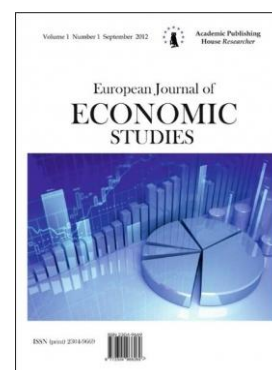


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Published in the Russian Federation  
European Journal of Economic Studies  
Has been issued since 2012.  
ISSN: 2304-9669  
E-ISSN: 2305-6282  
Vol. 12, Is. 2, pp. 69-75, 2015

DOI: 10.13187/es.2015.12.69  
[www.ejournal2.com](http://www.ejournal2.com)



UDC 33

## Experimental Evaluation of the Efficiency of the Third Party Joint and Several Liability in the Polish VAT System

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### Abstract

The article presents research results, indicating, that VAT third party joint and several liability in an efficient antifraud element of the Polish VAT system.

As the experimental verification of joint and several responsibility proves, there are situations, in which the VAT fraud is possible when this element of the VAT system is not applied, and is not possible any more when the element is applied, which indicates the efficiency of thereof and proves the hypothesis of the present article.

**Keywords:** VAT, Value Added Tax, VAT fraud, joint and several liability.

### Introduction

Since 1979 VAT, a destination-based, multiphase turnover tax, with the input-output tax mechanism has been a part of tax systems of all EU-Member States, and became one of the most important sources of states' budget revenues [2].

Value added tax (VAT) generates significant public revenue (more than one fifth of world total tax revenue, including social contributions) and has been introduced in about 140 countries. It is the main source of revenue in some Member States of the European Union and plays an important role in ensuring public finance stability [3].

Data published in the Polish Ministry of Finance State's Budget Execution Reports indicate, that Value added tax is the most important source of states budget revenues in Poland.

Table 1: The share of VAT revenues in tax revenues and total budget revenues in Poland in the period of 2000–2014

Ord.	Specification	2000-2014
1	Weighted average share of VAT revenues in tax revenues	46,75%
2	Median of (1)	46,37%
3	Standard deviation of (1)	2,18%

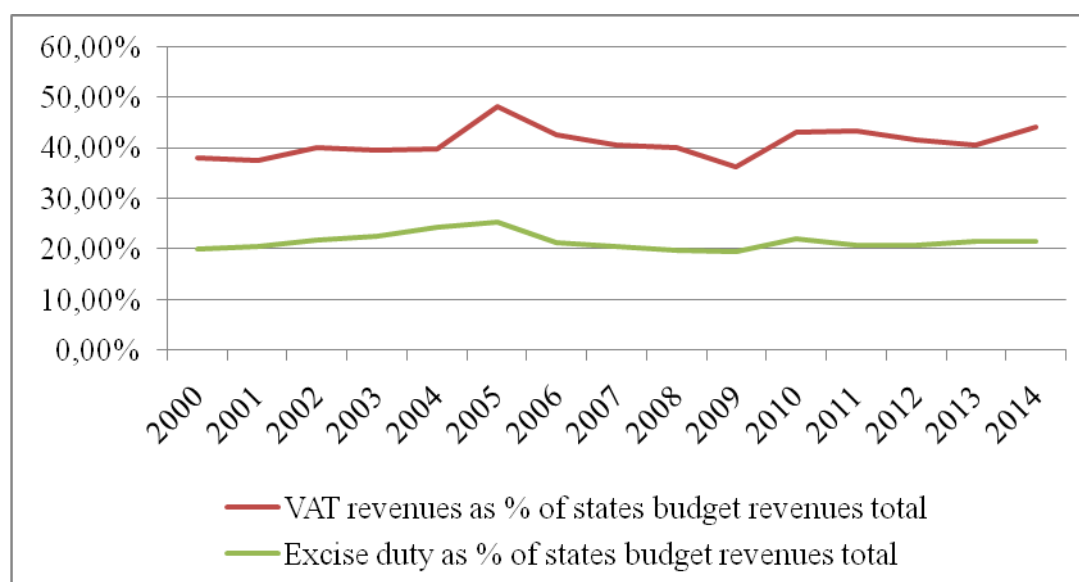
4	Weighted average share of VAT revenues total budget	41,25%
5	Median of (4)	40,63%
6	Standard deviation of (4)	2,90%

Source: Own elaboration based on Polish Ministry of Finance State's Budget Execution Reports [14].

The data presented in the Table 1 indicate on relatively high, constant long term share of VAT revenues in budget revenues in Poland. Especially worth emphasizing in the context of long term stability, is that both coefficients: weighted average share of VAT revenues in total budget revenues and weighted average share of VAT in tax revenues, hardly differ from their medians. At the same time their standard deviations present irrelevantly low level, which justifies the conclusion, that share of VAT revenues in budget revenues, can be regarded as stable.

Relevance of the fiscal function of value added tax in Poland confirms the Graph 1, which presents the share of VAT revenues and the share of excise duty revenues (second largest budget revenues) in budget revenues total in the period 2000 – 2014.

Graph 1. Share of VAT revenues and the share of excise duty revenues (second largest budget revenues) in budget revenues total in Poland in the period 2000–2014.



Source: Own elaboration based on Polish Ministry of Finance State's Budget Execution Reports [14].

Even though the revenues from value added tax are such important for fiscal stability in Poland, there has been estimates, showing significant difference between VAT Theoretical Liability (VTTL) and actual VAT Real Receipt (VTRR) in Poland, called VAT Gap, which in the period from 2006 till 2012 ranged from 9% (2008 VAT gap estimates from CASE Report [1]) to even 32% (2012 maximal VAT Gap estimates according to PwC [16]).

Moreover, in 2012 VAT revenues in Poland decreased by 0,7% even though Polish GDP as well as final consumption expenditures increased at the same time respectively by 4,5% and 4,7%. What's even worse, 2013 was the second consecutive year with increasing GDP (2,5%), increasing final consumption expenditures (2,0%) and decreasing VAT revenues (-5,5%), whereas under standard economic conditions VAT revenues should be positively correlated with GDP and FCE.

As a reaction against the above negative trends in development of VAT revenues, the Polish government decided to introduce a third party joint and several liability as a new antifraud element of the Polish VAT system.

Therefore the main objective of the present paper is to present results of experimental evaluation of the efficiency of the third party joint and several liability, introduced into the Polish VAT system.

In order to achieve the above main objective, following operational objectives have been adopted:

- To present a third party joint and several liability for certain domestic transactions as an additional antifraud element, introduced into of Polish VAT System in order to prevent it from the VAT Gap;
- To present the methodology of the experimental efficiency evaluation of the joint and several liability;
- To present the results of the conducted efficiency evaluation research.

Territorial scope of the presented research results covers Poland as an EU-Member State, which applied an European harmonized Value Added Tax.

The research covers period form 2011 till 2014.

The subject of this article is an experimental evaluation of the efficiency of a third party joint and several liability, as a new antifraud element introduced into the Polish VAT system.

The object of this article is the VAT system of Poland.

Consequently, the hypothesis of the present paper is that there are situations in which VAT fraud is possible, without third party joint and several liability, but is not possible any more after activating third party joint and several liability.

### **Materials and Methods**

The present article bases basically on Law from July the 26th, 2013, amending the Polish VAT Act and some other laws, which introduced a third party joint and several liability in Poland, and results of experimental verification of the efficiency of thereof.

Methods. Regarding the methodology, in authors opinion, additional antifraud element of the VAT System may be considered as efficient, when it makes the system more fraud resistant (or less fraud susceptible). According to the paradigm of approximate description any concept, theories and discoveries are limited and approximate. Science will never provide a comprehensive and definitive understanding of reality. Scientists do not deal with the truth (in the sense of compatibility between description and described phenomenon), but with the limited and approximate descriptions of reality [4]. According to Reichenbach, scientific cognition is unable to reach neither absolute truth nor absolute disingenuousness. On the contrary, scientific cognition can only reach infinitely many degrees of probability, limited by unattainable truth and disingenuousness [7].

Considering the above, author recognizes, that for mere statement, that an analyzed antifraud element of the VAT System is efficient, it is enough to find at least one situation, in which VAT Gap was possible when the additional element of the VAT system was not applied, and is not possible any more when the element is applied.

In empirical science efficacy of the cognition through observation and experiment as well as application of thereof to formulate and verify theorems seems to be an unsolved scientific problem. It can be considered, whether a fact, scientifically verified as a truth should be the basis of the theorem, or is it more justified to base a theorem on an empirically tested logical consequence of the fact. Contrary to the observation, experiment method may be used either to launch a particular phenomenon or to influence thereof and to discover interdependences between launched or influenced phenomenon as independent variable and dependent variables, usually imperceptible under natural conditions. Consequently, verifying a hypothesis using an experiment method allows to discover isolated factors, interdependencies and features, which are imperceptible when using method of observation only. In this way experimental verification allows to achieve the theory of fact, instead of adopting fact as a theory [13].

In economy as a science, a numerical case study may be regarded as an equivalent of experiment in which:

- “Givens” are constituted by input data like hypothetical assumptions and initial conditions of the researched occurrence,

• “Unknowns” are the scientific proofs, verifying correctness of the assumed theory of the researched occurrence,

• Solution is a model, formulated basing on the research results [13].

The main purpose of experiment is the to induce an occurrence of a certain kind, influence its progress and to detect correlations and interdependencies between researched variables, imperceptible in natural conditions. Applying method of an experiment, a researcher is able to verify i.a. how introducing new independent variable or variables, impacts dependent variables.

Third party joint and several liability may be regarded as new independent variable introduced into the Polish VAT system. At the same time VAT revenues should be considered as a dependent variable, because they are a sort of general result of functioning the VAT system as a whole. Using a numerical case study method as a kind of experiment allows to verify how introducing the above element of the VAT system influences its fraud susceptibility and consequently how it should influence existence of VAT Gap.

It should be emphasized that author of the above publication has already published partial initial results of the experimental verification of the efficiency of a third party joint and several liability in some scientific papers beforehand\*.

### Discussion

In 2012 and 2013 a decrease in VAT revenues in Poland has been observed, even though GDP and final consumption expenditures, which are normally positively correlated with VAT revenues, increased.

Table 2: VAT revenues and GDP in Poland in the period of 2011–2013 in mill. PLN and their correlation

	2011	2012	2013
VAT revenues in mill. PLN (current prices)	120 832	120 001	113 412
VAT revenues annual change in %	12,01%	<b>-0,69%</b>	<b>-5,49%</b>
GDP in mill. PLN (current prices)	1 528 127	1 596 379	1 635 746
GDP annual change in %	7,87%	<b>4,47%</b>	<b>2,47%</b>
FCE in mill. PLN (current prices)	1 208 639	1 264 807	1 289 634
FCE annual change in %	6,40%	<b>4,65%</b>	<b>1,96%</b>

Source: own elaboration, basing on public statistics data published by the Polish Ministry of Finance [14] and Central Statistical Office [5].

As indicated in Polish Ministry of Finance analysis, included in the Justification of the draft law amending the Polish VAT Act from July the 5<sup>th</sup>, 2013, the most probable factor of the decreasing VAT revenues were massive VAT fraud and abuse in domestic transactions concerning liquid fuels, LPG, raw gold, as well as different steel products [11].

In order to make the Polish VAT system more fraud proof, Poland has introduced a third party joint and several liability for transactions concerning certain steel goods, liquid fuels, lubricants and raw gold, effective from October the 1<sup>st</sup>, 2013 [12].

According to VAT Council Directive, EU Member States may introduce joint and several responsibility of taxable persons for VAT liabilities of their suppliers, normally obliged to pay VAT as person carrying out a taxable supply of goods or services [6]. Introducing such regulation is to help tax administrations of EU Member States to collect and execute VAT liabilities (...) [17]. However it should be restricted only to the situations when a purchasing taxable person acted in

\* I.e.: Gut, Piotr, “VAT Gap in Poland and means to prevent it.” *International Banking Institute Proceedings No 11(2)*, Apr. 2015: 121 – 131; Gut, Piotr, “Joint and several responsibility for VAT liabilities in Poland in comparison to European solutions.”, *Rachunkowość na rzecz zrównoważonego rozwoju. Gospodarka - etyka – środowisko* 329/2014: 127-135.

bad faith and knew or should have known, that some or all of the VAT payable in respect of taxable purchase executed to them, or of any previous or subsequent supply of in the supply chain, would go unpaid [18]. Purchasing taxable person may not be regarded as jointly and severally liable for VAT unpaid by a supplier, if he is able to prove that he acted in good faith and undertook all necessary precautions to ascertain, that a taxable supply executed to him is not a part of a VAT fraud [10].

Third party joint and several liability has been introduced in Poland effective from October the 1<sup>st</sup>, 2013, for domestic transactions, concerning the so called sensitive goods, where the most significant VAT fraud has been observed:

- certain steel products: pipes, plates, rods, angles, steel sections, steel mesh, steel bars, steel nets and fences,
- liquid fuels, LPG, CNG, heating oils and lubricants,
- raw gold [12].

According to the amended Polish VAT Act, the VAT taxable persons, who acquired the above sensitive goods, is jointly and severally responsible for VAT due arising from the taxable supply executed to them, but unpaid by the taxable supplier.

Joint and several liability may be applied only in case following prerequisites are met:

- net value\* of the sensible goods purchased from one supplier exceeds 50.000 PLN per month,
- at the moment of the supply the purchasing taxable person knew or had reasonable grounds to suspect that some or all of the VAT payable in respect of that supply would go unpaid [15].

It should be emphasized, that author of the present paper has already described joint and several liability in some scientific papers published beforehand<sup>†</sup>. Therefore in the present publication this antifraud element of the Polish VAT system has been described in an abbreviated way.

### Research results

Assumptions for experimental verification of efficiency of third party joint and several liability:

- Considerations concern taxable supply of goods for consideration, executed exclusively between taxable persons “A” and “B” both of them established in Poland, for which Poland is the place of taxation, taxed with a basic VAT rate 23%<sup>‡</sup>,
- Analyzed supplies of goods (or respectively purchase of goods) are the only VAT taxable transactions, executed by the given taxable persons in the analyzed VAT reporting period,
- Statutory rounding of VAT amounts have been intentionally omitted,
- Taxable person “A” does not settle its VAT liability, at the same time taxable person “B” does settle its VAT liability,
- If the supplier does not settle VAT liability, then tax and legal prerequisites to apply joint and several liability are fulfilled, joint and several liability will be actually applied and the unpaid amount of VAT is enforceable by the purchasing taxable person.

Taxable person A supplies goods to taxable person B for net 100 PLN + VAT 23 PLN. Consequently, output VAT of the supplier A (**OV<sub>a</sub>**) equals then 23 PLN. Because taxable person A has neither executed any taxable purchase nor has any input VAT to be carried forward from the previous VAT reporting periods, input VAT of the taxable person A (**IV<sub>a</sub>**) equals then 0 PLN. Consequently VAT liability to be paid to the Tax Office by the taxable person A (**VL<sub>a</sub>**) equals:

$$VL_a = OV_a - IV_a = 23 \text{ PLN} - 0 \text{ PLN} = 23 \text{ PLN} \quad (1)$$

\* Net value means value without VAT (before output VAT is levied)

<sup>†</sup> I.e.: Gut, Piotr, “VAT Gap in Poland and means to prevent it.” *International Banking Institute Proceedings No 11(2)*, Apr. 2015: 121–131; Gut, Piotr, “Joint and several responsibility for VAT liabilities in Poland in comparison to European solutions”, *Rachunkowość na rzecz zrównoważonego rozwoju. Gospodarka - etyka – środowisko* 329/2014: 127-135.

<sup>‡</sup> As for the May, 2015 r.

Taxable person B resells the goods, acquired from the taxable person A, to the final consumer, which is a natural non-taxable person with the net margin of 50 PLN. Considering the above and equation (1) VAT, output VAT of the taxable person B (**OVb**) and input VAT of the taxable person B (**IVb**) equals:

$$\text{OVb} = (100 \text{ PLN} + 50 \text{ PLN}) \times 23\% = 34,5 \text{ PLN} \quad (2)$$

$$\text{IVb} = \text{OVa} = 23 \text{ PLN} \quad (3)$$

Consequently VAT liability to be paid to the Tax Office by the taxable person B (**VLb**) equals:

$$\text{VLb} = \text{OVb} - \text{IVb} = 34,5 \text{ PLN} - 23 \text{ PLN} = 11,5 \text{ PLN} \quad (4)$$

Considering the equations (1) and (4) total VAT theoretical liability (**VTL**) equals:

$$\text{VTL} = \text{VLa} + \text{VLb} = 23 \text{ PLN} + 11,5 \text{ PLN} = 34,5 \text{ PLN} \quad (5)$$

Taxable person A does not pay its VAT liability (regardless the reason), consequently VAT Liability of the taxable person A actually paid to the Tax Office (**VLPa**) equals 0 PLN. At the same time taxable person B does pay its VAT liability to the Tax Office, consequently VAT Liability of the taxable person B actually paid to the Tax Office (**VLPb**) equals 11,5 PLN.

Therefore state's budget actual VAT receipts (**AVR**) equal:

$$\text{AVR} = \text{VLPa} + \text{VLPb} = 0 \text{ PLN} + 11,5 \text{ PLN} = 11,5 \text{ PLN} \quad (6)$$

Comparing the equations (5) and (6) value added tax gap (**VAT Gap<sub>1</sub>**), defined as a difference between VAT theoretical liability (**VTL**) and actual VAT receipts (**AVR<sub>1</sub>**) equals:

$$\text{VAT Gap}_1 = \text{VTL} - \text{AVR}_1 = 34,5 \text{ PLN} - 11,5 \text{ PLN} = 23 \text{ PLN} \quad (7)$$

Let's make the taxable person B jointly and severally liable for the VAT unpaid, arising from the taxable supply of goods executed to it by the taxable person A. VAT arising from joint and several liability of taxable person B (**VJSLb**) will then be equal to **VLa** and will amount for:

$$\text{VJSLb} = \text{VLb} = 23 \text{ PLN} \quad (8)$$

Actual VAT revenues (**AVR<sub>2</sub>**) will then amount for:

$$\text{AVR}_2 = \text{VLb} + \text{VJSLb} = 11,5 \text{ PLN} + 23 \text{ PLN} = 34,5 \text{ PLN} \quad (9)$$

Consequently, application of the third party joint and several liability reduces VAT Gap from 23 PLN to 0 PLN:

$$\text{VAT Gap}_2 = \text{VTL} - \text{AVR}_2 = 34,5 \text{ PLN} - 34,5 \text{ PLN} = 0 \text{ PLN} \quad (10)$$

Considering the assumed methodology, equations (1) – (10) prove hypothesis of the present paper, according to which there are situations in which VAT fraud is possible, without third party joint and several liability, but after activating third party joint and several liability is not possible any more. Consequently, it can be stated, that a third party joint and several liability as an efficient VAT antifraud means.

### Conclusion

Since its introduction in 1994, VAT has been the most important source of state's budget revenues in Poland, with the average share of almost 47% in total Polish budget tax revenues and 41% in total Polish budget revenues in the period of 2000–2014. Due to the decreasing VAT revenues and increasing VAT Gap in 2012 and 2013 it was then absolutely necessary for the Polish

government to introduce efficient antifraud means, which would stop the decrease of VAT revenues. Such means is a third party joint and several liability, concerning steel products, liquid fuels, LPG, CNG, some lubricants and raw gold, introduced in October 2013.

As the experimental verification of joint and several responsibility proves, there are situations, in which the VAT fraud is possible when this element of the VAT system is not applied, and is not possible any more when the element is applied, which indicates the efficiency of thereof and proves the hypothesis of the present article.

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