

## **ISSUES OF ANALYZING TAXES WITH STATISTICAL METHOD APPLICATION**

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**Key words:** Analysis. General economic method, mathematical methods, statistical method, profit tax, Value Added Tax, number of taxpayers, taxable base on one taxpayer, tax rates, influencing factors.

**Resume.** This article researches peculiarities of significance of tax analysis by statistical methods. To analyze taxes the following statistical methods have been offered: method of average and relative values, index method, correlation method, regressive method, covariance method, cluster, variance analysis.

Performing analysis in economic aspects is of a particular importance as the results of this analysis are the main factors for assessing financial economic condition of the economic entity and compiling an optimum plan of its development for future.

Economic analysis covers all the branches including industry, agriculture, transport services, construction, trade and etc.

In the context of economic analysis technique refers to a complex of analytical methods and rules of researching economic phenomena and processes of economic activities aimed at achieving the goals of analysis.

**Analysis technique can be general and individual.**

General technique is a research system which is equally used while studying different objects of economic analysis in different branches of the economy.

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Individual technique characterizes general technique referring to certain branches of the economy, types of manufacturing, research objects, types of analysis.

First of all, information sources for the analysis are needed to organize an accurate economic analysis. If formulated information sources are accurate and reliable all developed conclusions will be also reliable and comprehensive, therefore information availability for analysis is particularly important.

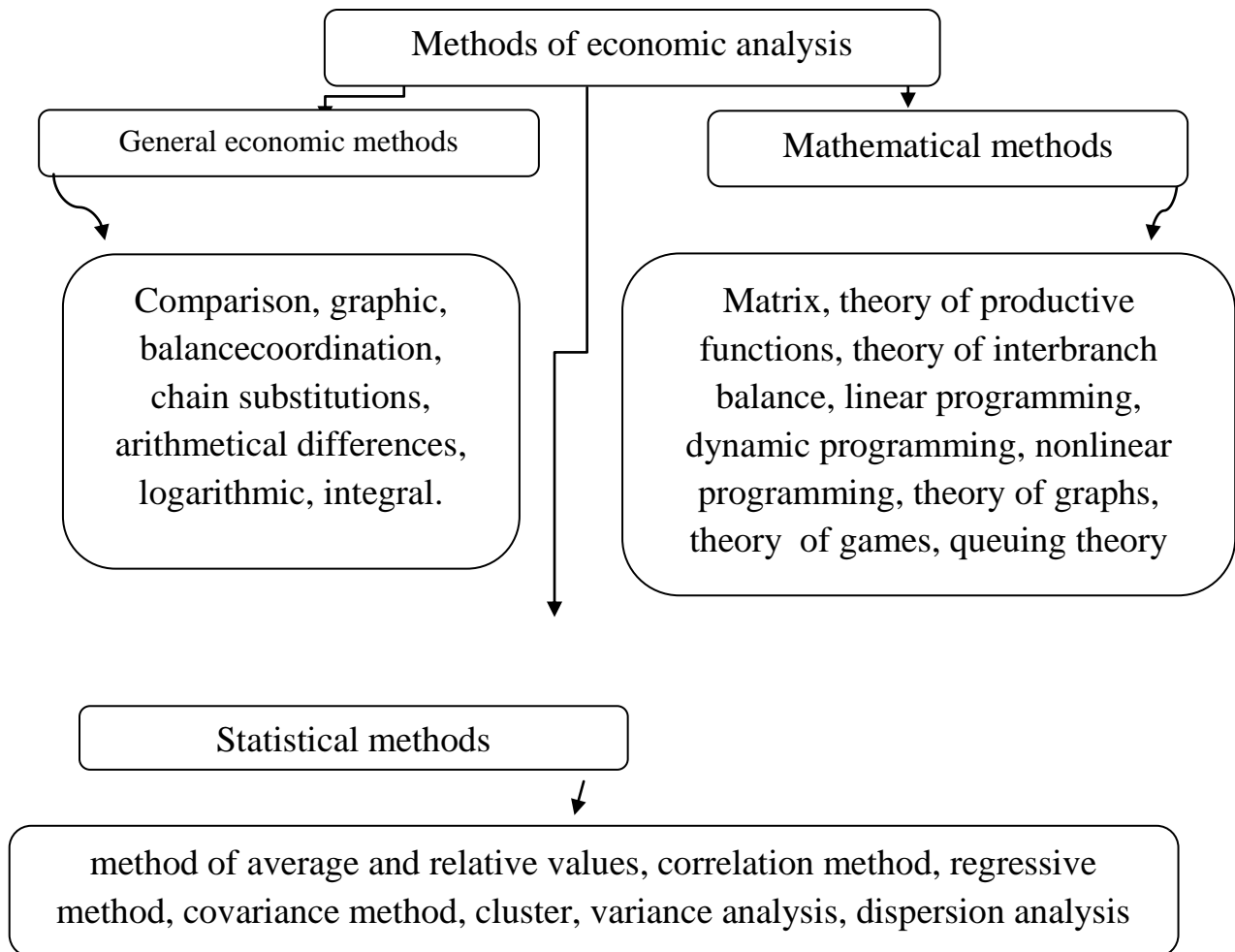
Depending on the sources of its obtaining information is classified into the internal and external (M.Bakanov, M.Melnik, A.Sheremet, 2004). Internal sources of information include: constitutive documents; primary documents fixing the structure of fixed and current assets and their evaluation; primary documents reflecting economic operations and cash flows as well as revenues and expenditures of the economic entity; legal documents determining relations with investors, contractors and customers, borrowers, issuers and depositors; data of analytical accounting and reporting, data of operational accounting, data of statistical accounting and statistical reporting, statements of audit and tax inspections, conclusions of banks and court authorities, planning and regulatory documentation, business-plans.

During last decades these problems have been reflected in the scientific papers of many scientific researches. However, in our opinion, organization of the objectives of analysis requires a univocal decision. If, basing on the aim, there is no need to analyze financial and economic activity of the but there is a necessity to reveal the tasks and use elements of tax revenue analysis influencing on the results of the enterprise activity.

To analyze financial economic activity of the enterprises the methods which we are going to consider below, are used:

In scientific literature the following methods of analysis can be found:(M.Bakanov, M.Melnik, A.Sheremet, 2004): comparison, graphic, balance coordination, method of chain substitutions, arithmetic differences, logarithmic method, integral method, method of average and relative values, correlation method, regressive method, covariance method, cluster, variance analysis, dispersion analysis, matrix, dynamic programming, theory of graphs, theory of games, queuing theory. All above-mentioned methods can be grouped into 3 categories:

1. General economic methods;
2. Statistical methods;
3. Mathematic methods.



Economic growth, intergovernment integration, optimization of tax rates, encouraging activity of economic units are often used to offset preferences. Therefore performing a comprehensive analysis of taxes plays a big role. In case, if tax revenues in the state budget are studied annually it is necessary to reveal which factors influence on its volume and it is advisable to use economic analysis methods. Having performed economic analysis it is possible to make adequate conclusions.

In formulating budget revenue the VAT as an indirect tax and a profit tax as a direct tax are very significant so the factors influencing on these taxes can be shown on the example of one of statistical methods.

Different methods are used in performing analysis. Certain methods are aimed at solving various problems and determining different factors. The following factors are impacting on the selection of methods:

- ✓ Analysis aim and profoundness;
- ✓ Existence of the problem subject to solution;
- ✓ Peculiarities of object of analysis;
- ✓ Dynamic characteristics of the object of analysis;
- ✓ Type and features of the information available for analysts;
- ✓ Requirements to the results of analysis;
- ✓ Technical possibilities of making calculations;
- ✓ Analysts' qualification.

Taking into account all above-stated requirements we are offering to use the main statistical method for analyzing taxes – index method.

This method is used in economic analysis while studying sophisticated phenomena which certain elements are incommensurate. As relative indicators, indices are needed to evaluate performance of planned tasks, to determine dynamics of certain phenomena and processes. The scales and levels of economic processes ongoing in different regions are compared with the help of indices. Another function of the indices is studying of influence of certain factors on change of efficient attributes.

Dividing a general index into subindices it is possible to determine influence of certain factors on the defined deviations. This is the essence of the index method of factor analysis. Division can be done either the method of separated account or subsequently by the chain method which is also called the method of chain substitutions. The type of the latest method is the method of differences. The peculiarity of the first one is that while revealing degree of influence of a certain factor we consider it regarding conditions of the reporting period and the rest of factors acting in line with the analyzed factor – on the level of the basis period. Below we are considering the example of the calculation performed with the help of the method of the separated study of factors.

The first factor – a number of taxpayers – is  $N$ , the second factor – a taxable turnover by one taxpayer –  $O$ , the third factor – a tax rate –  $R$ , their meaning during the basis period –  $0$ , and during the reported period –  $1$ .

## Value Added Tax analysis in “regions”

№	Indicators	Signs	Basis year	Reporting period	Difference	
					Absolute	In percent
1.	Taxable turnover by one taxpayer, thousand UZS	O	51000	62000	+11000	121,5
2.	Number of taxpayers	N	200	210	+10	1,05
3.	Tax rates in %	R	20	20	-	-
4.	Value Added Tax, thousand UZS	VAT	2040000	2604000	+564000	127,6

From the above-stated table we can see that a number of taxpayers has increased by 10 points (5%), average taxable turnover has risen by 11000 UZS (21,5 %), VAT rate hasn't changed. Change of the amount of the VAT has risen by 564000 thousand UZS (27,6 %). If we take into consideration that the tax rate hasn't changed we can make a conclusion that these changes have influenced only on 2 factors. To determine an exact sum of each factor influence we use the method of index.

Aggregate VAT index makes:

$$I = 210 * 62000 * 20\% / 200 * 51000 * 20\% = 2604000 / 2040000 = 1,28$$

Taking this index into the account we are determining an influence of each factor on the aggregate amount of VAT:

$$I_n = 210 * 51000 * 20\% / 200 * 51000 * 20\% = 2142000 / 2040000 = 1,05.$$

$$I_o = 210 * 62000 * 20\% / 210 * 51000 * 20\% = 2604000 / 2142000 = 1,22$$

$$I_r = 210 * 62000 * 20\% / 210 * 62000 * 20\% = 2604000 / 2604000 = 1,0.$$

Here N factor makes 1020000 (2142000-2040000), O factor accounts for 4620000 (2604000-2142000), C factor amounts to 0 (2604000-2604000). General change equals to +5640000 (1020000+4620000+0) and there are no remaining.

In our opinion, the factors stated below, are crucial while analyzing taxes:

- Exact calculation of the influence of each factor on the amount of tax;
- Determining the most beneficial factor among above-stated;
- Determining opportunities of raising volume of tax revenues while accounting influences of factors in tax forecasting.

**References:**

1. Theory of economic analysis. Textbook by M. Bakanov, M. Melnik, A. Sheremet, Moscow, Finance and Statistics – 2004. (Russian lang)
2. Analysis of financial economic activity of the enterprise. Textbook by N. Lyubushin, V. Lesheva, V. Dyakova, Moscow, YUNITY – 2004. (Russian lang)
3. Economic analysis. Textbook. G. Savitskaya, Moscow, Open Joint-stock company “New knowledge”-2004. (Russian lang)
4. Financial accounting, analysis. Conceptual bases by V. Kovalyov. Moscow, Finance and Statistics – 2004. (Russian lang)
5. Financial Reporting Analysis. Textbook by V. Artemenko, V. Ostapova. Moscow, OMEGA -2007. (Russian lang)