

POTENTIAL OF ECONOMIC GROWTH IN THE REGION

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Abstract: *The article deals with theoretical approaches to determining the categories of “economic potential” and “economic growth”, the problems of efficient use of the region’s potential, substantiates the direction and degree of influence of the shadow economy on economic growth, reveals the essence of the shadow economy (households) as an element of economic potential, correlation and regression analysis of households and per capita GDP of the Republic of Uzbekistan and a new alternative method for constructing correlation the model to obtain more accurate indicators that are very close to real.*

Keywords: *Economic potential, households, domestic labour, correlation analysis, GDP, shadow economy, economic growth.*

INTRODUCTION

Economic growth is the ultimate goal of any economy in the world and that is why the economic policy of any state is aimed at achieving this goal. This is because only in conditions of sustainable economic growth can social needs be met and the quality of life improved. For a state, this means reducing poverty, increasing average per capita income and improving the welfare of its people.

In their works, C.R. McConnell and S.L. Bru defined economic growth by the following factors:

- (a) The quantity and quality of the country's natural resources;
- (b) The quantity and quality of labour resources;
- (c) capital resources;
- d) technologies.

Such a definition of economic growth leads us to another economic category called economic potential, which, according to the description, covers all of the above growth factors.

In recent years, the term “potential” has been widely used in economic literature. It has a Latin origin and is defined as a combination of methods and means, capabilities that are necessary to achieve certain goals and solve specific problems. The Oxford Dictionary defines economic potential as the level of strength and opportunity that ensures competitiveness.

MATERIALS AND METHODS

A broad interpretation of the meaning of this term is to consider it as a source of capabilities, tools and resources. Using the potential means solving problems or achieving a specific goal of the economic system (region) in a specific area. This means that we can interpret the potential as the existence of hidden, completely unused opportunities of the region, with the help of which it is possible to ensure economic growth, that is, to achieve our main goal. By definition, A.Yu. Chalenko, economic potential is the totality of available resources and the result of industrial and economic relations of economic entities.

Yu.D. Dmitrievsky used economic potential to “assess the full range of natural conditions and resources” and presented the concept of the potential of a territory (region) as a combination of natural resources. ()

A.A. Mints believed that the natural resource potential is a set of resources of general economic importance and they should be evaluated in monetary terms. ()

In K.M. Misco's opinion, the term potential corresponds most of all to the notion of possibility, because in case of changes in conditions the unrealized reserves (possibilities) of the object under study may turn into reality. ()

The economic potential of a region is a combination of resources that are available or can be mobilized in order to use them effectively for the production of competitive products, meet the needs of the population, and ensure economic growth. The economic potential of the region can be considered as an integral multifaceted system. The main components of which are: geopolitical potential, natural resource potential, demographic (labor) potential, production potential, financial potential, foreign economic potential, innovative potential, infrastructure potential, etc.

The geopolitical potential of the region is largely determined by its geographical location. Uzbekistan occupies an advantageous geostrategic position in Central Asia, has a huge transit potential for transport and economic relations, the Great Silk Road passes through the country's territory, and objects of architectural and historical heritage of world significance are located. It occupies a leading position among the CIS countries in the production of fruits and vegetables, fruits and grapes, cocoons, astrakhan and wool. Currently, over 2900 mineral deposits have been explored in the country and the country's total mineral potential is about 3.5 trillion. dollars.

Natural resource potential has a direct impact on improving the efficiency of economic development and regional growth, but this is not a decisive criterion. It is known that the presence of industrial deposits of various ores, oil, gas, etc., often becomes the foundation for the development of a region. However, there are cases in the world economy where countries with natural resources could not achieve a high level of economic development, and countries such as South Korea, Japan and Israel, thanks to the efficient use of available resources, were able to achieve high rates of economic development. These countries rejected the traditional concept, arguing that in some cases the resource potential may be inversely related to the country's prospects. We are talking about such terms as “Dutch disease”, “resource curse”. The concept of “resource curse” was introduced into R.Auti's circulation in 1993 on the basis of observations of the growth rates of oil exporting countries, which showed a decrease in per capita GDP over the two decades after the start of the “oil crisis” 1970s. For the first time, the relationship between the abundance of natural resources and the weak economic development of countries was shown in their work by J. Sachs and E. Warner.

The term "Dutch disease" first appeared in the journal "Economist" in 1977 to explain the phenomenon that arose in the 1960s, when a rapid growth in commodity exports began in the Netherlands after the discovery of large natural gas fields. This led to the strengthening of the Dutch guilder, which negatively affected other export-oriented industries and the economy as a whole. The hypothesis came into scientific circulation and received

wide publicity after the publication in 1982 of the classical work of Corden M. and Niri P., who created and proposed a “central model based on theories of international trade, supply and demand of production factors, as well as macroeconomic dynamics Dutch disease.

Economic resources cannot be equated with economic potential, because for the purposes of economic growth, a combination of economic resources and their efficient use is necessary.

The problem of efficient use of the region’s natural potential lies in the need to harmonize this process with the concept of sustainable development. It involves the harmonious development of production, the social sphere, the population and the environment, in which the needs of the modern generation are satisfied and the ability of future generations to satisfy their abilities is not compromised [4, p. 58].

In the current environment, the transition to sustainable development should mean a transition from a "resource-use economy" to a "systemic economy of reproduction and innovation." This is a new type of socio-economic development, in which the achievement of a stable socio-economic situation in the region should create reliable conditions for sustainable development in the long term. In this context, in the current conditions of the digital economy, not only the potential and efficient use of natural resources, but also other elements of the economic potential, such as production potential, demographic, environmental, financial, investment and innovative potential, directly affect the provision of economic growth in the region.

However, not all elements of the economic potential of the territory really affect the competitiveness of the regional economy, since a certain part of them in each region is for some reason not involved in economic activity. This is the unemployed population of working age, unused fixed assets, land, water, forest resources, undeveloped mineral deposits, etc. Thus, the competitive potential of a region can be defined as a set of components of its economic potential that are actually used in the process of current economic activity. [5, p. 28].

Along with this, the influence of the shadow economy on the efficiency of using economic potential should also be taken into account. Therefore, we can talk about the real economic potential of the region, taking into account the shadow economy, which accounts for a certain percentage of GDP.

It is no secret that the presence of a shadow economy is characteristic of any country, and this is a huge problem for developing countries.

RESULTS AND DISCUSSION

The shadow economy is a complex economic phenomenon with many causes and consequences that are of great interest to politicians and economists. In terms of policy development, adverse effects include the tax base, the decline in the quality of public goods, the deterioration of economic and social institutions, and nominal growth

Under the shadow economy refers to illegal and covert production, as well as informal activities. Informal production is that carried out within the household sector. Household is one of the main economic subjects of a market economy, which supplies the economy with resources and uses the money received to purchase final products.

There are two opposing approaches to understanding the influence of the shadow economy on economic growth. Firstly, the negative impact of the shadow economy in developing countries on the statistically significant rates of economic growth; Secondly, there is a positive correlation between the shadow economy and economic growth in developed countries. An increase in the shadow economy by 1% relative to GDP will increase economic growth by 7.7% in developed countries, and an increase in the relative size of the shadow economy by 1% in countries with economies in transition will increase economic growth by

9.9%. In developing countries, the situation is different: the growth of the shadow economy by 1% slows official economic growth to 4.9%. [6, p. 10].

In accordance with the SNA methodology, in calculating GDP, it is necessary to evaluate all types of economic activity, regardless of whether they are registered or not, that is, if informal activity falls under the definition of economic activity, then it should be taken into account when constructing national accounts and calculating macroeconomic indicators. But when measuring the unobservable economy and estimating GDP due to the imperfection of the forms of statistical observation, we are faced with certain problems, in addition, hidden producers deliberately distort or even hide information for their own interests.

Households affect the quantitative and qualitative characteristics of human resources, which in turn are of paramount importance in the production process, in addition, they replenish the revenue side of the budget, can be the largest investor, indirectly or directly investing in the country's economy. Household financing for economic growth involves the active development of investment banks, funds, and brokerage firms.

Within the Keynesian area, the household sector in interaction with the labor market, goods and services, the financial market was considered as a factor determining the rate of economic growth.

A significant contribution to the development of the theory of households was made by Russian economists, such as A. V. Chayanov, A. N. Chelintsev, N. P. Makarov and many others. Chayanov in his analysis applied commodity production to a household, considering peasant households. He considered the main task of peasant households to be "the supply of livelihoods to an economic family through the fullest possible use of the means of production and labor available to it."

The relationship of households with an unobservable economy can be carried out in the following areas:

- households acquire goods and services produced in the informal or illegal sector;
- households act as recipients of income from shadow employment and the use of assets;
- households are directly part of the informal, illegal or informal sector or carry out production for their own final use. [8, p. 2].

Based on the above considerations, we can consider the shadow economy as an element of economic potential providing economic growth in the region. Accordingly, households as one of the components of the shadow economy, participating in the reproduction process directly affect the volume of GRP.

Joseph Stiglitz still 2008-2009 subjected the use of the GDP indicator to assess the level of well-being of the population to sharp criticism, proposing a number of adjustments. In particular, as one of the directions for improving the measurement of macroeconomic indicators, the obligatoriness of taking into account the unobservable economic activity of households was indicated in them [2].

These income elements are not taken into account in GDP, although they occupy up to 30% of income in developed countries and up to 60% in developing countries. At the same time, researchers have observed a fairly stable pattern: the poorer the population, the more domestic services in the volume of its GDP. So, if in the city household incomes are about 20-30%, in rural areas the share of production from household plots or from livestock and poultry can reach 70-80% [9].

Economic growth is a steady trend, measured by an increase in the real volume and rate of GDP output per capita. The dynamics of the economic growth testifies to the availability and effective use of the resource potential and the increase in the living standards of the population.

Using the data of the State Statistics Committee of the Republic of Uzbekistan, with the help of correlation-regression analysis we studied the relationship between economic

growth and households, i.e. how changes in the number of households will affect economic growth.

Table No. 1

Indicators	2011	2012	2013	2014	2015	2016	2017	2018	2019
Households, million	6,7	6,8	6,9	7,02	7,14	7,27	7,4	7,52	7,66
GDP per capita, million soums	3,3	4,0	4,8	5,8	6,7	7,6	9,3	12,3	15,2

Based on the data in the table, determined the parameters of the equation of the straight line on the basis of the least squares method, solving the system of normal equations:

$$y = f(x) \text{ takes the form of } y = -75,3 + 11,6 \cdot x$$

Consequently, with an increase in households by 1 million, per capita GDP will increase by an average of 11.6 million soums. Also, the correlation coefficient between the studied indicators was 96.7, which indicates the existence of a strong relationship between these indicators. And the coefficient of elasticity shows that with an increase in the number of households by 1%, GDP per capita will increase by 10%.

The method we used is considered traditional and has its drawbacks. And there is a need for a new method that increases the reliability of forecasts that are carried out by mathematical methods in the economy.

CONCLUSION

To eliminate errors and obtain more accurate results, we propose the following actions:

The statistics are known x_i and $y_i \quad i = \overline{1, N}$ for which it is necessary to determine the correlation dependence $y = f(x)$. Unlike traditional methods, the correlation dependence $y = f(x)$ is found in the following way:

In the place of determination of the dependence $y = f(x)$ is determined $Z = f'(x)$ or $Z = \frac{dy}{dx}$; When we have statistics y_i , based on $\frac{y_i - y_{i-1}}{\Delta x} \approx f'_i(x)$ we can determine the value of the derivative function $f'(x)$ at all points $i = \overline{1, N-1}$

Based on these data, the exact relationship $Z = f'(x)$ or $Z = \frac{df(x)}{dx}$.

By integrating $Z = f'(x)$, we get the desired dependence $y = f(x)$

Now consider the relationship between households and per capita GDP by the proposed method.

Let y - GDP per capita (mln. soums) and x - the number of households (mln. Pieces). And it is required to determine the correlation dependence $y = f(x)$. For this, we enter all the necessary data for the calculations in the table.

Table No. 2

y	x	Δy	Δx	$\frac{\Delta y}{\Delta x}$	$\frac{\Delta y}{\Delta x} \cdot x$	x^2	y_p	$y - y_p$
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3,3	6,7						3,3	0
4	6,8	0,7	0,1	7	47,6	46,24	3,7	0,3
4,8	6,9	0,9	0,1	9	62,1	47,61	4,2	0,57
5,8	7,02	1	0,12	8,33	58,47	49,28	5,14	0,66
6,7	7,14	0,9	0,12	7,5	53,55	51	6,3	0,4
7,6	7,27	0,9	0,13	6,92	50,3	52,85	7,88	-0,28
9,3	7,4	1,7	0,13	13,01	96,27	54,76	9,74	-0,34
12,3	7,52	3	0,12	25	188	56,55	11,75	0,55
15,2	7,66	2,9	0,14	20,7	156,56	58,67	14,61	0,59
69	64,41			97,46	714,85	416,96		

$$\frac{\Delta y}{\Delta x}$$

Now we make up the derivative function. And paying attention to the character $\frac{\Delta y}{\Delta x}$, and not

$$\frac{dy}{dx} = a_0 + bx$$

to the character “y”, we notice that the variables change under the guise of

Now, having solved the following system of equations, we can find the derivative

$$\text{function: } \begin{cases} \sum_{i=1}^8 \frac{\Delta y}{\Delta x} = 8a_0 + b \cdot \sum_{i=1}^8 x \\ \sum_{i=1}^8 \frac{\Delta y}{\Delta x} \cdot x = a_0 \cdot \sum_{i=1}^9 x + b \cdot \sum_{i=1}^8 x^2 \end{cases} \text{ or } \begin{cases} 97,46 = 8a_0 + 57,71b \\ 714,85 = 57,71a_0 + 416,96b \end{cases}$$

And so. $z = y' = \frac{dy}{dx} = -118,29 + 18,088x$

By integrating this function, provided that $y(6,7) = 3,3$ we get the desired addition.

$$y = \int (18,088x) dx - \int 118,29 dx = 9,044 x^2 - 118,29x + c$$

According to the initial conditions:

$$y(6,7) = 9,044 \cdot 44,89 - 792,54 + c = 3,3 \text{ and from here } c = 389,85$$

$$y = 9,044x^2 - 118,29x + 389,85$$

Using this function, we found the rest of the values y and filled in the table.

As a result of these calculations, we have:

The function of traditional $y = -75,3 + 11,6 \cdot x$

The function of proposed method $y = 9,044x^2 - 118,29x + 389,85$

To compare the two methods, we will write down all calculated values in one table

Table No. 3

y actual values	y_t traditional method	y_p proposed method	$y - y_t$	$y - y_p$
3,3	2,42	3,3	0,88	0
4	3,58	3,7	0,42	0,3

4,8	4,74	4,2	0,06	0,6
5,8	6,132	5,14	-0,332	0,66
6,7	7,524	6,3	-0,824	0,4
7,6	9,032	7,88	-1,432	-0,28
9,3	10,54	9,74	-1,24	-0,44
12,3	11,932	11,75	0,368	0,55
15,2	13,556	14,61	1,644	0,59

As can be seen from table No. 3, our proposed method has several advantages relative to the traditional method:

As a result of integration, we always get a nonlinear function $y = \int Z(x)dx$, and a nonlinear function more accurately describes real processes.

Since the derivative of the function determines the growth and decrease of the function in the entire domain of definition, therefore, the data obtained are closer to real ones.

Analyzing the data in the table, we were convinced that to increase the reliability of forecasting, it is advisable to use the proposed method.

Also, the correlation coefficient by the proposed method was 98.2, which shows a strong relationship between the studied indicators.

In conclusion, we can say that in order to ensure economic growth in the region, it is necessary to effectively use all available elements of economic potential, switch to new methods of observation, improve research, introduce new information technologies, and develop new approaches to accounting and analysis of household economic activity.

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