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TAX COMPETITION MODELS RESEARCH IN THE CONTEXT OF TAXATION INFLUENCE ON COUNTRIES' ECONOMY

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Summary. The development of models of tax competition is analyzed, the main factors considered in the models are determined. The effects of tax competition for the country's economy are systematized.

Key words: *tax competition, base model, modified model of tax competition.*

Statement of the problem. Increasing of the integration processes and the development of innovative technologies in the global economy leads to a blurring of boundaries and increasing mobility of factors of production that provokes interstate competition for expanding their sources of income, resulting in changes in national laws in facilitating business. Phenomenon of tax competition is developing among economic methods of attracting foreign source income. Impact of tax competition on the economies of countries-participants is described in the models of tax competition. Their analysis allows to draw conclusions about the effects of participation in international tax competition in various aspects of national economies.

Analysis of recent research and publications. Background concept of tax competition has been developed by C. Tiebout, development position which, taken by G. Zodrov and P. Mietskovski, is called as basic neoclassical model of tax competition. Various aspects of the impact of tax competition on the economy of jurisdiction are described in the scientific papers of D. Vildasin, J. Wilson, E. Janeba, P. Enss, H. Kind, K. Midelfart-Knarvik, R. Gordon, W. Hoyt, G. Fernandez and other.

The purpose of the article is a synthesis of provisions of tax competition models existing in the scientific literature and studies the consequences of its impact on various aspects of the national economies of countries-participants.

Justification of scientific results. Background modeling of tax competition on the economies made by the C. Tiebout hypothesis, in a study which author proved the existence of a positive impact on the countries' economies in the economic and political aspects and also risks of phenomena «race to the bottom», «social dumping», «environmental dumping», shifting the tax burden on immobile factors of production or underprovision of public goods. C. Tiebout theory were further developed in the modified model of tax competition, the main provisions of which are given in Table 1.

Table 1

Systematics of the main features of tax competition models

Authors	Factors of production		A key conclusion from the model
	Labor	Capital	
W. Hoyt [3, p. 125, 129]	-	M*	With decreasing the number of competitors tax rates and supply of public goods increase
R. Gordon, G. Wilson [4, p. 5, 14]	M	M	Increasing mobility of factors of production influence on improving the quality of public services and reduce waste in government
G. Wilson [5, p. 272, 298]	I	M	Lowering tax rates influence on underprovision of public goods
D. Wildasin [6, p. 231, 238]	M[1]	-	The redistribution of income among citizens provides increasing efficiency of fiscal policy and welfare

Table 1 (continuation)

P. Enss [7]	I	M	Necessity of government incentives to increase tax rates in the regions in order to balance private and public consumption
H. Kind, K. Midelfart-Knarvik, G. Schjelderup [8, p. 256, 267]	I	M	The concentration of production in one country allows its government to raise tax rates, while its diversification leads to higher subsidies provided by state to enterprises
A. Haufler, I. Wooton [9, p. 6, 27]	I	M	Gradual mitigation of fiscal conditions and the growth of investment subsidies may change a positive tax effect on the negative
A. Razin, E. Sadka [10, p. 7, 18]	I	M	Installing symmetric equilibrium with zero tax rate on capital repatriation and taxation of residency principle
E. Janeba [11, p. 5, 26]	-	M	Redistribution of foreign investment going on including the cost of production and the level of political stability in the country
G. Fernandez [12].	M/I	-	Violation of the optimal level of provision of public goods
L. Bettendorf, H. Vrijburg [13]	I	M	Countries-competitors manipulate the legislative level and marginal corporate tax rates in order to maximize welfare
S. Bukovetsky [14, p. 169, 177]	-	M/I	In the conditions of capital mobility tax rates on capital are proportional to the size of the country, with immobile capital all countries set equal tax rate
H. Huizinda, S. Nielsen [15, p. 151, 163]	I	M	Shifting the tax burden from mobile factors of production to immobile

*Note: M * - M - a factor seen as mobile, N - non-mobile, M^1 - a separate part of the population is mobile.*

Source: compiled by author from [2-15].

Comparative analysis of the modified model indicates mainly two factors of production are researched – labor and capital. The authors come to the conclusion that at the international level tax competition may play a role as a stimulator or moderator of economies development. Thus, J. Wilson and R. Gordon argued positive impacts on the economic and political life of society, based on the study of the relationship of tax competition and waste of government. In another study J. Wilson focused on the occurrence of underprovision of public goods due to tax dumping, which is also confirmed by G. Fernandez findings which takes the allocation of production factors between regions.

Group of authors came to the conclusion that tax competition leads to disbalance of the economy, so government intervention is necessary. In particular, D. Wildasin examines the role of government in the context of redistribution of income with using tax instruments, while P. Enss proves the expediency of state stimulation of growth tax rates in regions.

An important factor of intensification the impact of tax competition is the location of production. Thus, H. Kind, K. Midelfart-Knarvik and G. Schjelderap demonstrate that concentration of production capacity increases tax competitiveness of country in the case of the uneven distribution of companies. A. Haufler and I. Wooton research the rivalry of the location of production assets using public subsidies that is the foundation of the national economy development.

It should be noted E. Janeba study, resulting in the conclusion that the tax competitiveness is formed not only through fiscal conditions, but also due to the evolution of the economy, in particular, the stability of the political regime.

Important role in the condition of tax competition takes the size of the country that was considered in detail in S. Bukovetsky, L. Bettendorf and H. Vrijburg models, the main conclusion of which is the existence of a direct link between the size of the country and the sensitivity to changes in the tax policy of state-competitors.

As negative aspect of tax competition researchers define shifting the tax burden from mobile factors of immobile. In particular, the result of tax competition in a model A. Razin and E. Sadka is equilibrium in which operates a zero tax rate on repatriation of capital and residency principle of taxation while the equilibrium of the economy described by H. Huizinda and S. Nielsen characterized zero tax on capital. Thus, scientific studies have shown the existence of both positive and negative effects of tax competition, classified in Table 2.

Analysis the effects of tax competition noted that often the effect of its existence has a certain critical point, which changes the direction of its influence. Thus, a positive impact on the citizens' welfare of reducing the tax burden occurs in the case where tax revenues enable the government to finance the production of public goods to meet the needs of the population as a further reduction in tax rates leads to a lack of governmental financial resources to fully implement its socio –economic functions.

Table 2

The consequences of tax competition influence on countries' economy

The consequence of tax competition influence of countries' economy	Influence direction	Researches that confirm existence of consequence
Reducing the tax burden	Positive	W. Hoyt [3, p. 128], A. Haufler, I. Wooton [9]
Population welfare growth	Positive	W. Hoyt [3, p. 129], R. Gordon, G. Wilson [4, p. 15], D. Wildasin [6, p. 237]
Reducing waste in government	Positive	R. Gordon, G. Wilson [4, p. 15]
Underprovision of public goods due to excessive tax reductions	Negative	G. Wilson [5, p. 301], G. Fernandez [12], P. Enss [7]
Shifting the tax burden from mobile factors of production (capital) to immobile (labor, land)	Negative	A. Razin, E. Sadka [10, p. 23], H. Huizinda, S. Nielsen [15, p. 162], P. Enss [7]
Increasing the effectiveness of fiscal policy	Positive	D. Wildasin [6, p. 238], R. Gordon, G. Wilson [4, p. 16]
Providing subsidies to firms with existence net negative effect	Negative	H. Kind, K. Midelfart-Knarvik, G. Schjelderup [8, p. 271], A. Haufler, I. Wooton [9, p. 29]
Increasing the welfare in the small countries with a negative effect for large states	Ambiguous	A. Haufler, I. Wooton [9, p. 29], L. Bettendorf, H. Vrijburg [13], S. Bukovetsky [14, p. 180]

Source: compiled by author from [2–15].

Conclusions. The results of this study allow concluding about the ambiguity of the impact of tax competition on the national economy. It may be noted the dependence of results on the conditions of tax competition. Thus, the minority of participants and relatively large volumes of the object of competition, tax competition usually increases the efficiency of fiscal policy, setting the optimal tax rates and improving the quality of public goods, which together provide improved welfare. However, in terms of strict tax competition jurisdictional government over lower tax burden, which triggers insufficient financial resources or shifting the tax burden from one to the other economic actors. In addition, it should be noted that the result of tax competition does not always depend on fiscal conditions, as the attractiveness of the jurisdiction to be placed on its territory the tax base is also influenced by other factors (level of economic development, political stability, etc).