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THE NORM OF INVESTMENT IN ECONOMIC GROWTH AND INTERRELATION OF HOUSEHOLD CONSUMPTION

**IQTISODIY O'SISHGA SARMOYALAR NORMASI VA UY XO'JALIKLARI
ISTE'MOLINING O'ZARO BOG'LIQLIGI**

**НОРМА ВЛОЖЕНИЙ В ЭКОНОМИЧЕСКИЙ РОСТ И ВЗАИМОСВЯЗЬ
ПОТРЕБЛЕНИЯ ДОМОХОЗЯЙСТВ**

Abstract. *The article uses an econometric model to study the annual growth rate of investments in the annual growth rate of the national economy of Uzbekistan, the impact of investment norms and consumer spending on households, and to develop its forecasts for the period up to 2030.*

Keywords: *economic growth, capital, investment, investment rate, household consumption, modernization, econometrics, regression, inertia, mobilization forecast.*

Annotatsiya. *Maqola ekonometrik modeldan foydalangan holda O'zbekiston milliy iqtisodiyotining yillik o'sish sur'atlariga investitsiyalarning yillik o'sish sur'atlarini, investitsiya me'yorlari va iste'mol xarajatlarining uy xo'jaliklariga ta'sirini o'rganadi va 2030-yilgacha bo'lgan davr uchun o'z prognozlarini ishlab chiqadi.*

Kalit so'zlar: *iqtisodiy o'sish, kapital, sarmoyalar, sarmoyalar darajasi, uy xo'jaliklarining iste'moli, modernizatsiya, ekonometriya, regressiya, inertsia, safarbarlik prognozi.*

Аннотация. *В статье с помощью эконометрической модели исследуются годовые темпы роста инвестиций в годовой темп роста национальной экономики Узбекистана, влияние инвестиционных норм и потребительских расходов на домохозяйства, а также для разработки ее прогнозов на период до 2030 года.*

Ключевые слова: *экономический рост, капитал, инвестиции, уровень инвестиций, потребление домашних хозяйств, модернизация, эконометрика, регрессия, инерция, прогноз мобилизации.*

In the literature of economy, the annual growth rate of investments, the standard of investment and the great emphasis on the consumption of households are due to the fact that there is an inseparable link between these indicators and economic growth. «In order to develop the economy at a high pace, it is necessary to consistently pursue an active investment policy» [1].

On the issue of the interdependence of the investment norm in ensuring economic growth A.V. Vakhobov and U. Zaynitdinova assesses that «the norm of investment reflects the health

of the economy and is the basis of modernization in the economy and the implementation of structural changes». According to their conclusions, the norm of investment in the conditions of modernization of today's economy «in Uzbekistan, however, should be around 28–30 percent» [2].

According to world experience, the share of gross investment may be at a high level, while growth rates may be low. On the contrary, the relatively low level of investment can also be accompanied by high rates of economic growth. For this reason, according to an English economist R. Stone's [3] conclusion, it is interesting that the level of investment spending has no effect on the rate of economic growth in the long term period, while in the short term period it is affected.

It is scientifically and practically significant in the research work to study the impact of gross domestic product on annual growth rate and its prospects through an econometric analysis of the impact of investment and household consumption on gross domestic product, in determining new trends, legislations in the development of the national economy. To this end, in 2005–2018 years as factors affecting the gross domestic product of the Republic of Uzbekistan: the main capital investments – Y_t , the main capital investments three year and five year lag values (I_{t-3} and I_{t-5} , respectively), and the consumption of households – C_t . At the same time, the data for all years, taking into account the impact of inflation in the period under analysis, were calculated at the prices of 2005 year with the help of the gross domestic product deflator. With the help of this data, we need to determine the parameters of the regression equation below.

$$Y_t = \beta_0 + \beta_1 I_t + \beta_2 I_{t-3} + \beta_3 I_{t-5} + \beta_4 C_t + \varepsilon_t \quad (1)$$

Here β_k the coefficients denote the effect of the factors obtained on the gross domestic product. And ε_t is a stochastic part of the regression equation and represents randomness in the model. By entering the data into the STATA 12 program, we get the following results.

Table 1

Values of regression equation parameters

Y_t	Coef.	Std. err.	T	P > t	95 % Conf. Interval	
I_t	1.068	0.188	5.68	0.000	0.643	1.494
I_{t-3}	1.535	0.176	8.71	0.000	1.136	1.934
I_{t-5}	0.981	0.240	4.08	0.003	0.437	1.525
C_t	0.174	0.034	5.11	0.001	0.097	0.251
Cons.	1516.131	83.094	18.25	0.000	1328.16	1704.1

According to the results of Table 1, the significance of the model parameters determined by the impact on the gross domestic product (t – Statistic) $\alpha = 0,05$ and $df = 15$ when it is equal to $t_{\text{жад}} = 1,753$, $t_{I_t} = 5,68$, $t_{I_{t-3}} = 8,71$, $t_{I_{t-5}} = 4,08$ and $t_{C_t} = 5,11$ on $t_{\text{жад}} < t_{\text{хис}}$ the condition that it is C_t , I_t , I_{t-3} and I_{t-5} all of the variables parameters are statistically significant. By using data from the tables 3.4, the following regression equation can be drawn:

$$Y_t = 1516,131 + 1,068 * I_t + 1,535 * I_{t-3} + 0,981 * I_{t-5} + 0,174 * C_t \quad (2)$$

According to the regression equation, the increase in one unit of investment in the current period under conditions where other factors have not changed will increase the gross domestic product by an average of 1.068 units. The one-unit increase in three-year and five-year previous

investments will also lead to an increase in gross domestic product to 1.535 and 0.981 units, respectively. An increase in the household consumption by one unit will lead to an increase in the gross domestic product by 0.174 units. According to the data findition can be seen that investments are important in ensuring economic growth in our country, including investment projects designed for the medium term period, have a strong impact on economic growth. Because the parameter of investments with three-years lag is equal to 1.535, which is greater than the parameters of other variables.

Table 2

Results of checking regression equations by criteria

Source	SS	Df	MS	Number of obs.	=	16
Model	9.963	3	3.321	F(3,12)	=	8706.53
Residual	0.005	12	0.000	Prob>F	=	0.000
Total	9.968	15	0.665	R-squared	=	0.999

Admittedly in economics, it is required to evaluate each developed regression equation on the basis of additional criteria. Therefore, the regression equation is checked by a number of criterion. According to the table, it turns out that the regression equation is adequate and reliable. Because the p-value of F-statistics is very small (0.000) and the determinative coefficient (R²) is 99.9%.

Using the model determined in the regression equation, the time-dependent trend formulas of each factor obtained are determined, and on this basis, the forecasts for the change in gross domestic product are determined:

Investment to the main capital:

$$I_t = 131,194 * t + 164,947. \quad (3)$$

Household consumption:

$$C_t = 264,4843 * t + 938,54. \quad (4)$$

By replacing each of the parameters in the regression equation with its changes in terms of time, we will have an inertial forecast of the impact of short, medium and long-term investment projects on economic activity on the basis of investment norms, household consumption and lag values. However, this 1-regression equation takes into account the general trend of 2000-2018 years. Therefore, taking into account the relatively recent trend, we will develop the 1-regression equation in the variant with which it was changed, and in this we will take 2010-2018 years as a basis.

$$Y_t = 1469,03 + 1,409 * I_t + 1,25 * I_{t-3} + 0,813 * I_{t-5} + 0,143 * C_t \quad (5)$$

From the regression equation generated when 2010-2018 years are taken as a basis, we will have a basic forecast of the impact of short, medium and long-term investment projects on economic activity based on the values of investment norms, household consumption and lag.

In recent years, active investments in the economy of the Republic of Uzbekistan have begun to attract. The priority task set out in the strategy of action is the technical and technological modernization of the economy, the implementation of structural changes, the increase of the country's export potential, the strengthening of macroeconomic sustainability

and the increase in the volume of foreign and domestic investments involved in the economy in achieving sustainable high economic growth rates, sharp mobilization. In this regard, through the econometric analysis of the mobilization option in 2019–2030, the forecast of mobilization of the impact of short, medium and long-term investment projects on economic activity was developed on the basis of investment norms, household consumption and the lag values.

Mobilization forecast of the impact of short, medium-and long-term investment projects on economic activity is based on the values of investment income, household consumption and lag

According to the figure 1 below, the annual growth rate of GDP will decrease from 105,1%, to 103.6% in 2019–2030 years in the perspective of the inertial option. In the perspective of mobilization option, the annual growth rate of the main capital investments in 2019–2030 years will increase till 110%, the change of the investment norm from 26,3 to 29,4%, the annual growth rate of household consumption expenditures will increase till 109%, the annual growth rate of GDP will increase from 105,1% to 108,6%. That is, the increase in the importance of active investments in the mobilization option has resulted in a 5% more effective outcome than in the inertia scenario. From the econometric analysis it is possible to draw the following conclusion:

Firstly, one of the important factors of economic growth in the Republic of Uzbekistan is an active investment policy.

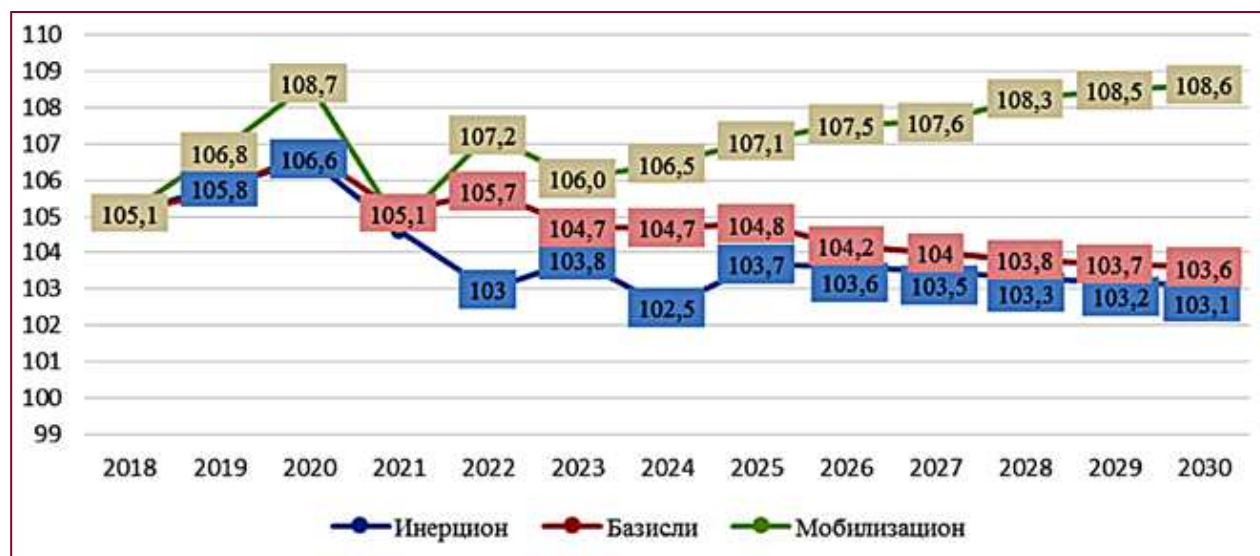


Figure 1. Forecast indicators of the impact on inertia, basis and mobilization options of the volume of GDP of investment, household consumption expenditures involved in the main capital investments in 2019–2030 years [5].

Secondly, the impact of investment on economic growth can be divided into current, medium and long term impacts, according to the results of empirical analysis, medium term investment has been found to be the factor that most affects economic growth. Because the 3-year lag value of the investment has had a larger regression coefficient (1.535) than the remaining factors. This means that medium-term investments in the Republic of Uzbekistan in 2000–2018 have a high efficiency compared to short-and long-term investments.

Thirdly, the analysis of gross domestic product volume forecasts for innovation and mobilization options shows that we will have the largest economic growth figures in the mobilization option based on active investment policies. Projected performance under the mobilization scenario, the real size of the gross GDP will increase by 2.33 times by 2030.

Fourthly, GDP ensures sustainable growth rates, the main capital together with the involved investments, household consumption costs are important because the gross demand for products in the continuation of the production cycle is formed from household consumption costs. In the model of 1-regression equation, the regression coefficient of the variable of household consumption expenditure was confirmed by this idea and was equal to 0.174, which means that a unit increase in household consumption costs would lead to an increase in the gross domestic product by 0.174 units.

Fifthly, according to the results of the econometric analysis, in 2019-2030 years, investment norm was found to be the most significant factor affecting the quality of economic growth. Because, according to the results of the analysis of the forecast made on the mobilization scenario, when the data are calculated with the help of the gross domestic product deflator at the prices of 2000, the growth of the investment norm from 26.3 to 2030 by 29.4 in 2018 leads to an increase in the country's economic growth.

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O'ZBEKISTONDA MAKROIQTISODIY BARQARORLIK VA INVESTITSION FAOLLIKNI OSHIRISH YO'NALISHLARI

НАПРАВЛЕНИЯ ПО ПОВЫШЕНИЮ МАКРОЭКОНОМИЧЕСКОЙ
СТАБИЛЬНОСТИ И ИНВЕСТИЦИОННОЙ АКТИВНОСТИ В УЗБЕКИСТАНЕ

DIRECTIONS TO INCREASE MACROECONOMIC STABILITY AND
INVESTMENT ACTIVITY IN UZBEKISTAN

Annotatsiya. Mazkur maqolada O'zbekistonda makroiqtisodiy barqarorlikni va investitsion faollikni oshirish yo'nalishlari tahlil qilingan. Maqolada shuningdek makroiqtisodiy barqarorlikning asosiy ko'rsatkichlari keltirilib o'tilgan. Bundan tashqari O'zbekistonda makroiqtisodiy barqarorlikni ta'minlashga qaratilgan islohatlar ko'rib chiqilgan holda tegishli xulosalar chiqarilgan.

Tayanch iboralar: makroiqtisodiy barqarorlik, investitsion faollik, iqtisodiy o'sish, aholi bandligi, narxlar barqarorligi, davlat budjeti, almashuv kursi, tashqi savdo, investitsiyalar, investitsion muhit, to'g'irdan-to'g'ri investitsiyalar.

Annotation. This article analyzes the ways to increase macroeconomic stability and investment activity in Uzbekistan. The article also provides key indicators of macroeconomic stability. In addition, the reforms aimed at ensuring macroeconomic stability in Uzbekistan were considered and relevant conclusions were drawn.

Key words: macroeconomic stability, investment activity, economic growth, employment, price stability, state budget, exchange rate, foreign trade, investment, investment climate, direct investment.

Аннотация. В статье анализируются пути повышения макроэкономической стабильности и инвестиционной активности в Узбекистане. В статье также приведены ключевые показатели макроэкономической стабильности. Кроме того, были рассмотрены реформы, направленные на обеспечение макроэкономической стабильности в Узбекистане, и сделаны соответствующие выводы.

Ключевые слова: макроэкономическая стабильность, инвестиционная активность, экономический рост, занятость, стабильность цен, государственный бюджет, обменный курс, внешняя торговля, инвестиции, инвестиционный климат, прямые инвестиции.