

Theoretical Approach to Taxpayers' Segmentation

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Abstract. Current taxpayers' segmentation is relatively limited and static. The existing segmentation problem, which is related to the taxpayers' behaviour, requires modern segmentation-analysis methods and models, which would evaluate the change of economic and psychographic taxpayers' indicators. Purpose of the study: to provide conceptual taxpayers' segmentation model, which allows to classify and analyse them according to the taxpayers' behaviour and known legal facts. Research is based on analytical approach, there were invoked a systemic, logical and comparative analysis of scientific literature. Findings: the knowledge about the specific behaviour of the taxpayers' segment groups (tax compliance/enforced tax obligations) would enable us to determine the main impacting factors. Better comprehension of the taxpayers' and their executives (decision-makers) behaviour would allow to enhance administrative institutions' abilities in analytics and to determine the unknown yet connections and phenomena between separate taxpayers in the context of effectual law basis. Clearer taxpayers' identification by segment groups and behaviour risk factors, which are specific to separate groups, will enable faster determination of outliers as well as newly forming potential risks. Dynamic changes between separate groups or in them will form preconditions for timely implementation of taxpayers' monitoring and control tools for reaching a positive change in the behaviour of taxpayers.

Keywords: taxpayers, segmentation, behaviour, tax avoidance, tax evasion, motivational postures.

JEL Classification: H26, K40.

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Introduction

Tax revenue is the income that is gained by governments through taxation. Usually the largest share of each country's national budget comprises of taxes paid by taxpayers – residents and companies. Tax administration function is performed by the tax authority, whose main task is to ensure the collection of taxes to the state budget. Thus, taxpayers' supervision and control must be timely and well-organized. However the resources for such task are limited and tax authorities face a problem how to allocate them. Taxpayers' segmentation can be invoked to deal with this problem.

In the context of taxation, taxpayers are usually segmented from the business perspective. Segments can be grouped into three main groups: small, medium and large companies, which usually are defined by:

- Turnover or gross income;
- Capital size;
- Number of employees.
- Other segment groups can be justified by:
 - Industry type (agriculture, a certain type of business or services);
 - Tax type (direct, indirect);
 - Risk type (countries' taxation regulations against the context of international tax avoidance).

By analysing these indices, further insights to cash flow, taxpayers' or markets' behaviour and other specific exclusions can be beneficial to the tax administrator for evaluating the risk of a separate segment or group in general or for a particular tax. The fundamental task is to sort and exclude company groups: who have the largest tax revenue potential (considerable tax payers, who pay up to 80 percent of all taxes to national budget); who distinguish themselves with highly aggressive tax planning risks and lastly, where exists higher taxing duty noncompliance, which is defined by the taxpayers' behaviour risk profile. Ordinarily, taxpayers are segmented by income size (small, medium, and large), but often different countries expand the number of segments by additionally excluding other qualities that are specific to a group or significant to the benefit receiver (most tax paying group of companies; most dividend paying;

featuring international business specifics, business complexity level, particular business sectors, complicated partnership forms of different companies, etc.). A new attitude towards taxpayers' segmentation and group risk evaluation with additional indices would allow implementation of preventional measures in the control field, which would assist tax payment and recovery.

A research problem is that current taxpayers' segmentation is relatively limited and static. The existing segmentation problem, which is related to the taxpayers' behaviour, requires modern segmentation-analysis methods and models, which would evaluate the change of economic and psychographic indicators of taxpayers'. It would allow the tax authorities to react to the shifting risks and recent circumstances, which predetermine the tax payment or evasion.

The aim of our research is to provide conceptual taxpayers' segmentation model, which allows to classify and analyse them according to the taxpayers' behaviour and known legal facts (financial and non-financial information).

Research is based on analytical approach, there were invoked a systemic, logical and comparative analysis of scientific literature.

Literature Review on Taxpayers' Segmentation and Related Issues

The main industry segments, which are usually ascribable to group of major (large) taxpayers: finance institutions (banks, insurance companies, etc.); communication services/technology/energetics; commerce/pharmacy/health services; natural resources/petroleum and gas extraction; heavy industry/transportation.

Analysis of scientific literature on taxpayers' segmentation practices in foreign countries has revealed general criteria, which are used to group taxpayers:

- Turnover or gross income;
- The value of assets;
- Total taxes paid;
- Particular business sector (finance, insurance, etc.);
- Complicated international business practice;
- Number of employees.

While evaluating the good practice interception circumstances, it is necessary to assess the limitations, which are determined by the structure of countries' finance system, the importance of budget components, taxing system and business conditions' differences between analysed countries, communities' behavioural stereotypes, which can affect the adequacy of the assumptions.

Most taxpayers provide a lot of data and information on their performance, but not always such a huge amount of data is transformed into knowledge that can be useful in identifying those actions that may be related to tax fraud and tax evasion. Organizing and analyzing stored data of taxpayers is time-consuming work that must be done very purposefully. It becomes essential to develop processes for data mining based on mathematical and statistical models that make use of databases in order identify possible correlations and/or systematic relationships between variables that can be validated through the application of detected patterns to new subsets of data.

A large amount of taxpayer statistical information and the dynamic changes of such information raises problems due to its processing methods and benefits of information. Statistical analysis and data mining processes are increasingly needed to organize data in a right way – easy to understand information and to use it for segmentation. Mentioned mathematical methods used for segmentation help to find and make sense of taxpayers' data.

Object batching is commonly used for taxpayers' segmentation. Importance of the targeted taxpayer, mutual benefit for him and the tax administrator, precision in defining demand and effective fulfilment are the advantages of this method. Countries, which use the analytics for taxpayer grouping, have lower control expenses and evaluate up to 10 times more taxing income per labour hour equivalent (Dohrmann, Pinshaw 2009). Methodically accomplished grouping has specific aspects. The foundation of a successful grouping – high quality initial data analysis. At first, it is important to recognize the taxpayers, acknowledge their needs and characteristics. Therefore, grouping is performed in three steps:

- Execution of a research (acquiring knowledge about various taxpayers' characteristics and requirements);
- Distribution of taxpayers into groups by their characteristics and requirements (it is a complex process because even the same environment can be grouped in a large variety of ways; new taxpayer groups are usually found);
- Selection of most suitable (targeted) groups and rejection of groups that are irrelevant or inadequate for the tax administrators' strategic plans.

Although grouping can be done differently, it is important to adequately foresee its' tendencies, alternatives, which are related to resources, variability of executable functions, taxpayers' behaviors. Different taxpayer characteristics (e.g. individual, related to business), debt features (e.g. worth, duration), and risk level or difficulty in retrieving the debt justifies the taxpayers' grouping. For example, the best grouping practice includes evaluation of the taxpayers' payment intentions and capabilities.

Tax administrators of various countries are in different stages of grouping usage. As stated in (Dohrmann, Pinshaw 2009), one country has developed a comprehensive grouping portfolio and improved their activity model by constantly investigating taxpayers data analytically. Out of many positive results, a 15 percent increase of customer satisfaction per year was one of them. Furthermore, one of the integrated grouping analysis task is group profiling, during which a general groups' characteristic is created.

Until now, mathematical methods for taxpayers' segmentation aren't used in practice frequently. Many literature sources mention that clustering methods were used or are planned to use for taxpayers' segmentation. Usually, the aim to decrease the number of variables and not significantly lose beneficial information is achieved by performing variable correlation analysis. While assessing the significance levels, it is enough to choose up to 6 fundamental variables in a period or segment for taxpayers' segmentation with clustering analysis k-average method. The acquired cluster solution, i.e. distribution of taxpayers into 4 segments by tax evasion risk (high, average, low, none). One of the main disadvantages of clustering algorithms, which form non-overlapping clusters, is information loss when connecting objects into clusters. Fuzzy clustering (overlapping clusters') methods solve this problem. In an article of Yu *et al.* (2011), an improved k-average clustering method used for tax administration data classification was introduced. The application of improved method demonstrates that in combination with the Parzen window density estimation the initial cluster center selection is solved more effectively. Realization of the method decreases the number of algorithm iteration. Object clustering can be improved by using quantitative and qualitative variables together. Recently, clustering methods are rapidly improving and the variables used in such segmentation can be measured in different scales: nominal, ordinal, interval and ratios.

It is advised to apply hierarchic combination of grouping and clustering for taxpayers' segmentation improvement. In the first stage, the "gross" segmentation process, which is justified by rules of grouping, takes place. In the subsequent stages, segmentation continues by using grouping too. Within the formed segments, identification of high risk ones' occurs by applying cluster analysis methods. During taxpayers segmentation, it is important investigate, whether the taxpayers set has a tendency to cluster, i.e. whether taxpayers are inclined to form groups, what is the configuration of the formed cluster, is it possible to interpret clusters, etc. It is recommended to use several clustering methods. If pronounced structure is hidden in the data, it will be possible to detect it with various methods.

Wilson (2009) claimed, that tax planning and avoiding are positively related to the firm size, large differences between tax accounting and taxation, as aggressive practices used in financial reporting. Chow and Rice (1992) argue that high debt levels increase the likelihood of fraudulent financial reporting. Gupta and Gill (2012) had classified organizations as fraudulent or not fraudulent by using indexes or financial ratios related to profitability, liquidity and operational efficiency.

Dyrenge *et al.* (2010) shows that companies in specific business sectors (oil and gas industry, mining, insurance and real estate) can sustain an effective tax using such features like company size, tax havens or high levels of tangible and intangible assets. Some researchers (see, among others, Spathis 2002; Leviner 2009) suggest that managers can manipulate inventories, and costs of goods sold may not match the effective value of sales.

Hacking (2006), Hardie and MacKenzie (2007), Braithwaite (2003a) studies argue that science, classification systems and economic models, respectively, do not only represent, but also perform what they purport simply to refer to.

In different economic models taxpayer behavior, segmenting them into separate groups, are assessed using relationship between the real economy status (level) and business conditions in a particular economy (MacKenzie 2007, 2009). Segmentation model should evolve over time, in assessing the changes of the reality in order to maintain the accuracy of taxpayers' postures. The model should form a "more sensitive" understanding of taxpayers motivational postures and reflect the correct equilibrium between the administration tools for use - information, consulting or audit, who provide support to facilitate the process and increase the tax authorities control of the tax declaration and payment, knowing in advance and, accordingly, in response to new information available about the changes of taxpayers' motivational postures.

While segmentation research methods have not changed significantly since the beginning of the sixties, and despite the extensive scientific debate on the subject, in principle, the essence of the process remains unchanged – segmentation involves exclusion of groups from broad and diverse set of tax payers. In order that these groups benefit analysis, they must have such characteristics: otherness, availability, stability, abundance and uniformity.

Conceptual Taxpayers' Segmentation Model Creation and Analysis

The main market segmentation principles are:

- Geographic;
- Demographic;
- Psychological;
- Behavioural.

It is important to harmonize the different style of segmentation, using additional economic variables and behavioral risk indicators (hybrid segmentation). Combinations can be different, but the main criterion should be economic –

values and lifestyle (tax payers' segmentation under long-term personal qualities, rather than changing in time social values)¹.

Taxpayers' segmentation problem manifests in changing behavior, which is influenced by rapidly changing economic conditions (demography, capital mobility), new technologies, increasing digitization level, social networks, changing personal morals, law and public finance management assessment (corruption, bureaucracy), family structure and social lifestyle, the proportion of women among the top managers and the role of children as consumers, increase.

Taxpayers' segmentation thresholds and criteria may vary across countries due to their economic, social and other factors that are specific to just that country or region, but the primary segmentation from the business perspective (small, medium, large companies) to the different levels of segments evaluating purely economic size (turnover or gross income, assets, number of employees) is mandatory. A context of risk behavior evidences best and should be analyzed between competing and cooperating taxpayers ("Opponents" – "Partners").

Taxpayers behavior is influenced by many various motives and factors that may conclude different relationships and determine the level of risk with respect to tax in general or single tax types. In order to understand and identify the factors that determine the choice of the tax payers to comply or violate appointed tax rules and their boundaries is important to evaluate key elements of personal behavior and the economic assumptions underlying the tax payers' solutions (see Table 1).

Table 1. Factors contributing to the taxpayers behavioural decisions (*Source*: adapted by Braithwaite 2011a and OECD 2010)

State	Behavioral motives	Indicators
Economic situation	Level of economic development is not an essential factor essentially influencing the choice of "pay – not to pay" so fundamental and determining the tax payers' decision are other reasons.	GDP per capita Consumer Price Index (CPI) Producer Price Index (PPI)
Norms	Personal and social norms play a big role in the decision-making process, so it is important public perception of tax claims obligations.	Tax burden level Government debt to GDP; Wages and Salaries Growth
Deterrent effect	Traditionally, the dominant tax administration tool. An important as decisive norms, but the penalties has limitations for sustainable development of tax environment and it is too expensive fully comply with tax administration purposes this way.	Audit probability Private Debt to GDP
Possibilities	Competitiveness, public welfare level, tax system's simplicity or complexity are associated with tax payers' choice to tax compliance closely. Clarity and simplicity of the tax system determines the level of tax compliance.	Global competitiveness Index (GCI) Human Development Index (HDI) Baltic Dry Index (BDI)
Conscientiousness	Tax payers' fairness in respect to application of tax rules must be respected and by tax authorities. Tax payers' want to be sure that the sanctions will be used only against those who avoid tax obligations.	Tax moral Index GINI Index

It is important to understand that an individual tax payer may take any of the described positions at different times. There is a chance that the tax payer can accept all points of view at the same time taking into account the different tax objects. Attitudes are not fixed characteristics of a person or group, but the difference reflects the interaction between a person or group and those laying down the requirements for them. These tax payers' postures and attitudes are relevant in aggressive tax planning cases when a behavior is twofold – knows the law and tries to reduce tax liabilities by legal clues. Such clues aren't legal by moral aspect and are contentious using "substance over form" rule. Each group requires different treatment and measures.

Risk characteristics are the tax payers' economic data or indicators which have a predetermined deviation and possibly indicating improper tax compliance (see Table 2).

Assessing the risk of taxpayers' various scientists (Schneider *et al.* 2003; Paakkonen *et al.* 2004; Braithwaite 2011b; Clancy *et al.* 2011) propose to include such factors as:

- Business profile structure;
- Competition;
- Macroeconomic environment;
- Sociological factors;
- Psychological factors.

¹ Start from Maslow hierarchy of needs and social personality concept (Maslow 1954). The term "values and lifestyles" was used as the first theory based psychographic system comprising human social values - the main driving forces of life. The basic premise – people express their personality by their behavior. Defining segments the personal characteristics that are running behavior are taken into account and segmentation is made according them. There are distinguished differences in motivation, but not psychological or physical restrictions of user behavior.

Table 2. Economic variables (Source: adapted by Dias et al. 2016)

Group of indicators	Ratios
Profitability	Weight of the Earnings Before interest, Tax, depreciation and Amortization (EBITDA) on Total Assets Return on Assets (ROA) Tax Return
Fiscal	Differences between the Accounting and Tax Result/Turnover
Activity	Inventory Turnover Weight of Personnel Expense on Turnover Cost of goods Sold against Turnover
Liquidity	Current ratio Non-current liabilities/Total Assets

Knowledge about the representative behavior of taxpayers groups (tax compliance vs failure to comply with tax obligations) would allow determine the key influencing factors and according to them to choose the most effective targeted administrative measures.

Boll (2011) provided detailed analyses of how tax inspectors navigate in doing responsive regulation and which dilemmas arises in doing this. The main purpose of segmentation is to harmonize tax administrators' control actions rapidity and efficiency ratio in segmented business profiles. Segmentation model should divide/classify companies so that the business should contain the intent to control behavior with each other (opponent vs. competitor, partner vs. partner) and the tax administrator would help to implement these changes (Boll 2012).

To characterize different degrees of performativity MacKenzie (2009) works with what he calls a 'possible classification' of performativity. It is important while segmenting companies to high-risk segments to tax avoidance, transforming variables and giving them a different significance levels (weights). This allows the tax authorities to select which variables play a greater or lesser role. Weights usually are selected a priori, but they must be perfectly based.

Timely and targeted processed information about taxpayer behavior change allows us to consider the taxpayer's level of risk. Estimating data changes or omissions in declared tax amounts, taxpayers' risk level, which was estimated under a common risk rules, also changes. As a consequence performing the control of taxpayer with increased risk level recommended tighter control procedures are used.

The main tax administrator task is to choose appropriate actions that any group of tax payers would be motivated to comply with tax obligations. It can be defined the main tax administrator's actions applied to different tax payers groups assessing a potential risk of infringement.

The conceptual segmentation model shows (see Fig. 1) how taxpayers are divided into two broad categories-opponents and partners. It represents the basic motivational postures of taxpayers. Motivational postures refer to the interconnected sets of beliefs and attitudes related to tax that a taxpayer openly shares with others (Braithwaite 2003b). In relation to the quantitative segmentations the explicit assumption underlying the model is that: "most of the population is assumed to be located at the base of the pyramid" (Braithwaite 2003b). Empirical study performed in Australia shows, that tax payers' distribution between opponents and partners is 7% and 93% (Braithwaite 2003b).

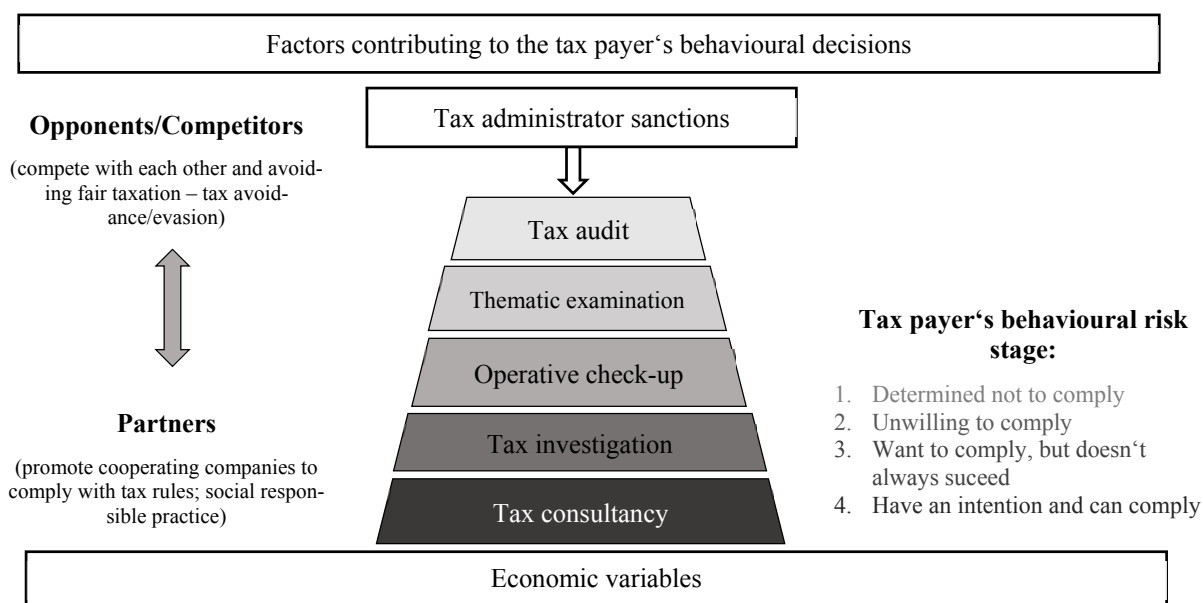


Fig. 1 Conceptual taxpayers' segmentation model (Source: prepared by the authors)

Links between a given motivational posture of a taxpayer and a corresponding treatment is the approach that can be described as an individualized approach to enforcement. The judgment of the taxpayer is based on his/her morals, values, ethics, etc.

Control actions' effectiveness to selected high-risk groups of tax payers depends on the operativeness of these control actions. Due to constantly changing tax payers' posture there must be a sufficiently precise tax administrators' expert valuation procedures (assessing selected tax payers) eliminating the subjectivity, lack of professional competence, experience or knowledge.

While evaluating the described behavioural risks, individual tax administrator choices should be characterised by analysed criteria sets. The efficiency should be assessed by the four main execution requirements – registration, accounting, declaration, and payment. The success of tax compliance depends on priorities correctness and suitability for solving problems, which were determined in risk analysis of taxpayers'. In the scientific literature (Bundgaard *et al.* 2014; Jensen, Wöhlbier 2012) and in economic appraisals (Canada Revenue Agency 2012; OECD 2004, 2013, 2014) most frequently used data types for taxpayers behavioural risk identification are:

- Income declaration data, including financial statements information;
- Other taxpayers' information – economic activity type, payroll, VAT data (UK, Canada);
- Third party information – banks (information on issued loans, interest), labour inspection, authority on social affairs (social contribution data), corporate registry data (Austria);
- Other public (soft) data, information from the internet (publications, news, insights);
- Comparative information (analysis according to net and gross income norms (UK, Canada), expense and income ratio (UK), neighbourhood families' average income comparison with the declared data (Canada));
- Audit and sanction report information – reviews, enquiries, public opinion about requirement compliance (UK).

Factors to be considered in order to prepare integrated various risk evaluation strategies, usually are determined by using questionnaire creation principles and trying to answer the following questions: how to determine and evaluate the compliance risk? How to plan and realize the selected implementation strategies? How to assess their effectiveness? In most cases, risks are identified by forming questionnaires with questions specific for a particular economic activity, taxpayers behavioural risk level. The questions are provided in the table below (see Table 3).

Table 3. Exemplary the taxpayer's operational risk assessment questionnaire (*Source:* adapted by OECD 2013)

Information collection	Verification of information	Evaluation of information
<ul style="list-style-type: none"> – on address of activity execution – bank account details – representative contact details – details on registration (in companies register; as VAT payer) – information on permissions, licenses – residence where actually operates 	<ul style="list-style-type: none"> – Register of Legal Entities, Lithuanian taxpayers' Register – list of companies that were instructed by tax administrator to use non-cash means of payment; list of the debtors who did not pay taxes, etc. (website of State Tax Inspectorate) – EU Member States' VAT code check (the European Commission's website); – identification number check in Excise Movement and Control System (the European Commission's website); – other countries taxpayers identification (Ministry of Foreign Affairs website); – legal status of a company, submitted documents, etc. (Register of Legal Entities); – licenses, permissions, certificates (issuing authority websites); – information about bankrupting legal persons; – freight license (State Road Transport Inspectorate website); – certified construction companies and professionals (Building Products Certification Center website); etc. 	<p>It should be noted:</p> <ul style="list-style-type: none"> – if residence address is not specified in the mailbox address or other suspicious address; – staff contacts are not specified (indicated only name); – no information on bank accounts or preferred payment through third parties, whether in cash or in other suspicious ways; – a company is established in a tax haven country; – whether a business partner operates in a relevant area; – prices of production/services (aren't there any suspicion, prices aren't too high/low); – whether there are known the true service provider; – whether there is known the origin of goods; – did the same persons previously worked in bankrupt companies? – has the business partner sufficient knowledge of the relevant business area? – loading and delivery conditions and other circumstances of the carriage; – whether the partner is pre-selected carriers? Do the carriers have an appropriate licenses?

Considering the responses received groups of risky companies are formed and the tax authorities may choose the targeted control actions. By using behavioural survey methods, Canada Revenue Agency (2012) classifies taxpayers into groups by behaviour and accordingly uses compliance tools, which can be applied within these groups effectively. Research results acquired by analysing risk tendencies in various community groups are used. National risk identifications systems' characteristics are measured constantly. Aiming to determine their effectiveness, audit results are compared with calculated risk in different groups (OECD 2004). It is assumed that if the estimated risk increases, so it can be adjusted a result of future inspection. With analysis of these links, attempts to determine the possible casual audit results are made. Latest Canada Revenue Agency research has proved that using risk factors, the probability to discover arrears is 2.5 to 4.4 times higher than not applying risk evaluation (depending on the specific tax risk – individual or corporate income tax, VAT, etc.).

A clearer segmentation distributing taxpayers into categories according to their motivational postures make it possible for tax authorities to apply different and specific surveillance and control measures and mechanisms. Tax payers, whose state can be seen as a "willing and able" would be subjects to reminders and consulting services, and taxpayers, whose state can be seen as an "unwilling and contradicts" would be subjects to increased inspection and audit procedures.

The main segmentation models' novelty feature is that taxpayers based on their current situation can be seen as "moving targets". Segmentation model posits a remarkable cleverness in that the taxpayer may change its position according to what economic condition he finds himself on certain macroeconomic circumstances.

As usual segmentation models divide taxpayers into categories according to the taxpayers' "motivational postures" and provides treatments accordingly. Everything around the model is in motion and can be shaped, whereas it believes itself to be stable.

The segmentation model also assumes that taxpayers are neither driven by economic interests, nor do they primarily respond to deterrence; instead most taxpayers respond primarily to service and guidance.

On the one hand taxpayers want to know how the tax authorities select the tax payers to be audited, what are the rules to evaluate risk and on which areas the tax authorities are primarily focusing and on the other hand tax authorities have an issue to distinguish risky tax payers' groups, recognize motivational postures and to respond accordingly.

Segmentation should be a constant but changeable process. It can have different (hybrid) indices' combinations. That is why inclusion of new indices, which can form separate new groups and reason taxpayers behaviour within them, is possible when demand or tax administrator's attitude changes. The solution should consist of several segmentation stages: segmentation by company, industry, economic activity parameters (turnover/income, number of employees, business complexity/level of internationality) as well as formation of taxpayers' behavioural risk segment groups (by motivational taxpayers' behaviours). The variety of variables provide opportunities to choose different combinations. However, broad macroeconomic environment and psychological approach to economic processes evaluation (interdisciplinarity) is needed. In addition, consideration of the effect of psychological factors, even lacking scientific proof, is important as well. Frequently, decision-makers aim to explain economic phenomenon referring to "everyday psychology" or "common sense". Such manifested explanations provide a false assessment of economic phenomenon, especially in the long-term. Taxpayers' activities are definable by specificity, i.e. every object is oriented towards some kind of activity, particular markets. Thus, the tax administrator, who searches for methods, which could help meet the requirements better and improve the administration process, must identify and group the supervised individuals and legal entities.

Conclusions

The knowledge about the specific behavior of the taxpayers' segment groups (tax compliance/enforced tax obligations) enables to determine the main impacting factors. Accordingly, the most effective purposive administration tools may be applied to these groups. Better comprehension of the taxpayers' and their executives (decision-makers) behavior would allow to enhance administrative institutions' abilities in analytics and to determine the yet unknown connections and phenomena between separate tax payers in the context of effectual law basis. Clearer taxpayers' identification by segment groups and behavior risk factors, which are specific to separate groups, will enable faster determination of outliers as well as newly forming potential risks. Dynamic changes between separate groups or in them will form preconditions for timely implementation of tax payers' monitoring and control tools for reaching a positive change in the behavior of taxpayers.

A new approach to assessment of different economic, personal and tax links and selection of appropriate indicators combination allows to analyze both – tax payer's and it's CEO's – behavioral financial decisions that they adopt intuitively (behavioral finance field). With regard to their social, cognitive and emotional factors can be predicted such decisions, which do not always have a logical reason. That is why the behavioural economics which is trying to refute the postulates of classical economics (the person is rational and financial decisions are consistent) is the background for Big Data analysis future which would allow the tax authorities to use preventive actions and to change the behaviour of tax payers.

The presented material indicates that the segmentation model has been performative in the first generic sense. In summary it should be emphasized that for an effective solution it is important to combine different segmentation styles using additional economic variables and behavioral risk indicators. Nowadays businesses experience themselves in new ways thus the tax administration authorities should not fall behind also.

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