

Evaluating risk-based selection methods for tax audits in Poland

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Abstract

Penalty rates and probability of fraud detection are among the most important factors shaping taxpayer's compliance. While the first of those factors may be directly controlled by tax authorities the second is usually indirectly influenced by the amount and efficiency of resources employed to detect tax evasion (Allingham, Sandmo 1972, p. 330). In order to increase fraud detection rate tax authorities may implement diversified strategies. They include inter alia the application of various methods to select taxpayers for tax audits. In most of the cases these methods are used interchangeably or complement each other. Although applied quite often in practice by tax authorities they are comparatively rarely addressed by the economists in their publications. In fact, literature sources on this topic are sparse and published mainly by the OECD.

One of the methods used to select taxpayers for tax audits is based on the so-called external risk areas. In Poland, this method was introduced shortly after accession to the European Union as a tool of the external risk management strategy in the public administration. Both this strategy and audit targeting tools have evolved tremendously since its first implementation. This article attempts to evaluate the application of external risk areas to select taxpayers for tax audits in Poland. The author uses various indicators to measure the efficiency of tax audits and compare this efficiency taking into account different tax audit selection methods.

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Introduction

Accession of Poland to the European Union contributed to multiple changes in the public administration. An important novelty aimed at increasing efficiency of this administration was an introduction of the external risk management strategy in 2005. Similar strategies were already put into practice both in the selected European Union and OECD member states and were becoming more and more popular among tax authorities. According to the research conducted by the Forum on Tax Administration 53 countries out of the surveyed 56 implemented this strategy and identified risk areas for its purposes (Tax Administration, 2015, p. 128). This strategy was not used only in Argentina and Cyprus. In addition, a lot of countries measure and monitor the tax gap and conduct research into its determinants and publish data on the scale of tax evasion. Leaders in this area include such states as: Australia, USA, the UK, Denmark, Finland, Korea, or Mexico.

The primary objective of the external risk management strategy was to enable tax administration to cope with external risks, facilitate management and decision-making activities. It was meant to create a structural basis for strategic planning, optimize the use of resources, develop a system for assessing

performance, adjust the means of tax discipline to taxpayers' attitudes taking into account the concept of responsive regulations developed by I. Ayres and J. Braithwaite (1992, p. 36) and promote tax compliance. They covered application of diversified tools, such as taxpayer education and assistance programmes, modification of laws and procedures or adoption of computerized systems for detection of tax evasion cases.

Improving taxpayer compliance was perceived as the main priority of the strategy in question. To achieve the strategic goals tax authorities implemented new fraud targeting methods. Those included inter alia selection of taxpayers for tax audits with the use of previously identified risk areas. In the years 2005-2017 those areas were continuously modified. It was the result of dynamically evolving patterns of tax evasion. While primarily the described risk areas took into account detected fraud schemes in the last years they were defined in relation to specific economic sectors where fraud cases occurred most frequently.

The article provides an insight into chosen aspects of the external risk management in public administration in Poland. It takes into account in particular tax audit selection methods based on risk areas. It discusses the application of those methods and reviews identified risk areas. The final part examines certain indicators of efficiency of the tax audits for which selection was based on different risk areas and compares them with indicators of efficiency of the audits for which selection included other criteria.

External risk areas as a tool for tax audit selection

Compliance risk management is considered to be a crucial element of strategies implemented by modern tax administrations. It is defined as a set of steps, techniques, and tools to improve the efficiency of tax administration while dealing with compliance risks. It has multiple objectives that cover inter alia: to increase voluntary tax compliance, to better focus audit activities on non-compliant taxpayers or to improve the use of available human, financial and technical resources. The main guidelines for that management were developed both by the OECD and the European Union in the late 1990-ties. They were described in more or less detailed way in multiple reports published by those organizations (e.g., *Compliance Risk Management, 2004, pp. 1-73; Use of Random Audit Programs, 2004, pp. 1-51; Risk Management Guide, 2006, pp. 1-98; Compliance Risk Management Guide, 2010, pp. 1-110*).

Compliance risk management process is usually presented in a form of a five-step model (Figure 1). It starts with risk identification and analysis. During this phase potential non-compliance risks (risk areas) are being recorded, placed on a list, and categorized into different genres (e. g. register risk, filing risk, payment risk, declaration risk). Taxpayers are put into various groups (taken into account e. g. the sector of the economy, legal form, or compliance behaviour). The following step consists in risk assessment and prioritization. The main purpose of this step is to evaluate the risks and segregate them according to their gravity. This phase is accomplished while considering consequences and likelihood of risk occurrence. Likelihood is measured in terms of the probability of materialization of certain risks and may take a descriptive form as indicated in the Table 1. This description is used for risk categorization.

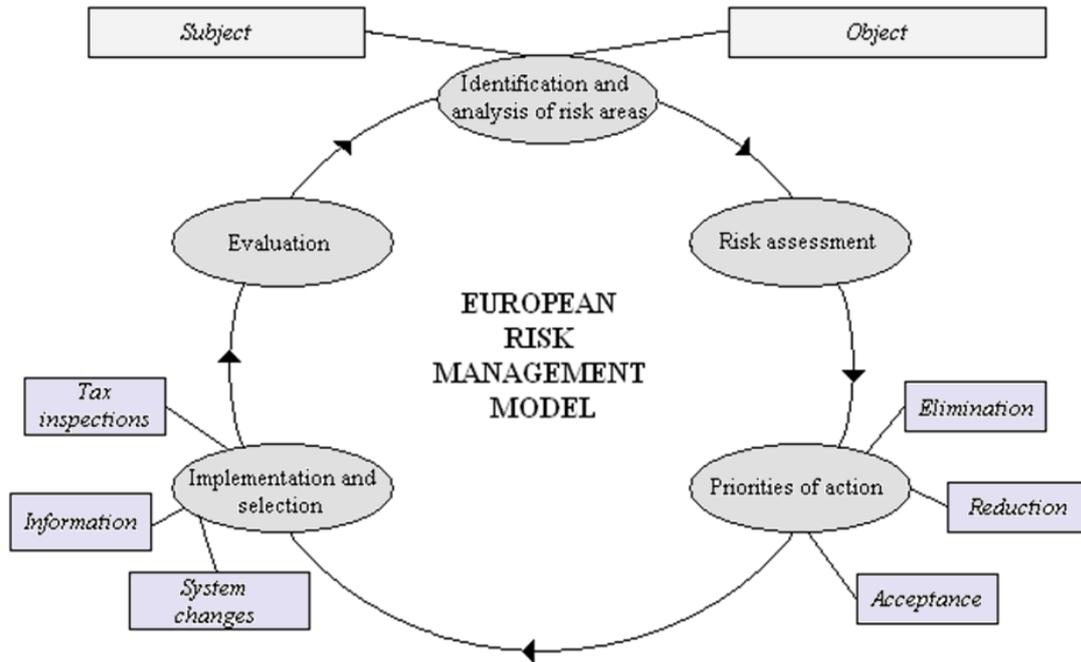


Figure 1. Risk management model in the public administration
 Source: (Polish Risk management model, 2004, p. 5).

Risks of taxpayer’s non-compliance categorized as high or significant that may occur likely or almost likely require application of multiple methods. In addition, risks that may be treated are separated from those that which cannot. In the next step potential risk treatment options are being developed. Tax audits (tax inspections) are forming a part of a treatment phase in which appropriate risk management measures (treatment options) are being chosen and implemented. In the last phase applied treatment options (measures) are evaluated and new risk areas which may be used for the selection of taxpayers for tax audit purposes in the future are identified.

Rating	Likelihood description	Risk characteristics	
		Subjective	Objective
1	Rare	Risk may occur only in exceptional circumstances	Likely to occur once in 25 years
2	Unlikely	Risk could occur at some time	Likely to occur once in 10 years
3	Moderately likely	Risk might occur at some time	Likely to occur once in the next three years
4	Likely	Risk will probably occur in most circumstances	Risk is likely to occur more than once in the next three years
5	Almost certain	Risk is expected to occur in most circumstances	Risk is likely to occur this year or at frequent intervals

Table 1. Compliance risk likelihood matrix (a sample)
 Source: (Compliance Risk Management, 2004, p. 28)

Selection of taxpayers on the basis of risk areas is considered as important tool that helps to increase the efficiency of tax administration while collecting tax revenue. It may be used together or interchangeably with other methods, such as individual screening or random selection. It is usually

accompanied by the application of analytical techniques that help to target those taxpayers who are the most likely to be non-compliant. Those include in particular data matching or data mining. Risk areas are in most compliance risk management strategies specified as segments of taxpayers characterized by high frequency of engaging into certain fraud evasion schemes, committing specific tax errors, or behaving differently from other taxpayers belonging to the same group (they may include, for example, some sectors of the economy, transactions, fraud schemes, types of business activity or particular categories of irregularities in declaring or settling tax liabilities).

Risk management strategies were put into practice in many OECD countries. Among the risk areas (categories) most frequently identified by tax authorities are (Tax Administration, 2015, p. 130): transfer pricing, VAT fraud, hidden economy, unpaid tax debts, avoidance schemes. Many similarities concerning identified risk areas in different countries exist in particular in the case of VAT (Developments in VAT, 2009, p. 18). They are usually divided into four groups: failure to register, failure to file returns on time, failure to correctly report (including the following subareas: tax avoidance, tax evasion, practices to inflate tax returns, specific industry areas, cross border transactions, reporting non-compliance) and failure to pay tax on time.

Country	Australia	USA	Sweden
Risk sectors	construction, transport, restaurants, hairdressing, beauty salons, cleaning services, clothing and textiles, motor vehicle, retailers, art, and antique dealers	car sales, construction, health care, medical professions, restaurants, real estate agents	construction, restaurants, hairdresser, taxis, scrap metal, e-commerce, labour agents

Table 2. Basic risk sectors in Australia, USA, and Sweden

Source: (Khwaja, Awasthi, Loeprick, 2011, p. 50)

In many countries risk areas are identified in relation to selected sectors of the economy (Table 2). Those sectors are characterized by the highest ratio of occurrence of tax non-compliance schemes. In most of the countries risk sectors include construction or transportation. Non-compliance is also relatively common in the sector of non-tangible services, scrap metal trade or e-commerce.

Identified external risk areas in Poland

On the basis of information obtained from the risk coordinators employed on the local levels the Ministry of Finance in Poland has been identifying since 2005 risk areas that played an important role while selecting taxpayers for tax audits. While in the year 2005 Polish tax authorities established a catalog of eight risk areas their number in the following years was growing until 2010 when their classification was entirely changed and divided into subareas. In the years 2005-2013 risk areas took into account various categories of taxpayers. They included taxpayers conducting activities in specific sectors (e. g. intangible services, fuel trade, construction services, e-commerce, scrap recycling, mobile phone trade, virtual offices, secondhand car trade), committing fraud or errors of a certain type

Risk areas	Most common tax evasion cases
Production of building materials and construction services	understatement of revenue (turnover), unreliable recording of revenue, incorrect values on invoices or failure to issue invoices, incorrect VAT settlement with respect to bad debts, use of fictitious invoices, deduction of non-deductible expenses, late payment of tax or tax advances, failure to comply with the obligations of the payer, taxation of sales with improper VAT rates, fictitious transactions, incorrect application of the flat-rate tax
Real estate	understatement of revenue (turnover), incorrect values on invoices or failure to issue invoices,

	use of fictitious invoices, deduction of non-deductible expenses, late payment of tax or tax advances, fictitious transactions
Consulting and other intangible services	fictitious transactions, understatement of revenue (turnover), incorrect values on invoices or failure to issue invoices, use of fictitious invoices, failure to comply with the obligations of the payer
Fuel	carousel fraud, incorrectly declared transactions with related entities, use of fictitious invoices, fictitious transactions, understatement of revenue (turnover), incorrect values on invoices or failure to issue invoices, deduction of non-deductible expenses, carousel fraud, fictitious transactions
Financial and insurance services	understatement of revenue (turnover), incorrect values on invoices or failure to issue invoices, use of fictitious invoices, deduction of non-deductible expenses, fictitious transactions
Health care	understatement of revenue (turnover), unreliable recording of revenue, incorrect values on invoices or failure to issue invoices, use of fictitious invoices, deduction of non-deductible expenses, late payment of tax or tax advances, failure to comply with the obligations of the payer
Transport and logistics	late payment of tax or tax advances, failure to comply with the obligations of the payer, use of fictitious invoices, understatement of revenue (turnover), incorrect values on invoices or failure to issue invoices, incorrect VAT settlement with respect to bad debts, fictitious transactions
Automotive	unreliable recording of revenue, understatement of revenue (turnover), incorrect values on invoices or failure to issue invoices, deduction of non-deductible expenses, use of fictitious invoices, carousel fraud, failure to register a business, late payment of tax or tax advances, failure to comply with the obligations of the payer, incorrectly declared transactions with related entities
Activities of sales agents	using fictitious invoices, deduction of non-deductible expenses, carousel fraud, late payment of tax or tax advances, failure to comply with the obligations of the payer, fictitious transactions, incorrectly declared transactions with related entities
E-commerce and IT services	understatement of revenue (turnover), incorrect values on invoices or failure to issue invoices, unreliable recording of revenue, use of fictitious invoices, deduction of non-deductible expenses, late payment of tax or tax advances, fictitious transactions, failure to register a business
Trade in food and tobacco	unreliable recording of revenue, understatement of revenue (turnover), incorrect values on invoices or failure to issue invoices, use of fictitious invoices, deduction of non-deductible expenses, carousel fraud, late payment of tax or tax advances, failure to comply with the obligations of the payer, fictitious transactions
Production and trade in metals and metal products	understatement of revenue (turnover), incorrect values on invoices or failure to issue invoices, use of fictitious invoices, deduction of non-deductible expenses, carousel fraud, late payment of tax or tax advances, failure to pay tax, fictitious transactions
Trade in electronics	carousel fraud, incorrectly declared transactions with related entities, use of fictitious invoices, fictitious transactions
Wholesale trade in other products	understatement of revenue (turnover), incorrectly declared transactions with related entities, use of fictitious invoices, late payment of tax or tax advances, failure to comply with the obligations of the payer, fictitious transactions, carousel fraud

Table 3. Tax risk areas and selected types of tax evasion in Poland

Source: (National Tax Compliance Plan, 2017, pp. 8-51)

(e. g. carousel fraud, ghost traders, missing registration of a business, fictitious transactions, adoption of incorrect transfer prices), conducting activities of a certain type (e. g. intra-Community transactions), subject to selected taxation schemes (e. g. flat rate scheme for small enterprises), exhibiting certain

behaviors (e. g. frequently declaring losses from business activity) or with specific features (e. g. dormant taxpayers¹).

Since 2015 new risk areas have been identified in relation to specific sectors of the economy. National Compliance Plan implemented in 2016 provided for 14 such sectors (Table 3). Within each sector the Ministry of Finance indicated the most common tax evasion schemes. Among the sectors were fraud is relatively prevalent are production of building materials, construction services, fuel, automotive, e-commerce, IT services, production and trade in metals and metal products. Since accession of Poland to the European Union of increasing concern is the so-called missing trader fraud. In the simple form this fraud is committed by an entrepreneur registered for the purposes of intra-community trade who acquires goods from another entrepreneur registered in a different member state of the European Union. After the intra-Community acquisition of goods, he sells them on the national market, collects VAT and disappears without paying tax due and submitting a declaration. In a more sophisticated form, more companies are engaged in this type of fraud (carousel fraud). Goods are usually not sold for consumption in the first country of destination but are circulating between companies a few times before being acquired by the final consumer. In order to target VAT non-compliant taxpayers, the selection for tax audit purposes is additionally based on certain fraud symptoms. The most important of them for businesses are:

- trading with certain goods and providing certain services (e.g., mobile phones, precious metals, computer chips and other electronic components, game consoles, car spare parts, gas and electricity certificates, telecommunication services, demolition services),
- frequent claiming of relatively high (in comparison to companies of similar scale and operating in the same economy sectors) VAT refunds,
- operating on multinational scale,
- receiving a major part of turnover from exempt intra-community supplies or exempt importation activities,
- being controlled by companies located, registered, or managed from abroad, being owned or financed by companies located in tax havens, having a seat, or being managed from a virtual office,
- periodically changing suppliers or customers,
- applying relatively low-price mark-up,
- conducting business with relatively little (in comparison to businesses of similar scale and operating in the same economy sectors) infrastructure,
- never or rarely submitting declarations or settling tax payments,
- signing transactions in electronic form (by Skype or e-mail),
- paying cash and never financing acquisitions with trade credit,
- never or rarely signing insurance policies for supplied goods,
- never or rarely signing distribution agreements,
- constantly using different bank accounts for business purposes,
- transporting and storing goods into countries where there are only restricted possibilities to verify transactions (e. g. in Hong Kong Dubai or free zones at airports).

¹ *Dormant taxpayer was defined inter alia by the following characteristics: conducting business activity; declaring relatively small number of transactions in a tax year; declaring relatively low turnover and income (both characteristics are compared with other businesses of similar scale and in the same sector of economy); never or rarely deducting tax allowances or tax credits; never or rarely subtracting losses from the previous year.*

Other VAT related non-compliance schemes include understatement of turnover in order to avoid being registered for VAT purposes, unreliable recording of revenue, fictitious invoices, fictitious transactions, incorrect VAT settlement with respect to bad debts or taxation of sales with improper VAT rates. When it comes to the direct taxation among the most popular non-compliance cases are the following: deduction of non-deductible expenses, incorrectly declared transactions with related entities, late payment of tax or tax advances, failure to comply with the obligations of the payer. Certain risks exist predominantly only in one or two sectors, like for instance failure to register a business (in automotive; e-commerce and IT services sectors) or incorrect VAT settlement with respect to bad debts (in production of building materials and construction services; transport and logistics). Others risks exist in almost every sector of the economy, like for instance understatement of revenue (turnover), or use of fictitious invoices.

Efficiency of tax audits based on external risk areas

Conduction of tax audits in Poland is the responsibility of local tax offices. Those are divided into offices for large taxpayers and offices for other taxpayers. The group large taxpayers include the following entities: 1) with an annual net income of at least 5 million euro in the previous year; 2) controlled by a non-resident (or where a non-resident has a minimum of 5% of the votes at the meeting of shareholders or at a general meeting); 3) that as residents concurrently participate in the management of a domestic entity and a foreign entity, or control or have at the same time a share in the capital of such entities; 4) that as residents participate in the management of companies located abroad or control thereof or has a share in their capital; 5) banks, insurance entities and capital tax groups; 6) branches or representative offices of the foreign companies.

Specification	Year			
	2007	2010	2013	2016
Number of tax audits based on external risk areas as a share of tax audits in total (%)	37.47	46.19	51.04	67.0

Table 4. Tax audits based on external risk areas in Poland

Source: (Report Concerning the Fulfilment, 2008, p. 2-3; Report Concerning the Fulfilment, 2011, p. 2-3; Report Concerning the Fulfilment, 2014, p. 2-3; MF-9Ps, 2008, p. 4; MF-9Ps, 2011, p. 3; MF-9Ps, 2014)

In the years 2005-2016 tax offices in Poland conducted nearly 1.4 million tax audits and verified the fulfilment of tax obligations of approximately 3.4% of all taxpayers. While in 2007 for nearly 37.5% of these audits, identified risk areas were used as selection criterion, this share was increasing systematically from year to year and reached in 2016 almost 67.0% (Table 4). Other important criteria include information from third parties², analysis of the available documents and random selection. Random selection is also used as a second method after having chosen taxpayers who fall into specific risk areas. Other factors that may contribute to the initiation of tax audit in Poland include lacking, delayed or incomplete tax return, noticeable changes in turnover between different tax settlement periods and relatively low turnover (income) declared in comparison to other companies of similar scale, operating in the same economic sector and offering similar goods and services.

² For instance, information from the following external sources: The State Labour Inspection (PIP), the Social Insurance Institution (ZUS), the State Trade Inspection (PIH), the Supreme Chamber of Control (NIK), the public prosecutor's office, police offices, private companies and individuals.

Specification		Year		
		2007	2010	2013
Number of tax audits detecting irregularity as a share of tax audits belonging to a corresponding category in total (%)	Tax audits based on external risk areas	49.22	58.46	68.01
	Other tax audits	58.89	65.72	73.03
Average additional tax liability assessed (PLN)	Tax audits based on external risk areas	12 017.36	21 140.81	36 681.68
	Other tax audits	6105.45	13 931.74	34 184.63

Table 5. Efficiency of tax audits based on risk areas versus other tax audits

Source: (Report Concerning the Fulfilment, 2008, p. 2-3; Report Concerning the Fulfilment, 2011, p. 2-3; Report Concerning the Fulfilment, 2014, p. 2-3; MF-9Ps, 2008, p. 4; MF-9Ps, 2011, p. 3; MF-9Ps, 2014).

Risk area	Number of audits conducted	Additional tax liability assessed (thousands PLN)	Additional tax liability for specific risk area as % of additional tax liability in total
Production of building materials and construction services (LTO/OTO)	7 553	568 907	9.18
Real estate (LTO/OTO)	1 245	194 300	3.14
Consulting and other intangible services (LTO/OTO)	1 659	239 249	3.86
Fuel (LTO)	137	453 491	7.32
Financial and insurance services (LTO/OTO)	455	50 423	0.82
Health care (OTO)	517	10 713	0.17
Transport and logistics (OTO)	3 007	144 311	2.33
Automotive (OTO)	2 151	155 156	2.50
Activities of sales agents (LTO/OTO)	705	1 020 792	16.48
E-commerce and IT services (OTO)	1 173	79 510	1.28
Trade in food and tobacco (OTO)	2 404	479 449	7.74
Production and trade in metals and metal products (OTO)	974	167 975	2.71
Trade in electronics (LTO)	141	874 297	14.12
Wholesale trade in other products (LTO/OTO)	2 915	1 755 336	28.34
Risk areas in total (LTO/OTO)	25 036	6 193 909	100.00

Table 6. Selected data on tax audits based on risk areas identified in 2016

LTO – Offices for Large Taxpayers

OTO – Other Tax Offices

Source: (Monitoring of Fulfilment, 2017, pp. 8-9)

The efficiency of tax audits may be assessed using two indicators. The first allows evaluation of the applied of the selection method. It is the relation of the audits in the course of which non-compliance (irregularities) was (were) detected to all the audits conducted. The second provides information on the amount of additional tax liability assessed as a result of one tax audit. The comparison of these indicators between tax audits for which the selection was based on risk areas and other tax audits may be found in Table 5. Considering the first indicator it may be noticed that the efficiency of the audits based on risk

areas was slightly higher in the years 2007 and 2010 and slightly lower in 2013 than the efficiency of other audits. The analysis of the second indicator shows that the tax liability assessed as a result of one tax audit for the audits based on risk areas was higher than in the case of other audits.

Risk area	Share of tax audits detecting irregularity (%) *		Average additional tax liability (PLN)	
	LTO	OTO	LTO	OTO
Production of building materials and construction services	62.1	82.5	244.9	69.7
Real estate	45.2	61.4	419.9	135.0
Consulting and other intangible services	70.1	79.1	667.8	107.7
Fuel	50.0	–	3301.5	–
Financial and insurance services	69.2	81.3	559.5	71.3
Health care	–	80.6	–	21.0
Transport and logistics	–	74.3	–	48.6
Automotive	–	74.5	–	74.2
Activities of sales agents	64.0	71.7	11 801.5	679.7
E-commerce and IT services	–	72.8	–	69.1
Trade in food and tobacco	–	75.6	–	204.3
Production and trade in metals and metal products	–	74.1	–	172.8
Trade in electronics	65.0	–	6245.0	–
Wholesale trade in other products	70.1	68.0	2465.0	284.3

Table 7. Efficiency indicators of tax audits based on external risk areas identified in 2016 (only non-random audits)

* The ratio of the number of tax audits conducted in a specific risk area (sector) to the total number of tax audits for which the selection was based on risk areas conducted by tax offices in Poland.

LTO – Offices for Large Taxpayers

OTO – Other Tax Offices

Source: (Monitoring of Fulfilment, 2017, pp. 58 and 72).

The data for 2016 indicate that tax offices conducted approximately 25 thousand audits for which taxpayers were selected on the basis of the risk areas (Table 6). Tax offices for large taxpayers were conducting in this year more tax audits using different selection criteria (1501 audits) than identified risk areas (1319 audits). Contrarily for other tax offices selection on the basis of risk areas were the dominating one over other selection criteria. The offices for large taxpayers were carrying out tax audits in eight risk areas (sectors) and other tax offices – in twelve risk areas. Nearly 76.8% of additional tax liability in total was assessed in 2016 as a result of tax audits for which the selection was based on risk areas. The most tax audits were carried out in the risk area production of building materials and construction services (30,2% of all tax audits carried out in the risk areas). Other risk areas with a relatively high number of audits conducted were transport and logistics and wholesale trade in other products. In that areas tax audits were conducted only by other tax offices. The highest additional tax liabilities were assessed in relation to tax audits carried out in such risk areas as: wholesale trade in other products, activities of sales agents, trade in electronics. About 58,9% of additional tax liabilities assessed in 2016 resulted from these audits.

The efficiency indicators of tax audits were very diversified depending on the risk area (Table 7). The ratio of tax audits detecting irregularity to the number of tax audits in total was for most of the risk areas higher in the case of audits carried out by other tax offices than in the case of audits carried out by

offices for large taxpayers (with only one exception – risk area wholesale trade in other products). The mentioned indicator was the highest for tax audits conducted by offices for large taxpayers in the risk area production of building materials and construction services and the lowest for tax audits carried out by offices for large taxpayers in the risk area – real estate. Average additional tax liability assessed as a result of audits conducted by offices for large taxpayers exceeded those being a result of audits carried out by other tax offices. For audits conducted by offices for large taxpayers this indicator was the highest in the case of the sector covering activities of sales agents and the lowest in the case of production of building materials and construction services. Relatively high was this indicator for the risk area – activities of sales agents when audits were conducted by other tax offices.

5. Discussions and conclusions

Development of taxpayer selection methods is indispensable to ensure efficiency of tax audit authorities while dealing with tax non-compliance. Since accession of Poland to the European Union these methods are being continuously improved. Application of risk areas for tax audit purposes is considered to facilitate targeting of non-compliant taxpayers. This method is used not only in Poland but also in other European Union and OECD member states and forms a part of compliance risk management strategy implemented in the public administration in 2005. In the years following its implementation, the risk areas underwent a number of modifications. They were systematically updated and supplemented due to the identification of new non-compliance schemes.

Significant changes were made in 2014 when instead of risk areas defined on the basis of different criteria (fraud schemes, economy sectors, taxation schemes, taxpayers' behavior patterns or features) the Ministry of Finance introduced their new categories with reference to specific sectors of economy. The refined National Compliance Plan included 14 risk sectors and specified patterns of non-compliance behavior typical for these sectors. In addition, risk areas were divided into those occurring in the case of specialized tax offices (tax offices for large taxpayers) and other tax offices. Assigning of those areas to different tax authorities depend on the frequency of risk materialization in relation to large entities and other taxpayers.

In the years 2005-2016, the number of tax audits based on risk areas in Poland has been consistently increasing. In 2016, risk-based selection was applied in the case of more than 60% of audits. It should be emphasized that the average additional tax liability as a result of a tax audit was higher in the case of audits carried out in the risk areas than in the case of other audits. The results of tax audits differed significantly according to the categories of tax offices and risk areas. Higher share of tax audits detecting non-compliance was observed for audits carried out by other tax offices than by the offices for large taxpayers. In turn, definitely higher average additional tax liability as a result of tax audit used to be assessed by tax offices for large taxpayers. Taking into account specific risk areas in should be emphasized that higher average additional tax liability as a result of an audit is usually recorded in such sectors as activities of sales agents.

Selection methods for tax audit purposes are very rarely analyzed in the economic literature. Further research is needed not only to evaluate their efficiency but also to design new methods and ameliorate the existing ones. Differences in compliance behavior may be observed not only among different countries but also on a regional level. Efficiency indicators for tax audits are the highest in the north-east and central districts of Poland, however without more thorough analysis it is hard to determine factors influencing regional tax collection rates.

Due to the fact that risk management in the public tax administration has become an international concern it is advisable to devise more and more harmonized solutions in order to efficiently cope with the phenomenon of tax non-compliance on the global scale. The completion of this task requires however that

the factors shaping taxpayer behavior are viewed in a wider context. They are not only affected by deterrence but also by the complexity of the process of completion and submission of tax returns, legislation concerning tax prosecutions, dissemination of information about activities undertaken by tax authorities in order to increase compliance, the regulations concerning whistleblowing and citizens' attitude towards whistleblowing and last but not least differences in culture and mentality among different nations.

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