Minimization of the Competitive Risk of the Tax System for Improving Public Administration at National and Regional Levels

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Abstract:

The article is devoted to the problem of tax risks of the state, which are described from three standpoints: as damage; through a combination of factors that define them; and from the standpoint of the probabilistic nature of their implementation. It is underlined that the competitive risk of the tax system is closely related to the process of tax competition.

The country tax competition is illustrated by the experience of the European Union member states in reducing corporate income tax rates during the period of the European Union expansion in 2004 and 2007. The statistical data are provided to confirm the trend of the reduction of tax rates by the EU member states in the context of economic integration. The experience of the regions of the Russian Federation is described as an example of tax competition at the regional level. The option of assessing the scale of regions' introduction of tax competition tools available in the conditions of modern Russian model of tax federalism is proposed.

The comparative analysis of introduction of tax competition tools by regions and advance of the tax revenue growth over the growth of the regional economy is carried out. The absence of an unambiguous relationship between the scale of the introduction of the tax competition tools and the growth of tax revenues is shown by the example of the regions of the Central Federal District. The absence of such dependence is determined by similar taxation conditions in the regions of the Russian Federation, which describe broad prospects for the development of tax competition.

Keywords: *tax risks of the state, reduction of competitiveness of the tax system, tax competition, tax revenue, tax burden.*
JEL Classification: *H20, H21, H22.*

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1. Introduction

Dialectics of tax relations in the modern state and development of research in the tax field predetermined the need to separate tax risk in the system of the market economy risks. Initially, the tax risk became a subject of research of lawyers in the domestic science; the most serious results of research are presented in the paper by Shhekin "Tax risks and trends in the development of tax law" (Shhekin, 2007). The economists' attention focused on tax risks later, and currently management of tax risks, which is called "tax risk management" in foreign English-language literature, is one of the key problems in this field (KPMG, 2004; EYGM, 2004). At the same time, when it comes to tax risks, a microlevel is generally meant, that is, the tax risks of economic entities – taxpayers (Grant Thornton, 2016; Stroeva *et al.,* 2015; Thalassinos and Liapis, 2014), but the tax risks emerge at the macro- and meso-levels as well – they are the tax risks of the state. The issue of the tax risks of the state is quite new for modern financial science – its active exploration began in the last 6-7 years. One of the conceptual works in this area was the monograph "Tax risks of the state" published in 2014 and prepared by the collective of authors of the Financial University under the Government of the Russian Federation (Goncharenko *et al.,* 2014).

The urgency of the study is determined by the need to search for and develop tools to minimize the tax risks of the state in the context of continued fiscal consolidation, and the risk of reducing the competitiveness of the tax system, which is intensified due to the increasing mobility of tax bases. The goal of the study is to define the possibilities and prospects for introducing the tax competition tools as a component of minimization of the competitive risk of the tax system at the regional level in Russia based on the study of their current state and the experience of the country-level tax competition in the European Union.

2. Methodology

Methods of theoretical and empirical cognition were used in this study. Theoretical research was carried out through methods of analysis and synthesis, induction and deduction, as well as through ascent from the abstract to the concrete. Approaches to defining the state's tax risks and reasons for their occurrence were systematized through theoretical cognition; the category of competitive risk of the tax system was analyzed as one of the components of the tax risk of the state, including as part of the relationship with the tax competition process.

The empirical study was embodied in the analysis of experience and economic effect of tax competition at the national level – among the European Union member states - and at the regional level - among the regions of the Russian Federation. Statistical and economic analysis, ranking and expert assessments were used as empirical methods of research (Thalassinos and Dafnos, 2015; Thalassinos and Kiriazidis, 2003).

3. Results

3.1 Tax risks of the State: Definition and occurrence

Since taxpayers and the state are both the subjects of tax relations, the tax risks occur for each of them. There is no single definition of the tax risks of the state at present, but the following approaches can be distinguished among the diversity of opinions:

From the standpoint of its probabilistic nature: The tax risk of the state is the probability (threat) of tax shortfall in the budget because of the taxpayers employing methods of minimizing taxation that are possible due to various shortcomings in tax legislation (Pinskaja, 2009; Shekhovtsov *et al.,* 2017).

As damage: The tax risk of the state is material losses caused by shrinking tax revenues to the budgetary system, a systemic narrowing of the tax base due to shrinking business and investment volumes and expansion of the shadow economy (Goncharenko, 2009).

Through a combination of factors that define it: The tax risk of the state is the likelihood of a reduction in the receipt of taxes and fees due to insufficiently justified changes in tax legislation, inefficient activities of tax and customs authorities to control the payment of taxes and fees, as well as refund of financial resources to taxpayers if they were obtained by the state due to unlawful actions of officials of regulating bodies (Panskov, 2013; Akopova and Przhedetskaya, 2016).

The reason for the occurrence of tax risks is determined by the very financial nature of the tax, by the implementation of its fiscal function, the success of which ensures sufficient volume of the budget tax revenues and causes tax risks for a taxpayer, while the shortcomings of its implementation lead to a reduction in the tax burden and tax revenues of budgets, revealing in the tax risks of the state. In general, the tax risk of the state is revealed in the reduction of the budget tax revenues and in their failure to achieve the target level. However, depending on the factors, it can be expressed in: the tax base reduction, the tax burden growth, taxes and fees evasion, application of schemes to minimize tax payments by taxpayers, vagueness and uncertainty of the tax legislation wording, abuse of tax benefits by taxpayers, inefficiency of tax benefits, inefficiency and errors of tax control and administration, lower competitiveness of the tax system. It must be noted that each of these risks is of interest for a separate study. Let's review the latter – the competitive risk of the tax system – in more detail.

3.2 Competitive risk of the tax system

Stability of the principles of a market economy and the globalization development predetermined the dissemination of the competition principles in all areas of the society's life, including tax relations. This is referred to competition in the field of

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production of public goods within the framework of the Tiebout hypothesis, which assumes the competition of territorial administrations for attracting taxpayers in conditions of their possible migration, determined by the search for the optimal set of public goods provided in combination with the corresponding level of taxation (Tiebout, 1958; Shmaliy and Dushakova, 2017; Pociovalisteanu and Thalassinos, 2008).

The competitive risk of the tax system is revealed in the reduction of the budget tax revenues because the level of the tax burden combined with the set of benefits provided to the taxpayer in the given state (administrative entity) becomes uncompetitive in comparison with other states (administrative entities). It must be emphasized that this type of tax risk is inherent not only to national tax systems, but also to sub-federal tax systems in federal states, where regional authorities are granted tax authority to establish tax rates and introduce taxes (to a greater or lesser extent).

The category of "competitive risk of the tax system" is closely linked to the process of tax competition, which is the relationship between territorial units regarding attracting taxpayers to register on their territory by creating favorable tax climate and reducing the tax burden. Tax competition is revealed in horizontal (between one-level territorial units for tax bases exclusively) and vertical (between levels of power in one state for tax authorities) perspectives. The horizontal tax competition can be between countries, between regions and municipal entities. The first two types will be reviewed in this article.

Country-level tax competition was most clearly revealed in the European Union. The key tools of tax competition here are measures in the field of rate changes and the introduction of tax incentives for personal income tax (PIT) and corporate income tax (CIT). The use of progressive taxation opens wide prospects for the competition development, and the taxation conditions in the Russian Federation are competitive in this case, which became widely known due to the fact of granting Russian citizenship to several well-known foreigners. For example, according to VCIOM (Russian Public Opinion Research Center), Russians consider withdrawal from high tax rates one of the main reasons for celebrities to choose Russian citizenship by (22% of respondents) (VCIOM, 2017).

Regional tax competition will be reviewed by the example of the regions of the Russian Federation, which have certain possibilities for introducing tax competition tools within the current tax system.

3.3 Tax competition: Experience of the European Union

Country-level tax competition for attracting mobile taxpayers and their tax bases is a multidimensional phenomenon. Legal tax competition in the EU exclusively is reviewed in this article. "Illegally" established tax competition in the form of

schemes to attract tax bases from abroad or the formation of offshore zones will remain out of sight in this case.

Cross-country tax competition in the EU has been developing for as long as more than half a century. It reached special intensity with two expansions of 2004 and 2007 for a total of 13 new member states which, compared to traditional members, had a relatively low level of tax burden in direct taxes. Since the beginning of the 2008 global financial and economic crisis, crisis measures have significantly limited the possibilities of tax competition thanks to the initiative of the European Commission to strengthen coordination of tax policy within the EU. First, this was expressed by the fact that many EU countries required budget consolidation, which was aggravated by large-scale assistance to banks and operation of automatic stabilizers. In its turn, budget consolidation severely limits the space for tax cuts. However, the further development of tax competition in the EU has not stopped. Later, at the stage of recovery from the recession, many EU countries began to use the tax competition tools again with the improvement in the budget situation. The dynamics of corporate income tax rates in the EU countries in 1995-2016 can serve as an example. The data on tax rates are presented in Table 1 based on the relevant KPMG materials (KPMG, 2017), the calculations were made by the authors.

***Table 1.*** *Corporate income tax rates in the European Union, 1995 – 2016, % (KPMG, 2017).*

| Country | 1995 | 2000 | 2005 | 2008 | 2009 | 2010 | 2014 | 2015 | 2016 | Change, p.p. | |
										1995-2016	2008-2016
Belgium	40.2	40.2	34.0	34.0	34.0	34.0	34.0	34.0	34.0	-6.2	0
Denmark	34.0	32.0	28.0	25.0	25.0	25.0	24.5	23.5	22.0	-12.0	-3.0
Finland	25.0	29.0	26.0	26.0	26.0	26.0	20.0	20.0	20.0	-5.0	-6.0
Germany	56.8	51.6	38.6	29.5	29.4	29.4	29.6	29.7	29.7	-27.1	+0.2
Greece	40.0	40.0	32.0	25.0	25.0	24.0	26.0	29.0	29.0	-11.0	+4.0
Spain	35.0	35.0	35.0	30.0	30.0	30.0	30.0	28.0	25.0	-10.0	-5.0
France	36.7	36.7	35.0	33.3	33.3	33.3	33.3	33.3	33.3	-3.4	0
Ireland	40.0	24.0	12.5	12.5	12.5	12.5	12.5	12.5	12.5	-27.5	0
Italy	52.2	41.3	37.3	31.4	31.4	31.4	31.4	31.4	31.4	-20.8	0
Luxembourg	40.9	37.5	30.4	29.6	28.6	28.6	29.2	29.2	29.2	-11.7	-0.4
Netherlands	35.0	35.0	31.5	25.5	25.5	25.5	25.0	25.0	25.0	-10.0	-0.5
Austria	34.0	34.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	-9.0	0
Portugal	39.6	35.2	27.5	25.0	25.0	25.0	23.0	23.0	21.0	-18.6	-4.0
Sweden	28.0	28.0	28.0	28.0	26.3	26.3	22.0	22.0	22.0	-6.0	-6.0
United Kingdom	33.0	33.0	30.0	30.0	28.0	28.0	21.0	20.0	20.0	-13.0	-10.0
Average for EU-15	*38.0*	*35.5*	*30.1*	*27.3*	*27.0*	*26.9*	*25.8*	*25.7*	*25.3*	*-12.8*	*-2.0*
Standard deviation	*7.9*	*6.3*	*6.1*	*5.0*	*4.9*	*4.9*	*5.5*	*5.6*	*5.7*	*7.3*	*3.4*
Coefficient	*0.21*	*0.18*	*0.20*	*0.18*	*0.18*	*0.18*	*0.21*	*0.22*	*0.23*		

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| Country | 1995 | 2000 | 2005 | 2008 | 2009 | 2010 | 2014 | 2015 | 2016 | Change, p.p. | |
										1995-2016	2008-2016
of variation											
Range of variation	*31.8*	*27.6*	*26.1*	*21.5*	*21.5*	*21.5*	*21.5*	*21.5*	*21.5*	*24.1*	*14.0*
Czech Republic	41.0	31.0	26.0	21.0	20.0	19.0	19.0	19.0	19.0	-22.0	-2.0
Estonia	26.0	26.0	24.0	21.0	21.0	21.0	21.0	20.0	20.0	-6.0	-1.0
Latvia	25.0	25.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	-10.0	0.0
Lithuania	29.0	24.0	15.0	15.0	20.0	15.0	15.0	15.0	15.0	-14.0	0
Hungary	19.6	19.6	16.0	16.0	16.0	19.0	19.0	19.0	19.0	-0.6	+3.0
Slovenia	25.0	25.0	25.0	22.0	21.0	20.0	17.0	17.0	17.0	-8.0	-5.0
Slovak Republic	40.0	29.0	19.0	19.0	19.0	19.0	22.0	22.0	22.0	-18.0	+3.0
Poland	40.0	30.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	-11.0	0
Malta	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	0	0
Cyprus	25.0	29.0	10.0	10.0	10.0	10.0	12.5	12.5	12.5	-12.5	+2.5
Bulgaria	40.0	35.0	15.0	10.0	10.0	10.0	10.0	10.0	10.0	-30.0	0
Romania	38.0	38.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	-22.	0
Croatia	25.0	35.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	-5.0	0
Average for EU-13	*31.4*	*29.4*	*19.6*	*18.4*	*18.6*	*18.3*	*18.5*	*18.4*	*18.4*	*-12.2*	*0.0*
Standard deviation	*7.4*	*5.2*	*6.3*	*6.1*	*6.0*	*5.9*	*5.8*	*5.8*	*5.8*	*8.5*	*2.0*
Coefficient of variation	*0.23*	*0.18*	*0.32*	*0.33*	*0.32*	*0.32*	*0.31*	*0.31*	*0.31*		
Range of variation	*21.4*	*18.4*	*25.0*	*25.0*	*25.0*	*25.0*	*25.0*	*25.0*	*25.0*	*30.0*	*8.0*
Average for EU-28	*35.0*	*32.6*	*25.2*	*23.2*	*23.1*	*22.9*	*22.4*	*22.3*	*22.1*	*-12.5*	*-1.1*
Difference between EU-15 and EU-13	*6.6*	*6.1*	*10.4*	*8.9*	*8.4*	*8.6*	*7.3*	*7.3*	*6.9*	*-0.5*	*-2.1*

Most of the old and a part of new EU states reduced corporate income tax rates in 2008-2009 to minimize the consequences of the crisis. Later, the post-crisis stage of development was described by the stability of tax rates in the new member states and their continuing reduction in the old states, which is explained, firstly, by the availability of reserves for reduction, since the level of the tax burden was initially higher in the old member states and, secondly, by greater stability of the EU-15 economies relative to the new EU states. In general, the data provided in Table 1 show a stable trend of decline in the corporate income tax rates in the EU over the past two decades (both for EU-15 and EU-13), which is determined by intensification of country-level tax competition in the context of economic integration and increasing mobility of taxpayers. It must be underlined that standard

deviation and coefficient of variation confirm the homogeneity of the populations under study. The thesis on the general trend of reducing corporate income tax rates in the EU is clearly illustrated in Figure 1.

Figure 1. *Corporate income tax rates in the European Union, 1995 – 2016, % (KPMG, 2017).*
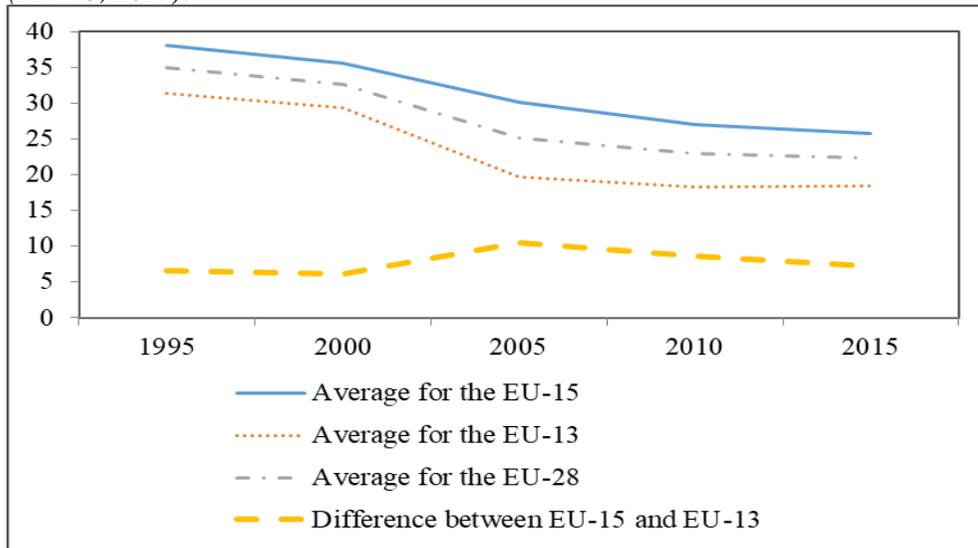
Development of the state-level tax competition requires two necessary conditions: first, the relevant tax bases must be mobile and elastic relative to different levels of tax burden (tax rates) in different countries and, secondly, tax regulation should be like a certain extent. Currently, there are empirical studies on the elasticity of foreign direct investment relative to the corporate income tax rates. For instance, De Mooij and Ederveen (2003) summarized more than 25 empirical studies and determined the average value of -3.3% for the elasticity of tax rates: after reduction in the corporate income tax rate in the host country by 1 p.p. (percentage point), foreign direct investment in the economy of this country increases by 3.3%.

As such, the country-level tax competition is an actual phenomenon that is clearly revealed in the EU, for example, in terms of taxation of corporate income. It seems that when the rate reductions in the EU are still ongoing in the old countries and, since recently, have ceased in the new countries, further consolidation of the taxation conditions in the EU in general is possible.

There is no agreement among researchers on the issue of the impact of tax competition on the economic development. The predominantly positive effect is described by the authors who work within the framework of the public choice theory and expect predictable efficient impact of tax competition on an inefficient unpredictable public sector (Brennan and Buchanan, 1977; Musaeva *et al.,* 2017). At

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the same time, this dependence can hardly be proved empirically, and therefore only theoretical studies exist so far. Nevertheless, it is assumed that part of the long-term reduction in the limit of public spending in all European countries has had a positive impact on the public-sector efficiency (Shratcenshtaller, 2011). However, an undesirable effect of excessively intense tax competition can also emerge. For example, too intense tax competition can limit the income potential and lead to inefficient provision with public goods (economies of scale). Besides, the so far insufficiently studied phenomenon of tax competition can be a catalyst for reducing the role of the corporate income tax as an automatic stabilizer of economic development, which can lead to an increasing amplitude of economic cycles, when crises will become deeper and longer.

It is also necessary to take other problems of tax competition into consideration in terms of corporate taxation. Firstly, there is a risk of irrational use of capital resulting from distortion of investment decisions under the influence of lower tax rates. Secondly, there are prerequisites for using the tax optimization schemes. For instance, the placement of subsidiaries in countries with a lower level of tax burden is primarily relevant for transnational corporations, while enterprises focused on the domestic market are limited in this way of reducing the tax burden.

The above problems require some harmonization of the corporate taxation in the EU. Transnational corporations that must interact with 28 different taxation systems also speak in support of this option. The area of harmonization is the replacement of existing national rules for income definition by common for the EU, which will contribute to increasing the transparency of tax rates established by countries and the tax competition transparency.

As such, the experience of the European Union shows that the country-level tax competition can play a significant role for the entire regional unification, despite the absence of the single reliable assessment of its impact on economic development. At the same time, it is important not to look past the competitive risk of the national tax system – when the EU states must assess the ratio of tax burden levels among the member states to approve the rate at the optimal level. Optimality is determined from the standpoint of not just creating favorable tax conditions for attracting mobile tax bases, but also minimizing the risk of reducing tax revenues, which is precisely the competitive risk of the national tax system.

3.4 Horizontal tax competition of regions in the Russian Federation

The most vivid example of horizontal tax competition at the sub-federal level in Russia is reduction in the corporate income tax rate in the Perm region in 2009: the tax rate was reduced from 20 to 15.5% at the expense of the budget of the region of the Russian Federation. In the year when the rate was reduced, the tax revenues from the corporate income tax in the Perm region declined by 43%, which was, inter alia, due to the impact of the global financial and economic crisis and the general rate

reduction from 24% in the Russian Federation. However, as soon as in 2010, there was an increase in the revenue from the corporate income tax by 34% in the Perm region, in 2011 - by 25%, in 2012 - by 29%, and each year the growth rates were higher than average for the Russian Federation, but investment in fixed assets in the Perm region rose more than 4.5 times at the very year of rate reduction (Pugachev, 2014). The neighboring Sverdlovsk region also had to reduce the rate to 15.5% in 2011 due to tax competition, but there was no time lag in this case at all due to a more favorable market situation. Investment in fixed assets and revenue from corporate income tax increased as soon as in 2011 – the year of rate reduction.

The reduction in the corporate income tax rate is the most ambitious measure in the framework of horizontal tax competition of the regions, but it can be ensured using other tools – for example, tax benefits for income tax for certain types of activities, reduction of rates for regional and local taxes, development of favorable administrative conditions for a taxpayer in comparison with neighboring regions, etc. Let's see what tools are currently used by Russian regions for the purposes of establishment of competitive tax position. Table 2 presents the summarized data from the investment portals of the regions and the websites of the regional authorities of the Russian Federation on the use of certain tax competition tools in the regions of the Central Federal District (CFD) of the Russian Federation: reduction of the corporate income tax rate in the part credited to the sub-federal budget, provision of the investment tax credit, granting tax benefits to participants of priority investment projects included in the registers of investment projects at the regional level.

Table 2. *Tax competition tools used by the CFD regions.*

Region	Reduction of the corporate income tax rate	Investment tax credit	Tax benefits for participants of priority investment projects
Belgorod region	For certain categories of taxpayers	Balance as of 01.01.2017 is 3.5 mln rub.	Tax benefits for corporate income tax and property tax for participants of 32 projects
Bryansk region	For certain categories of taxpayers	-	Tax benefits for corporate income tax and property tax for participants of 100 projects
Vladimir region	For certain categories of taxpayers	-	Tax benefits for corporate income tax and property tax for participants of more than 100 projects
Voronezh region	For certain categories of taxpayers	-	Tax benefits for corporate income tax, property tax and transport tax for participants of 87 projects

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Ivanovo region	For certain categories of taxpayers	-	Tax benefits for corporate income tax and property tax for participants of 17 projects
Kaluga region	For certain categories of taxpayers	-	Tax benefits for corporate income tax and property tax for participants of 94 projects
Kostroma region	For certain categories of taxpayers	-	Tax benefits for corporate income tax and property tax for participants of 20 projects with a total investment of 36 bln rub.
Kursk Region	For certain categories of taxpayers	-	Tax benefits for corporate income tax and property tax for participants of 72 projects
Lipetsk region	For certain categories of taxpayers	-	Tax benefits for corporate income tax, property tax, land tax, transport tax, VAT (for SEZ (special economic zone) residents) for participants of 93 projects
Moscow region	For certain categories of taxpayers	-	Tax benefits for corporate income tax and property tax for participants of 11 projects with a total volume of 18.2 bln rub.
Oryol Region	For certain categories of taxpayers	-	Tax benefits for participants of 29 projects
Ryazan Oblast	For certain categories of taxpayers	-	Tax benefits for corporate income tax, property tax, simplified tax system for participants of 6 projects
Smolensk region	For certain categories of taxpayers	-	Tax benefits for corporate income tax and property tax for participants of 20 projects
Tambov region	For certain categories of taxpayers	-	Tax benefits for corporate property tax and land tax for participants of 41 projects with a total investment of 54 bln rub.
Tver region	None	-	Tax benefits for corporate property tax and land tax for participants of 73 projects with a total investment of 447.2 bln

		rub.	
Tula region	For certain categories of taxpayers	Balance as of 01.01.2017 is 54.8 mln rub.	Tax benefits for corporate income tax, property tax, land tax, transport tax for participants of 44 projects
Yaroslavl region	For certain categories of taxpayers	-	Tax benefits for corporate income tax, property tax and land tax for participants of 24 investment projects with a total investment of 53.3 bln rub.
Moscow	For certain categories of taxpayers	-	Tax benefits for corporate income tax, property tax and land tax for participants of 30 investment priority projects with a total investment of 26.1 bln rub.

Assessment of the data presented in Table 2 allows to make the following conclusions. First, all the CFD regions without exception use tax competition tools. Secondly, the set and the scale of these tools in most of the CFD regions are comparable. Thus, in all regions, except for the Tver region, the corporate income tax rate was reduced to some extent in the part credited to the regional budget. The investment tax credit is not used in any region, except for the Belgorod and Tula regions. Absolutely all regions grant tax benefits to the participants of priority investment projects. Most of the regions of the Federation have introduced benefits in regional and local taxes (corporate property tax, transport tax, land tax), as well as the corporate income tax (here the benefits largely correspond to the reduction in the corporate income tax rate in general, and in some regions the rate is reduced only for participants of the priority investment projects). The VAT benefits are introduced for residents of the Lipetsk Special Economic Zone.

To rank regions by using tax competition tools for each of the three components, let's assign scores of 0, 1, or 2 to the regions based on an expert estimation of the scale of implementation of each tool. Besides, let's compare the results obtained with the lead coefficient of the total realized tax potential growth of regions (TPR) over the gross regional product (GRP) growth. It must be noted that the lead coefficient was calculated based on the growth rates in 2014 in relation to 2013, i.e. according to the latest relevant official GRP data published in the Russian Statistical Yearbook 2016. The time lag in this case can be neglected, since there have been no significant changes in the use of the tax competition tools since 2014-2015. The results of the ranking and calculations of the authors are presented in Table 3. The

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data from the Federal Tax Service (2017) and the Federal State Statistics Service (2016) served as the information base for the calculations.

Table 3. *Assessment of the use of the tax competition tools by the CFD regions (Federal Tax Service, 2017; Federal State Statistics Service, 2016).*

Region	Region score			Total score	TPR growth rate, %	GRP growth rate, %	Lead coefficient
	Reduction of the corporate income tax rate	Investment tax credit	Tax benefits for participants of priority investment projects				
Belgorod region	1	1	2	4	103.3	108.9	0.95
Bryansk region	1	0	2	3	95.4	110.7	0.86
Vladimir region	1	0	2	3	113.6	106.9	1.06
Voronezh region	1	0	2	3	106.1	115.9	0.92
Ivanovo region	1	0	1	2	103.4	95.5	1.08
Kaluga region	1	0	2	3	116.8	111.0	1.05
Kostroma region	1	0	1	2	103.0	105.3	0.98
Kursk Region	1	0	2	3	101.8	109.5	0.93
Lipetsk region	1	0	2	3	140.7	125.4	1.12
Moscow region	1	0	1	2	109.9	106.3	1.03
Oryol Region	1	0	1	2	107.6	109.1	0.99
Ryazan Oblast	1	0	1	2	84.4	106.5	0.79
Smolensk region	1	0	1	2	116.4	103.9	1.12
Tambov Region	1	0	1	2	124.1	116.7	1.06
Tver region	0	0	2	2	108.3	102.9	1.05
Tula region	1	1	2	4	134.7	117.4	1.15
Yaroslavl region	1	0	1	2	107.0	107.0	1.00

Moscow	1	0	1	2	105.3	108.4	0.97
Average for CFD				*2.56*	*110.1*	*109.3*	*1.01*
Standard deviation				*0.68*	*12.9*	*6.4*	*0.09*
Coefficient of variation				*0.27*	*0.12*	*0.06*	*0.09*

All the CFD regions scored 2 to 4 (out of 6 possible). The Belgorod and Tula regions got the maximum score of 4, 6 regions scored 3, 10 regions scored 2. The average score for the CFD was 2.56. The average TPR growth rate was 110.1%, the GRP growth rate was 109.3%, the average lead coefficient was 1.01 (simple arithmetic means were calculated). It is important that standard deviation and coefficient of variation for all indicators indicate the homogeneity of the population under study.

Examination of the relationship between the scale of the use of tax benefits and their fiscal consequences is of fundamental importance in this issue. Let's consider the indicators for the two regions that got the highest score. The Belgorod region has the GRP growth rate of 108.9% with the TPR growth rate of 103.3% and the lead coefficient of 0.95. This means that the Belgorod region as a region that has most widely implemented the tax competition tools has not achieved the advance of the tax revenue growth over the growth of the regional economy in general. The situation is reversed for the Tula region: the introduction of the tax competition tools involves significant (largest for the CFD) advance of the tax revenue growth over the growth of the economy (lead coefficient is 1.15). At the same time, for the Smolensk region, which also has one of the highest lead coefficients – 1.12, the score totaled just 2.

For the Bryansk region, which had one of the lowest values of the lead coefficient (0.86), the score totaled to 3, which is above average. The CFD regions were conditionally divided into two groups with a score above average (3 and 4) and below average (2), and the average arithmetic value of the lead coefficients for each group was calculated. It was found that the average value of the lead coefficient will be 1.00 for the first group and 1.01 for the second. The provided data indicate that there is no significant difference in the level of tax revenue growth in the CFD regions depending on the development of tax competition. First, this is because the scale of the introduction of the tax competition tools in the regions does not differ significantly; regions offer taxpayers similar taxation terms.

4. Discussion

The process of tax competition in Russian regions is currently at the development stage. The regions largely offer comparable taxation terms, so other (not tax) factors will be crucial when choosing the place of registration for taxpayers. This means that the competitive risk of the tax system for Russian regions is not fundamental. It is relevant for regions which use the tax competition tools at the time they are introduced in terms of the time lag between the tool implementation and the start of

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obtaining the return from it, as well as for the remaining regions ("catching up") at the time before the alignment of taxation terms (as a measure to prevent reduction of tax revenues due to terms becoming non-competitive).

At the same time, the establishment of the process of tax competition at the sub-federal level opens prospects for the development of the tax potential of the regions (Parfenova *et al.,* 2016). In the context of the current model of tax federalism in Russia, described by a high degree of centralization of tax authorities, it is nevertheless possible to further expand the range of the tax competition tools, such as, for example: introduction of an investment tax credit for corporate income tax; introduction of restrictions on the designated use of amortization premium funds for the renewal of fixed assets; introduction of tax holidays for small businesses in the real sector of the economy (Jeskindarov, 2016; Nechaev and Antipina, 2016).

5. Conclusion

The results of the conducted study indicate that the competitive risk of the tax system becomes one of the significant tax risks of the state and is revealed in the reduction of budget tax revenues because the level of the tax burden combined with the set of benefits provided to a taxpayer in a certain administrative entity become non-competitive in comparison to other administrative entities.

The occurrence of the competitive risk of the tax system is associated with the process of horizontal tax competition between territorial entities in terms of attracting the taxpayers to register on their territory by creating favorable tax climate and reducing the tax burden. Tax competition at the country level is shown by the example of the European Union member states, where it was clearly revealed during the 2004 and 2007 expansions: for example, average corporate tax rates declined from 35.5% to 27.3% in old member states, and from 29.4% to 18.4% in new member states. The pace of rate reduction slowed down later, after the global financial and economic crisis. The tax competition at the regional level is described by the experience of the Russian Federation regions, where, despite a few vivid examples, the potential for introducing tax competition tools remains very wide.

The issue of the impact of the tax competition process on the dynamics of tax revenues of territorial entities and the dynamics of their economic development in general remains unresolved. Currently, there is no quantitative or definite qualitative assessment of this relationship. The introduction of tax competition tools is aimed at increasing tax revenues, but it can lead to the opposite result – for example, due to the realization of the competitive risk of the tax system, a time lag in the short term, or situations where the attracted mobile tax bases do not compensate for the volume of lost taxes. It seems that the review of the influence of tax competition tools on the dynamics of tax revenues and economic development is a promising area of research of the risk of reducing the competitiveness of the tax system.

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