms (“large”) it was from ca. PLN 4.8 thousand to PLN 5.8 thousand. Whereas income per a family member of a farmer in individual years was within the limits of PLN 28-32 thousand in the class of “small” farms, PLN 52-60 thousand at “medium-small” farms, PLN 87-103 thousand at “medium-large” farms and PLN 174-212 thousand at “large” farms (Table 6). Hence, each year at small farms it reached an average annual level of net wage in the national economy.

The income volume at economically smaller farms was more dependent on the external support system, to which points the share of payments to operating activities. At “small” farms these constituted from 63.6% to 69.3% in the four-year period, while at “large” farms it was less, i.e. 41.9% in 2010 and only 34.1% of the income value in 2012. The income account captures also payments to investments (Table 6)<sup>14</sup>. Their amounts increased year-on-year in each farm group, which is most probably the result of using investment support obtained under RDP 2007-2013. The growth rate of these payments in 2013 against 2010 was from 69.2% (“small” farms) to 83.2% (“medium-small” farms) – Table 6. In value terms, “small” farms were awarded from PLN 3.2 thousand to PLN 5.4 thousand per annum of investment subsidies, and “large” farms – PLN 9-16.3 thousand.

As compared to the scale of obtained investment subsidies the dynamics of changes for other parameters was low. At the same time, the family farm income grew by only 2.4% at “medium-small” farms and it grew the most – i.e. by as much as 15.5% – at “large” farms, just like the growth in the average net wage in the national economy over four years. Data analysis shows that the economically largest, most profitable farms benefited from investment support to the greatest extent. Simultaneously, these farms noted the highest growth in sales and income over four years and, moreover, they had the highest receipts from VAT reimbursement. This favoured development of these farms, which can be seen on the example of net investments made over four years (Table 5). Undoubtedly, this was helped by the funds of the RDP 2007-2013. Probably under the new RDP (2014-2020) the funds will be more available for farms from lower economic size classes. According to FADN data (Table 2), the economic size of “small” farms analysed in this paper was in 2013 EUR 18.4 thousand SO, which is within the range of availability of support, e.g., for upgrade of farms, where Standard Output of a farm is required within the limits of EUR 10-200 thousand. A new RDP can be a chance for economically weaker farms, which

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<sup>14</sup> It needs to be explained that in line with FADN methodology, the amounts of investment subsidies included in FFI are only the part of the subsidy to be settled within one year. Just like the annual depreciation instalment for a given fixed asset it is a cost in a given year, the part of investment, as per its settlement period, is included in the farm revenue.

entered the path of development but do not have their own funds, to use investment subsidies. According to experts, state aid as regards investments should not concern farms, which can independently fund their investments (Józwiak and Ziętara, 2013).

Table 6  
Family farm income, level of subsidies and reimbursed VAT, change dynamics  
at the researched farms

Years	Economic size classes	Family farm income (PLN)	Subsidies to operating activities (PLN)	Subsidies to investments (PLN)	Share of subsidies in the family farm income (%)	Family farm income per FWU (PLN)	Family farm income per ha of own UAA (PLN)	VAT to be reimbursed (PLN)	Average annual net wage in the national economy (PLN)
2010	small	39,870	26,381	3,212	66.2	28,111	2,642	12,877	25,864
	medium-small	82,142	43,753	5,102	53.3	51,585	3,394	21,099	
	medium-large	149,055	72,858	7,806	48.9	86,763	3,729	35,327	
	large	306,468	128,292	9,045	41.9	173,689	4,803	59,038	
2011	small	39,957	27,253	3,942	68.2	28,227	2,665	8,969	27,227
	medium-small	91,741	46,122	7,774	50.3	57,364	3,721	14,419	
	medium-large	163,302	76,194	10,386	46.7	93,970	4,023	27,049	
	large	352,668	139,043	13,493	39.4	191,790	5,399	44,905	
2012	small	44,456	28,267	4,336	63.6	31,892	2,785	11,859	28,854
	medium-small	94,787	46,417	8,552	49.0	60,541	3,826	17,687	
	medium-large	176,389	75,756	11,843	42.9	103,292	4,306	27,593	
	large	389,266	132,588	15,753	34.1	211,720	5,794	47,405	
2013	small	43,369	30,063	5,433	69.3	30,839	2,795	8,348	29,798
	medium-small	84,096	49,578	9,346	59.0	52,219	3,317	12,338	
	medium-large	159,649	81,208	13,844	50.9	92,261	3,856	24,283	
	large	354,026	138,303	16,284	39.1	193,320	5,048	50,072	
Change dynamics 2013/2010 – %									2013/2010 (%)
X	small	108.8	114.0	169.2	X	109.7	105.8	64.8	115.2
	medium-small	102.4	113.3	183.2		101.2	97.7	58.5	
	medium-large	107.1	111.5	177.4		106.3	103.4	68.7	
	large	115.5	107.8	180.0		111.3	105.1	84.8	

<sup>a</sup> Only the share of subsidies to operating activities.

Source: Polish FADN and GUS data, own calculations.



## Conclusions

The VAT system in Poland allows farmers to settle VAT under general rules or maintain the status of a flat-rate farmer. Based on various sources, also scientific ones, it is clear that farmers perceive increasingly more benefits from VAT settlement under general rules and decide to resign from the status of a flat-rate farmer. Moving to general rules of VAT settlement can, on numerous occasions, take place upon making investment operations, especially driven by the stimuli of subsidies to investments, obtained in net value. The status of an active VAT payer makes it possible to recover VAT included in the purchased means of production, but in case of resignation from the status of an active VAT payer one needs to take into account the consequences of input VAT correction.

Trends to move to general rules of VAT settlement are clear also among the Polish FADN farms. The paper presents the effects of VAT settlement for the panel of farms being active VAT payers in 2010-2013, broken down by economic size. Annual balance, both from operating and investments activities, were at the EU level. As a result, the average VAT balance for farms of different economic size classes over the four years was negative, which meant VAT reimbursement for a farmer. In 2010-2013, the budget of a farm was annually supplied with an average of PLN 8-13 thousand in the class of “small” farms, ca. PLN 12-21 in the class of “medium-small” farms, ca. PLN 24-35 thousand in the class of “medium-large” farms and ca. PLN 45-59 thousand in the class of “large” farms. These amounts increased the cash income of farms and the status of equity, they provided additional financial means for a farm, apart from the margin generated from operating activities, which is the family farm income. The VAT reimbursement was not possible in a situation of continuing as a flat-rate farmer, especially in case of investments – in such case, input VAT increases costs. The presented results point to optimisation of activities of farmers as regards VAT.

The average level of income and performed investments, largely, using the investment subsidies evidence that a significant number of the assessed farms were capable of development. This, undoubtedly, also influenced the amounts of reimbursed VAT – as regards family farm income they, on average, constituted ca. 12-32% of its value, most commonly in the farms belonging to the “small” economic size class ( $8,000 \leq \text{EUR SO} < 25,000$ ).

## References

- Bocian, M., Cholewa, I., Tarasiuk, R. (2014). *Współczynniki Standardowej Produkcji „2010” dla celów Wspólnotowej Typologii Gospodarstw Rolnych*. Warszawa, pp. 8, 41-42.
- Bocian, M., Malanowska, B. (2015). *Wyniki Standardowe 2013 uzyskane przez gospodarstwa rolne osób fizycznych uczestniczących w Polskim FADN. Część II. Analiza Wyników Standardowych*. Warszawa 2015, p. 38.
- Brodzińska, K. (2015). Podatek VAT w rolnictwie a proces modernizacji gospodarstw rolnych – studium przypadku. *Roczniki Naukowe SERiA*, vol. XVII, issue 3, pp. 56-61.
- Dziemianowicz, R.I. (2006). Podatek od wartości dodanej a rynek rolny. *Roczniki Naukowe SERiA*, vol. VIII, issue 2, pp. 31-34.
- Hurtownia danych SPR/VAT Ministerstwa Finansów.
- Józwiak, W., Ziętara, W. (2013). Kierunki i zakres wsparcia inwestycji w polskich gospodarstwach rolnych w latach 2014-2020. *Zagadnienia Ekonomiki Rolnej*, no. 1(334), pp. 48-57.
- Program Rozwoju Obszarów Wiejskich na lata 2014-2020 [Rural Development Programme 2014-2020]*. <http://www.minrol.gov.pl/>.
- Szelągowska, A. (2014). Zmiany w opodatkowaniu polskiego rolnictwa po akcesji Polski do Unii Europejskiej. *Roczniki Naukowe Ekonomii Rolnictwa i Rozwoju Obszarów Wiejskich*, vol. 101, issue 2. pp. 123-125.
- Turowska, W. (2010). Ewidencja, rozliczenie i skutki rozrachunków przedsiębiorstw rolniczych z tytułu podatku VAT. *Zeszyty Naukowe Szkoły Głównej Gospodarstwa Wiejskiego w Warszawie, Ekonomika i Organizacja Gospodarki Żywnościowej*, no. 82, Wydawnictwo SGGW, p. 232.
- Tyszko, J. (ed.), (2013). *Systemy podatkowe w krajach Unii Europejskiej*. Warszawa: IERiGŻ-PIB, p. 13.
- Tyszko, J. (2014). Konkurencyjność systemów podatkowych w krajach Unii Europejskiej. *Marketing i Rynek*, no. 10 (CD), p. 161.
- Ustawa z dnia 8 stycznia 1993 r. o podatku od towarów i usług oraz o podatku akcyzowym [Act of 8 January 1993 on value added tax and excise tax]*. Journal of Laws of 1993, no. 11, item 50.
- Ustawa z dnia 11 marca 2004 roku o podatku od towarów i usług [Act of 11 March 2004 on value added tax]*. Journal of Laws of 2004, no. 54, item 535.
- Zabielska, D. (2011). Uwarunkowania zasad funkcjonowania podatku VAT w gospodarstwach rolnych. *Zeszyty Naukowe SGGW, Ekonomika i Organizacja Gospodarki Żywnościowej*, no. 89, pp. 61, 70-71.

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VAT W FUNKCJONOWANIU GOSPODARSTW ROLNYCH  
W LATACH 2010-2013**Abstrakt**

*Działalność rolnicza w Polsce, tak jak działalność gospodarcza, jest objęta systemem podatku VAT. W rolnictwie dopuszcza się rozliczanie VAT na zasadach ogólnych lub w formie ryczałtowej. Wybór rozliczenia podatku VAT na zasadach ogólnych jest dobrowolny, za wyjątkiem rolników prowadzących księgi handlowe. Z literatury przedmiotu jednak wynika, że coraz więcej rolników wybiera status czynnego podatnika VAT; taką tendencję zaobserwowano również wśród gospodarstw Polskiego FADN.*

*W artykule przeanalizowano skutki rozliczania VAT na zasadach ogólnych w gospodarstwach tworzących panel w latach 2010-2013, pogrupowanych według wielkości ekonomicznej. Niezależnie od klasy wielkości ekonomicznej w każdej grupie VAT naliczony od zakupów był wyższy od VAT naliczonego od sprzedaży, co oznaczało zwrot nadpłaconego VAT do gospodarstwa. Kwotę VAT do zwrotu powiększała znacząco VAT naliczony, zawarty w zakupach inwestycyjnych. Można przypuszczać, że inwestycje były głównym impulsem do rezygnacji ze statusu rolnika ryczałtowego. Kwota zwróconego podatku VAT w przypadku rolników – czynnych podatników VAT, nie jest składnikiem dochodu z rodzinnego gospodarstwa rolnego (DzRGR), tak jak w przypadku innych podatników. Jest to odrębna wartość, z całą pewnością generująca dochód pieniężny rolnika, która w ciągu czterech lat w badanych gospodarstwach była dla nich dość znacząca. Ograniczenie inwestycji, poprawa efektów gospodarowania może skutkować odwróceniem wyniku rozliczania VAT na korzyść Urzędu Skarbowego. Wtedy rolnik ma możliwość powrotu do statusu ryczałtowca, ale jednym z warunków wyjścia z systemu VAT jest konieczność korekty odliczonego VAT, co nie musi być dla rolnika korzystne.*

**Słowa kluczowe:** podatek VAT w rolnictwie, rolnik ryczałtowy, zasady ogólne VAT, saldo VAT.

*Accepted for print: 30.06.2016.*