



Article

Assessment of Factors Influencing Tax Potential

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Abstract: This article is devoted to consideration of the concept of the tax potential of a region and the factors influencing it. In addition, the article examines scientific, theoretical and empirical literature on the factors influencing the tax potential of a region. The author has analyzed the influence of factors on local budget revenues in 14 regions of the republic using the regression method based on panel data. In reliance upon the analysis the author has developed appropriate conclusions regarding the factors influencing the tax potential of a region.

Keywords: Tax Potential, Local Budget, Tax System, Tax Base, Tax Rate, Taxpayer, Regional Gross Domestic Product, Investment, Small Business, Employment, Agriculture, Industry

1. Introduction

Currently simplification of the taxation system, sustainable development of the economy, enhancing the country's investment attractiveness and reducing the imbalance in the tax burden of business entities are crucially important in the optimization of taxation. In this regard, increasing entrepreneurship and investment activity, as well as creating a robust competitive environment for business through taxes, implementation of efficient mechanisms in tax administration, in particular, improving the level of tax collection, ensuring full coverage of tax objects and tax payments, and ensuring the stability of tax revenue collection in budgets at various levels are urgent objectives along with making a positive impact on economic growth in the country.

The prior goal of the government tax policy is to ensure the balance between the budgets of all levels based on maintaining the optimal tax burden for all sectors of the national economy. Implementation of an efficient tax policy in this area largely depends on the level of tax potential that the regions are able to provide sustainable economic development. Tax potential is a kind of "safety cushion" for regions, and effective assessment, formation and maintenance of tax potential at an appropriate level is an essential condition for the stability of the state budget revenue source (Murzina et al., 2019).

Tax potential is featured by the economic structure of regions and their provision of taxable resources, which is determined by tax bases, and tax revenues, in turn, are considered as the implemented part of tax potential. The high level of tax potential of the region implies the financial independence of the local authorities in the field of fiscal policy and having their own resources for financing the measures defined in the socio-economic development program of the region. Increasing the tax potential of regions can reduce disparities in their socio-economic development. In addition, it is necessary to use scientifically based and effective methods of assessing tax potential when developing

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forecasts of tax revenue for the state budget, establishing the exact amount of transfers from higher to lower budgets, as well as determining the level of fiscal risks.

Thus the second section of the article presents a review of the scientific theoretical and empirical literature on the concept of the tax potential of the region and the factors influencing it, the third section presents the research methodology, the fourth section analyzes the factors influencing the tax potential of the region, and the fifth section draws relevant conclusions based on the analyzes.

Literature review

As many economists have pointed out, it is possible to develop an accurate forecast of tax revenues to the budget by effectively assessing the tax potential of the region. It is an indicator that represents the amount of the existing base of tax revenues of the region and is important in the formation of the income of different levels of budgets in the budget system, as well as in determining the directions for the development and implementation of an effective fiscal policy. In the economic literary sources the concept of tax potential is defined as the maximum amount of taxes and compulsory payments that can be collected based on the tax legislation. In particular, according to Gorsky (1999), the concept of tax potential refers to the high level of tax and compulsory payments revenue available in the national tax system. According to Prokopenko (2007), tax potential in a broad sense can be seen as the total amount of taxable resources of the region and in a narrow (practical) sense it can be considered as the maximum possible amount of tax and fee revenues. Pessino and Fenochietto (2010) emphasize that tax potential represents the maximum amount of taxes that can be collected with the account of the economic, social, institutional, and demographic aspects of a country. In addition, from the point of view of Evstafeva (2010), assessment of the tax potential of the territory is considered a process that takes into account various approaches and influencing factors and it is demonstrated that increasing the tax potential means the permanence and stability of tax revenues.

Moreover, according to Shogenov (2011), tax potential of the region is the maximum amount of taxes and compulsory payments that can be collected to the budget within the specified time periods based on the current tax legislation. Gaspar et al. (2016) defined tax potential as the per capita taxes collected by local authorities from the country's regions during a fiscal year under the conditions of a uniform approach to taxation. Brun et al. (2016) also defined tax potential as the maximum amount of tax revenue to the budget, determined by the country's tax legislation. In general, from the definitions of tax potential by economists, two essential aspects can be distinguished: the volume of taxable resources and tax revenues.

The opinions of the economists and scholars specified above regarding the concept of tax potential can be considered from the point of view of the fiscal function of taxes. However, Murtazina et al. (2019) states that approaches to the concept of tax potential imply that impact of tax potential on the socio-economic development of regions has not been taken into account, and the concept of tax potential has been defined as follows. Tax potential is the maximum possible amount of tax revenues to the budget for a certain period in the conditions of the balance between the resources of the region and its socio-economic development. In reliance upon the considerations specified above it is shown that the concept of tax potential represents the maximum amount of tax revenues to the budget under conditions of optimal taxation. Because optimization of taxation implies stabilization of state budget revenues by reducing the disparity in the tax burden, simplifying the taxation system and improving tax administration, as well as economic growth through taxes, increasing business and investment activity and sustainable development of the economy by creating a healthy competitive environment.

The concept of tax potential is considered a macroeconomic category and the level of tax potential, as well as its full realization depend on the level and quality of social welfare provision in the region. Therefore, development of an efficient method based on

general approaches to the assessment of tax potential and determination of the composition of factors influencing the tax potential are urgent issues (Belogorskaya, 2014). In particular, according to Gupta (2007), structural factors such as per capita gross domestic product (GDP), the share of agriculture in GDP, trade openness, and foreign aid make a significant impact on tax potential. Economists Igonina and Kusraeva (2010) rely on the fact that the factors shaping the tax potential consist of economic and institutional types and the factors are divided into external and internal factors. In the opinion of Roshchupkina (2010), statutory acts in the field of taxation, main production factors, structural composition, infrastructure can be considered as factors impacting a tax potential. From the point of view of Mironov (2011) the regional tax potential is under the impact of a large number of internal and external factors, and internal factors are endogenous and external factors are shown as exogenous factors, and the composition of external factors is divided into objective and subjective, historical and acquired, primary and secondary groups. According to Vlasova (2012), the structure and size of the tax potential is influenced by the scale of economic sectors and industries and the structure of the economy. Shabashev and Malikaidarov (2015) believe that the factors affecting the structure and level of the tax potential of the region are geographical, industry-based, economic, financial, tax administration, legislation and administrative-management, political, social demographic, socio-psychological, infrastructural, innovation-based, informational, institutional factors.

Gorshkova and Shamanr (2016) suppose that various specific indicators, including per capita income, tax rate, tax base, regional gross domestic product, are taken into account as the factors influencing in the assessment of tax potential. Evstafieva (2016) has made a regression analysis using gross regional product, per capita income, investments in fixed capital, volume of goods (works, services) sold by own efforts, housing sold, average monthly wage, gross agricultural product, real cash income of the population, imported and exported goods, and population size as factors affecting tax potential. As a result, it has been found out that gross regional product, investments in fixed capital, volume of goods (works, services) sold by own efforts, population size, and real cash income of the population made a great impact. Such factors as further improving the investment and business environment, increasing the share of medium-sized businesses in the economy, developing the securities and financial market, encouraging innovation-based product manufacturers on the scale of the national economy, and reducing tax benefits influence the tax potential (Meyliev, 2019). Abdullaev (2019) thinks that the impact of regional GDP on tax potential was found to be statistically significant, while investments in fixed capital, tax debt, and taxpayers were determined to be statistically insignificant. In the empirical analysis made the statistical insignificance of the impact of factors other than regional GDP has been justified by the specific features of the taxation system..

2. Materials and Methods

The article considers the concept of the tax potential of the region and the factors influencing the tax potential of the scientific theoretical and empirical literature. In reliance upon the literary sources, official data from the Ministry of Economy and Finance of the Republic of Uzbekistan and the Statistical Agency have been used to analyze the factors influencing the tax potential of the region. In the regression assessment of factors impacting tax potential of the region based on panel data, the tax potential of the region has been accepted as the local budget tax revenues of the Republic of Karakalpakstan, regions and Tashkent city. The influencing factors are regional gross domestic product volume, the volume of investments in fixed capital, the number of small business entities (except farmers and farms), the volume of gross agricultural product, the volume of gross industrial product, the number of people employed in the economy, and the sum of total income per capita. Furthermore, the article examines the changes in taxation in the republic, the impact of reforms implemented in the tax sector on increasing tax potential,

and analyzes based on statistical data to assess the factors influencing the regional tax potential.

The methods of scientific abstraction, analysis and synthesis, induction and deduction, comparative analysis, and regression analysis have been widely used in the analysis of the factors influencing the tax potential of the region.

3. Results

In general, although the amount of taxes and compulsory payments paid by business entities and individuals has increased in recent years, different trends can be observed in their share in state budget revenues (Table 1). In particular, the share of direct taxes in total tax revenues increased from 20.2 percent up to 31.5 percent, the share of indirect taxes increased from 53.2 percent up to 36.0 percent, and the share of resource and property taxes decreased from 16.3 percent up to 12.1 percent.

Table 1. Analysis of state budget tax revenues, bln. UZS.

Indicators		2018	2019	2020	2021	2022	2023
I	Receipts, total including	77571,1	112165,4	132938,0	164799,4	201863,7	231721,3
1	Direct taxes	15656,2	31676,8	45206,9	58930,4	64447,1	73103,6
	profit tax	3502,2	16360,6	28712,2	38363,3	37649,9	40778,9
2	Indirect taxes	41280,4	46427,2	46428,4	56290,4	71390,2	83325,8
	VAT	27876,5	33809,8	31177,4	38439,0	52189,4	57885,3
3	Resource and property taxes	12663,4	19680,7	21257,0	23036,4	23912,8	28079,5
	property tax	2606,1	2360,2	1974,3	2457,3	4015,4	5097,7
	land tax	1504,2	2313,2	2386,7	4082,8	5305,9	6890,1
II	Share in total tax receipts (in %)						
1	Direct taxes	20,2	28,2	34,0	35,8	31,9	31,5
	profit tax	4,5	14,6	21,6	23,3	18,7	17,6
2	Indirect taxes	53,2	41,4	34,9	34,2	35,4	36,0
	VAT	35,9	30,1	23,5	23,3	25,9	25,0
3	Resource and property taxes	16,3	17,5	16,0	14,0	11,8	12,1
	property tax	3,4	2,1	1,5	1,5	2,0	2,2
	land tax	1,9	2,1	1,8	2,5	2,6	3,0

Source: Developed in reliance upon the data of the Ministry of Economy and Finance

The growth in direct taxes in state budget revenues has occurred mainly due to the contribution of income tax, which, in turn, has happened due to an increase in its rate, abolition of tax privileges as a result of tax reforms implemented in the tax system and the adoption of the Tax Code in a new wording, as well as an increase in the number of taxpayers. In particular, in 2020 the general tax rate on the profit tax increased from 12 percent up to 15 percent. Moreover, while the number of profit tax payers as of January 1, 2018 constituted 6723, it increased up to 53051 as of January 1, 2020. As of January 1, 2021 this indicator constituted 112336 payers, as of January 1, 2021 this figure amounted to 145434, as of January 1, 2021 - 164449, and as of January 1, 2024 - 183488, so we can witness 27.3-fold increase compared to 2018. Furthermore, the number of value-added tax payers has a sharp growth trend, and it can be observed that the number of VAT payers increased by 27.1 times compared to 2018 (Figure 1). However, despite the increase in the number of VAT payers, the reduction in the tax rate from 20 percent up to 12 percent has resulted in

the decrease in the share of tax revenue. It should be noted that in 2023 the amount worth 21 646.0 bln. UZS of the VAT was reimbursed to 6 701 business entities and this amount was returned to cover the negative amount of VAT (accounted for 27.2% of VAT revenue). For comparison, in 2022 taxpayers have been refunded 1911.7 bln. UZS, while the amount of tax reimbursed in 2021 amounted to 14417.0 bln. UZS.

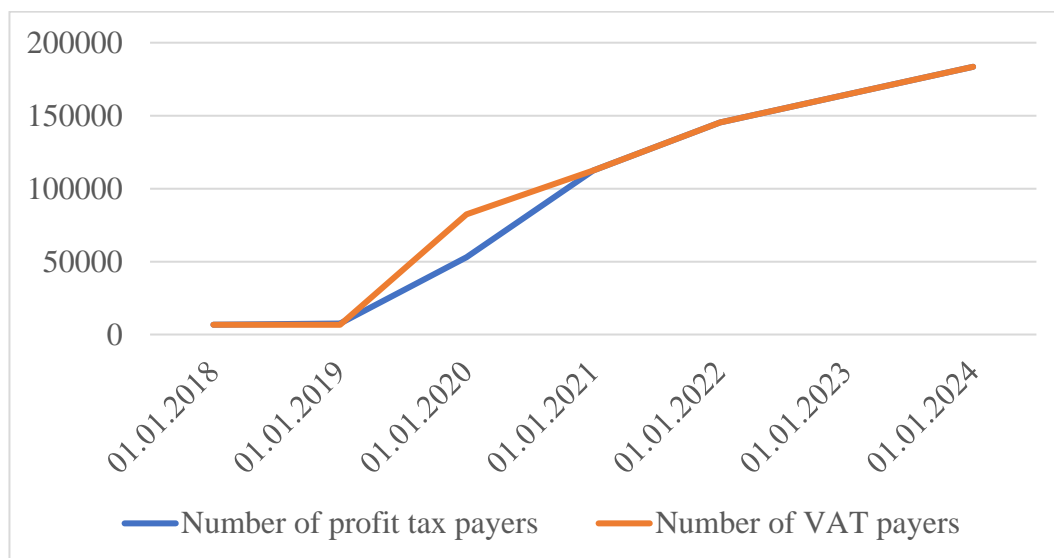


Figure 1. Dynamics of the number of profit tax payers and VAT payers (Tax Committee, 2023).

If we consider the share of resource and property taxes, despite the introduction of tax for the use of water resources, land and property taxes to all categories of business entities, it is possible to point out reduction of the tax base and the tax rate to the decrease in the revenue from the property tax of legal entities. If we analyze the share of revenue in the composition of resource and property taxes in the last 2 years, and if we take into consideration the growth by 2023 compared to 2022, then we can witness an increase of these indicators - in the property tax by 27.0%, in the land tax by 29.9%, tax for using subsoil resources - 10.2%, and an increase in the tax for water resources use. In particular, the following basic factors have impacted the growth of property tax revenues of legal entities: the increase of the reduced tax rate for property tax applied to certain types of real estate from 0.5% up to 0.6%; increasing the number of taxable objects by more than 4 thousand based on the minimum value; collection of tax debts. Moreover, in 2023, the revision of the reduction coefficients (from 0.5 to 0.9) applied to the minimum value of buildings and structures for the calculation of property tax by local government authorities in some regions also affected tax revenues (Ministry of Economy and Finance, 2023).

In general, in the formation of local budget revenues, despite the expansion of the base of local taxes, which are considered as internal tax sources of regions, it can be witnessed that the amount of transfers from the higher budget to most local budgets increases. Therefore, it is crucially important to assess the factors influencing the tax potential of the area when developing fiscal measures for the expansion of the local budget revenue base. In reliance upon various forms of empirical analysis conducted on the basis of panel data to assess factors influencing tax potential, the main factors affecting budget tax revenues include GDP per capita, the share of agriculture in GDP, economic openness, foreign direct investment, corruption, political and economic stability, and specific sources of tax revenue.

The data on local budget tax revenue, regional gross domestic product, investments in fixed capital, the number of small businesses (excluding dekhkans and farm entities),

gross agricultural product, gross industrial product, the number of people employed in the economy, and total per capita income by 14 regions for the period 2012-2023 have been applied in the analysis made to assess tax potential. This data has been obtained from the database on the official website of the Ministry of Economy and Finance of the Republic of Uzbekistan, the Agency for Statistics. Regression analysis was performed using the OLS method to estimate the panel data based on the following regression model:

$$y_{it} = \alpha + \beta_1 X_{it} + \beta_2 X_{it} + \beta_3 X_{it} + \beta_4 X_{it} + \varepsilon_{it} \quad (1)$$

Here: dependent variables were: in y_{it} -t period receipts of local budget tax revenue by region i ; α -independent variable; β -measurement vector of variables; and as independent variables have been accepted X_{it} – the volume of regional gross domestic product, the volume of investments in fixed capital, the number of small business entities (except dehkans and farm entities), the volume of gross agricultural product, the volume of gross industrial product, the number of people employed in the economy, the sum of total income per capita by regions; ε_{it} - other factors not taken into account and error.

As dependent variables we accept *lnbudgetrevenue* - receipts of local budget tax revenue in regions and as impact factors - regional gross domestic product - *lnregional gross domestic product* – by regions, *lnInvestments* - investments made in fixed capital, *lnSmall businesses* - number of small business entities (except dehkans and farm entities), *lnGross agricultural products* - gross agricultural product, *lnGross industrial production* – gross industrial product, *lnEmployed in the economy* - the number of people employed in the economy and *lnTotal income per capita* - in order to analyze the regression as a whole, since the variables have different measurement units, their log transfer form has been used (Table 2).

Table 2. Descriptive statistics of the factors in the regression analysis.

Variable	Obs	Mean	Std. Dev.	Min	Max
lnbudgetrevenue	168	14.18176	.7476765	12.24647	15.92187
lnregional gross domestic product product	168	9.968101	.8797783	7.984838	12.25585
lnInvestments	168	8.652727	1.064856	6.496926	11.17246
lnSmall businesses	168	9.705613	.6119294	8.64365	11.57186
lnGross agricultural products	168	9.320391	.7654037	7.502297	10.8001
lnGross industrial production	168	14.18176	.7476765	12.24647	15.92187
lnEmployed in the economy	168	9.968101	.8797783	7.984838	12.25585
lnTotal income per capita	168	8.652727	1.064856	6.496926	11.17246

4. Discussion

As a result of the regression analysis made on the basis of the panel data, it has been found that the regional gross domestic product volume, the volume of investments in fixed capital, the number of small business entities, the volume of the gross industrial product, the number of employed people in the economy and the sum of the total income per capita make a positive effect on the growth of the tax potential of the regions. It should be noted that the statistical significance of the impact of the regional gross domestic product and the increase in the number of employed people in the economy on the level of the region's tax potential is very high (Table 3).

Table 3. Analysis of the regression analysis.

Fixed-effects (within) regression	Number of obs = 156
Group variable: code	Number of groups = 13
R-sq: within = 0.9480	Obs per group: min = 12
between = 0.9058	avg = 12.0

overall = 0.6925				max =	12	
					F(7,136)	= 354.33
corr(u_i, Xb) = -0.8936					Prob > F	= 0.0000
Inbudgetrevenue	Coef.	Std. Err.	t	P> t	[95% Conf.	Interval]
lnregional gross domestic product product	.8364546	.2154972	3.88	0.000***	.4102958	1.262613
lnInvestments	.0031378	.0454613	0.07	0.945	-.0867646	.0930403
lnSmall businesses	.0243678	.0889354	0.27	0.785	-.1515074	.200243
lnGross agricultural products	-.2711695	.2453759	-1.11	0.271	-.7564152	.2140761
lnGross industrial production	.0681559	.0940057	0.73	0.470	-.117746	.2540579
lnEmployed in the economy	2.188309	.3057663	7.16	0.000***	1.583637	2.79298
lnTotal income per capita	.0111574	.2814098	0.04	0.968	-.5453477	.5676624
_cons	-7.324043	2.077178	-3.53	0.001	-11.43179	-3.216297
sigma_u	.88296947					
sigma_e	.14649923					
rho	.97320921	(fraction of variance due to u_i)				
F test that all u_i=0:			F(12, 136) = 11.57	Prob > F = 0.0000		
Standard errors in parentheses, ***p<0.01, **p<0.05,*p<0.1						

The results of the regression analysis demonstrate show that, when compared with the results obtained from analyses conducted by other economists, it is obvious that, in particular, the volume of regional gross domestic product, the number of employed people, and the growth of population incomes are considered significant factors in increasing the level of tax potential. Definitely, the statistical significance of the impact of other factors considered in the analysis, such as small businesses, fixed capital investments, agriculture, and industrial sectors, on the tax potential of a region is largely related to the taxation system. In particular, an increase in the volume of investments in fixed capital in the social sphere, in turn, results in the decrease in the statistical significance of the impact of investments on the tax potential of the region.

5. Conclusion

The prior goal of the tax policy is to ensure the balance between the budgets at all levels, based on maintaining the tax burden reached at the optimal level for all sectors of the national economy. Implementation of an efficient tax policy in this area largely depends on the level of tax potential that the regions are able to provide sustainable economic development.

The concept of tax potential is considered a macroeconomic category, and the level of tax potential and its full realization depend on the level and quality of social welfare provision in the region. Tax potential is characterized by the economic structure of regions and their provision of taxable resources, which is determined by tax bases and tax revenues, in turn, are considered as the implemented part of tax potential.

Tax potential is the maximum possible amount of tax revenues to the budget for a certain period in the conditions of the balance between the resources of the territory and its socio-economic development. In reliance upon the considerations specified above it is obvious that the concept of tax potential represents the maximum level of tax revenues to the budget under conditions of optimal taxation.

As a result of the regression analysis it has been determined that the increase in the tax potential of the region is positively influenced by the volume of regional gross domestic product, the volume of investments in fixed capital, the number of small business entities, the volume of gross industrial product, the number of people employed in the economy, and the sum of total income per capita. In particular, it has been revealed that the impact of the increase in the volume of regional gross domestic product and the number of employed people in the economy on the growth of the level of regional tax potential is statistically significant.

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