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Systems Engineering: Tax Risk Peculiarities in Project Execution

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***Abstract*: The contemporary project management practices in various industries of the Russian economy constitute "open systems" with approximately definite results at the beginning of their execution. Project risk management is, therefore, a topical issue for a project manager. This area of knowledge related to project management is poorly formalized; risk management is even regarded as an "inexact" science, while risks arising out of projects require assessment and management.**

One of the main directions of project risk management is to determine and analyze all possible tax risks and to mitigate their negative influence on project activities.

In the article, the authors study the theoretical organizational foundations of tax risks that can arise when a business entity carries out project activities, introduces socioeconomic and scientific-technical projects.

The author presents risk analysis methods when assessing tax risks and possible ways of minimizing tax risks.

***Index Terms*: project activity, tax risk, tax risk analysis methods, tax risk minimization.**

I. INTRODUCTION

In the market economy, one of the key conditions required to ensure stable and progressive financial-economic development of a business entity is the ability of its management to protect the company against the adverse impact of possible risks associated with entrepreneurial activities, including taxation risks. As the practice shows, it is easier to prevent tax risks (hereinafter referred to as TR), which result in negative consequences for entrepreneurial entities than to reimburse losses inflicted by them or various losses.

Modern projects in various sectors of the economy become more and more complicated and actively use new technologies. Often, they are also "open", i.e. it becomes more difficult to formulate clearly their final goal, to describe a project's product at the initial stages of its execution. This leads to a big number of risks (technical, economic, technological, financial, political, legal, etc.) which negatively influences the project's results.

According to the results of a PM Expert poll, which was conducted to assess whether projects are successful in terms of their execution deadline, projects were implemented exactly in time only in 28% of cases, most projects (57%) were executed with moderate delays and the deadline of projects was violated substantially in 15% of cases. As regards the success of executed projects in terms of their content, projects' goals were fully achieved only in 62% of cases [1].

For this reason, nowadays for project management a project manager must use risk management methodology, forecast the probability of risk events in the field of taxation, to assess losses which are possible in these cases or, on the contrary, the amount of additional profit. They must elaborate effective measures aimed to prevent negative TR consequences or to minimize TR consequences, and in separate cases to maximize the possible positive impact caused by the occurrence of events related to TR.

Risk management is a non-stop process spanning all stages of a project's life cycle (from the generation of an idea to the project's completion). Lessons taught after the project's closure make an important contribution to the success of future projects [2].

A project manager holds responsibility for preventive measures that they take, actions taken by all members of the team in advance, for vigilance in relation to TR, with the participation of all interested parties in the process if required, for the attraction of the relevant experts as consultants to provide support to a project in TR management issues [3].

The article aims to describe TR in the course of project execution and to analyze risk analysis methods when assessing TR and possible ways of minimizing TR.

II. PROPOSED METHODOLOGY

A. Description of TR In Project Execution

There is a diversity of opinions about the interpretation of the essence and nature of TR. It is so because this phenomenon is multifaceted and at the same time, it is not sufficiently used in real activities.T.A.

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Kozenkova [4] attributes TR to changes in the country's tax policy, the introduction of new tax payments, tax rate hikes, amendments to tax legislation in relation to the terms and periods of tax payment, etc.E.M. Evstigneev [5] defines TR as the probability of unfavorable consequences for a taxpayer in the area of tax planning. However, he limits TR only to the losses caused by tax authorities' financial sanctions.

As defined by T.A. Tsirkunova and M.I. Migunova, "the tax risk is a threat to the subject of tax relations of sustaining financial or other losses related to the taxation process" [6]. We note that negative deviations in actual activities from tax planning results, based on which managerial decisions are taken, can lead to these losses.

For participants involved in project activities, TR are an influential regulator of these activities [7] as they directly influence the amount of expenses, the payroll fund, and the final financial result of project activities. As a consequence, the taxpayer tries to manage TR by minimizing them. High-quality TR management is possible only if TR sources are clearly identified and classified. N.A. Pimenov [8] highlights the following main TR sources:

– payer's fiscal psychology;
– socioeconomic factors;
– changes in the tax policy;
– drawbacks of tax planning and forecasting;
– statutory and legal factors;
– organizational-legal reasons; and
– sectorial peculiarities and types of the taxpayer's activities.

The efficient TR management system must include identification not only of risk sources but also of the type of risk and ways of risk minimization. The following TR types are the most important for taxpayers: risk associated with an increase in the tax burden, risk related to tax control and risk associated with criminal responsibility.

The risk associated with an increase in the tax burden can be caused by the cancellation of some tax benefits, an increase in the tax rate and the payment of new taxes by the taxpayer. This type of risk can lead to the risk of tax minimization.

The risk related to tax control includes the possibility of new tax inspections, the introduction of financial sanctions and the cancellation of permission documents.

The risk associated with criminal responsibility can result in the taxpayer's substantial financial expenses even if a court order is issued in their favor.

Currently, project developers encounter probable TR as they try to "ease" their tax burden by violating legislation deliberately. Particularly, they deal with "shady" companies, perform work and provide services at reduced prices, carry out economic activities, which are not provided for in permission documents, interact with counterparties situated in offshore areas, etc.

Results of a TR study conducted by UK-based Ernst & Young show that representatives of domestic and foreign respondents believe that the most important external TR factors are changes in tax legislation (46%), rules of tax display and accounting standards (26%), principles and methods of corporate management (17%). The following was named as the main internal TR factors: top management's unawareness of TR (54%); the absence of the relevant divisions and consultants in a company (20%); weak tax planning (20%); no TR assessment among divisions (20%); and insufficient automation (16%) [9].

For business entities, some scientists [10-12] define five TR fields:

I. The relatively risk-free field – legislative requirements are observed, taxes are charged and paid in full. In this case, TR are minimum for project execution. For participants involved in project activities, it is important to generate estimated profit, so that the tax burden does not hinder business development.

II. The field of the minimum risk – inaccuracies in the calculation of the taxable base are permitted, tax reports and accrued amounts of taxes are filed and paid on time. As a result, some profit is spent to pay penal sanctions.

III. The field of the heightened risk – provided that the contractual discipline or tax legislation is violated, the substantial part of the profit is earmarked for the coverage of losses and penal sanctions.

IV. The field of the critical risk – tax legislation is violated in order to minimize tax payments and, as a consequence, the amount of financial sanctions exceeds the amount of taxes accrued pursuant to legislation. As a result, a business entity allocates financial resources to cover financial sanctions. This reduces the scope of business activities.

V. The field of the unacceptable (catastrophic) risk – accrued penal sanctions result in the withdrawal of funds from working capital, which can lead to the bankruptcy of a business entity. In these conditions, the risk associated with a criminal prosecution can arise.

Unfortunately, the assessment of potential TR and tax planning have not yet become widespread among project risk managers, although this has become an evident requirement of the present given the practice of tax relations.

B. TR Assessment Methods in Project Execution

TR assessment is a key stage of TR management. Not a single business entity that pays taxes can function without it.

In accordance with a study conducted by the Governmental Analytical Center, only 10% of Russian businesses out of the companies from BRICS member states conduct TR management on a regular basis. By comparison, 20% of businesses from other BRICS member states do this. Another Russian problem is no communication about tax issues within a company. Only 24% of respondents from Russian companies answered that they compile regular taxation reports for top management (up to 45% in other BRICS member states) [13].

The goal of TR assessment is known to identify two main parameters: the probability of this risk's materialization and the amount of potential financial losses or additional benefits related to it. The objective or subjective method can be applied to determine the TR probability. The first parameter is based on the formalized calculation of the frequency with which TR arise and the scope of its consequences in terms of value. The subjective assessment method for the probability of TR and losses (additional benefits) from their occurrence is based on the use of various assumptions:

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taxation experts' estimates, appraisers' logical judgments, their intuition and personal experience, etc. When applying the subjective method, various subjects of assessment can set unequal values of the probability for the same TR. Even though the definition of damage by using this method is based on assumptions, it can also be determined in terms of value.

Above all, it should be noted that not all TR can be assessed in monetary terms but only those that lead to financial (material, monetary) consequences. V.G. Panskov thinks there are cases when it is not possible to assess the TR amount (for instance, when one measures the risk arising out of the application of tax planning methods with the use of tax optimization schemes because consequences of this risk can be not only amounts of penalties accrued for the violation of the requirements of tax legislation but also criminal responsibility) [14]. We are convinced that the list of TR for businesses involved in project activities whose probability of occurrence and consequences are very difficult to assess in monetary terms is not limited to the risk of criminal prosecution. This risk also contains other taxation risks that result in negative procedural-legal (temporary seizure of property, the suspension of bank account transactions, etc.) and social consequences (the loss of the business reputation, the establishment of the reputation of an unprincipled taxpayer).

The accurate quantitative measurement of the TR probability and the amount of related losses (benefits) in the course of project execution is possible only if there is exhaustive information about all potential consequences of any separate action and their probability pointing to the possibility of a certain result. Qualitative methods can, therefore, be used for TR assessment if the sufficient statistical base of required data is absent (limited).

Out of numerous qualitative methods of TR assessment, T. Sevruk recommends using the following methods: The Analog Method, Due Diligence Method, Decision Tree Approach and Monte Carlo Method [15]. However, for the purpose of TR assessment N.I. Migunova and T.A. Tsirkunova suggest using a much wider range of accordingly adapted qualitative and quantitative methods of risk analysis [6].

We will characterize critically qualitative and quantitative methods, which, as the above authors think, are the most adequate in terms of their application for TR assessment by expressing our opinion on the issue.

The essence of the **Analog Method** is that databases of risks associated with similar projects are collected, systematized and processed for the assessment of a potential TR in the execution of a new project. This helps identify dependencies in already completed projects. The comparison of the new project's estimated effect with the same parameters of earlier executed similar projects helps determine deviations and characterizes the TR degree of the project under study. The drawback of the described method is that its application is complicated by the search of information about similar projects.

The well-known **Due Diligence Method** is based on the collection, systematization and thorough analysis of statistical information about changes in the external environment in which entrepreneurial entities operate.

The possibility of the use and accuracy of TR assessment results by means of formalized mathematical methods, in pure form, directly depend on the availability of sufficient reliable mass data. For this reason, if this statistical database is absent, in formalized problematic situations it is reasonable to use the **Expert Method**, which is based on the attraction of competent and highly qualified professionals – taxation experts to make a quantitative assessment of qualitative opinions that cannot be directly measured. Experts initially conduct an intuitive-logical analysis of the situation with quantitative/ordinal estimates of the processes/phenomena relating to the compliance with tax procedures, and later they process results.

The simple description of the **Rating Method** is that the content is referred to a specific class from the position of risks based on the assessment of project activity parameters in the field of taxation. When applying the rating method, sometimes there can be a combination of experts' real financial-economic and grade valuations. Provided that experts are attracted, the rating method can actually be considered a modification of the expert method, although, as a rule, it is highlighted as independent because semiformal procedures are applied quite often when using this method. Specifically, the following varieties of the method can be highlighted: the grade-based ranking, the pairwise comparison of an object's properties studied, the ranking based on the principle of an increase or a decrease in the properties under assessment, etc. Finally, the TR rating, which is based on experts' estimates, allows us to define priority estimates from the viewpoint of the TR probability.

The drawback of these methods is that they do not give any possibility to answer the question about the TR level in monetary terms. For this reason, it is reasonable to supplement these methods with others, which make it possible to conduct a quantitative assessment of possible damage (losses) or additional benefits.

In our opinion, it is appropriate to apply broadly the above qualitative methods to assess the TR level in project activities, especially in those cases when the application of quantitative methods is complicated by the absence of statistical data required to determine the probability of the occurrence of an unfavorable tax event (losses in the form of penalties and fines).

In the most general form, quantitative TR analysis methods are divided into two groups: economic-statistical and analytical. In cases when substantial actual mass data for previous periods are available or, in spatial terms, it is reasonable to apply economic-statistical TR assessment methods for project activities, whereas analytical methods are applied when operating scheduled (forecast) data.

The strong point of statistical TR analysis methods is relative simplicity of mathematical calculations but they can be applied successfully only if the quite wide database is available because the bigger mass data the more likely TR assessment results will be.

Let us start the consideration of analytical TR analysis methods from simulation modeling.

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It comprises a series of numerical experiments conducted with the use of computers and makes it possible, upon the formal description of an object under study and simulation of its behavior, to obtain empirical estimates. With the application of modern ICT, the method makes it possible to model complicated systems that interact with numerous external objects.

A decision tree, which provides for the graphic construction of possible options of decision-making, can also be used for TR studies. Subjective or objective estimates of the TR probability are put on the branches of a conditional "tree", and each option is assessed and the least risky option is chosen upon the application of specialized probability calculation methods.

In brief, the essence of **sensitivity analysis** is to calculate the values of a certain indicator given various parameters of influence factors. This makes it possible to determine the variability of the result from the change in the above factors and to highlight those which influence its value most of all. Sensitivity analysis is applied most often in financial management for the assessment of investment risks. For this reason, the practical use of sensitivity analysis for TR assessment requires consideration of TR assessment peculiarities. For example, the level of the tax burden or the amount of the discounted after-tax cash flow can be selected as effective indicators for the assessment of risk levels in a project's tax planning by means of sensitivity analysis.

III. RESULT ANALYSIS

A. Ways of TR Minimization in Project Execution

An important factor ensuring efficient tax management and, as a consequence, lower TR is the tax planning mechanism that constitutes the systematic use of the best legal tax means and methods aimed to establish the desirable future financial position of an object in the conditions of limited resources and the possibility of their alternative use.

Considering versatile and numerous tax planning principles, it makes sense to classify them as general and special for easy perception. General principles include principles and methods which are generally typical for an enterprise's internal planning and tax planning system as its component, whereas special are principles and methods that are peculiar to tax planning only, particularly the principles of unity, participation, continuity, flexibility and accuracy.

The expediency of using the tax planning system is substantiated by the aggregate of strategic problems, the solution of which will promote TR minimization because tax planning in project execution will provide this possibility:

– to observe tax legislation to ensure the calculation of tax payments is accurate;

– to minimize tax obligations within the legislative framework from the viewpoint of separate taxes and duties;

– to maximize profit by optimizing amounts of paid taxes which are part of an enterprise's expenses;

– to make a substantiated choice and coordination of forms of interaction with counterparties depending on taxation systems in use;

– to ensure efficient planning and cash flow management;

– to avoid penal sanctions.

The achievement of the above positive consequences and economic benefits for the project under execution requires analysis of the current types of tax planning and the selection of the most acceptable for a specific taxpayer.

Along with the above, another important consequence of the influence of tax planning on TR minimization is documental support.

The generalization of the current tax planning practice gives reason to say that there are no approved forms of documents that would reflect planned tax calculations for the future. These indicators, in the incomplete form, are mainly components of financial and strategic plans.

We find it reasonable to supplement the effective standardized form of the project's financial plan by a separate section that must be named "tax plan" or "plan of tax payments". This document must include the traditional approach to planning. The plan's upper part must indicate specific taxes and dues, which are planned to be paid considering all legal possibilities of setting their optimal (minimum) amounts. The lower part of the "tax plan" must show sources, from which tax payments will be covered considering specific features of statutory tax collection.

IV. CONCLUSION

The following conclusions can be drawn based on the results of the study conducted.The TR substantially influences the business activities of every separate taxpayer. Due to the heavy tax burden, taxpayers deliberately violate tax laws, striving to reduce their taxable bases and to avoid statutory tax payments. However, it is reasonable for taxpayers, first of all, to try to reduce their tax burden legally by using effective tax benefits and introducing the tax planning system.Considering specific features of the taxation field, in many cases, the exceptional application of various formal TR assessment methods cannot give any ambiguous recommendations. Anyway, the adoption of a final decision rests on executives who are responsible for its correctness and comprehensiveness, i.e. reliable TR assessment requires the subjective approach. It does not make sense to abandon fully the use of formal-economic methods based on the calculation of net current losses or additional benefits and the TR probability. The project's management team can give a final answer to the key question concerning the achievement of high profitability after taking one or another action of the justified TR level only with the help of highly qualified tax experts. We are, therefore, convinced that the quantification procedure in TR management must be based on the optimal integration of quantitative and qualitative methods of analysis and assessment.

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