ANALYSIS OF FACTORS INFLUENCING THE VOLUME OF INVESTMENTS

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Annotation
The article analyzes the research on investment, the positive impact of investment on economic development and its benefits.This article provides an econometric analysis of the impact of the volume of investments in the economy of Uzbekistan in 2000-2019 on the volume of GDP, the number of labor resources and the volume of money supply, and draws conclusions and recommendations based on the results of the study.

Keywords: investment, foreign investment, gross domestic product, labor resources, COVID-19, pandemy, money supply, foreign direct investment, economic crisis, national economy.

Introduction
It is impossible and unimaginable to ensure the growth and development of the national economy without investment.In particular, attracting foreign investment is even more important for emerging and underdeveloped national economies.Emerging and underdeveloped national economies need financial resources, new technologies, modern technology, telecommunications, etc. to create material goods and organize production, and the easiest and simplest way to attract them is to attract investment."Foreign direct investment is one of the key factors in the development of the country's economy"[1].In this context, foreign direct investments in Uzbekistan to be involved in a wide range of primary importance in the development of the national economy. It is no coincidence that the President of the country Sh. Mirziyoyev also said that "in order to attract foreign investment, we must take measures to fully demonstrate the investment potential of our country"[2].
The crisis following the widespread COVID-19 pandemic in 2020 and its negative impact is leading to a significant reduction in foreign investment in the world.The volume of foreign direct investment in national economies in 2019 amounted to 1.54 trillion US dollars, in 2020 this figure decreased by 40%, in 2021 it will decrease to 5-10%. predicted.Foreign direct investment is less than $ 1 trillion for the first time since 2005 and less than $ 1.2 trillion in 2009 as a result of the global financial crisis.In 2021, foreign direct investment will reach $ 900 billion, down 60 percent from $ 2 trillion in 2015[3].
Many factors affect the flow of investment.In particular, crises, epidemics, the level of state intervention in the economy, the current legislation, the level of doing business and many other factors.In assessing

the degree of impact of factors on the volume of investment, the analysis of macroeconomic indicators is the basis for drawing general conclusions.This article analyzes this area.

Literature review

Investments, which are the "elixir" of development and revival of the national economy, the procedures for attracting them, the laws, efficiency indicators, specifics, positive and negative aspects for the national economy have consistently been studied by economists in research centers and universities around the world for many years. Attempts are being made to attract investments based on the current situation in the economy and to develop optimal mechanisms to increase efficiency.Against the background of the economic crisis caused by the global pandemic, Uzbekistan needs to study this issue in depth, both theoretically and practically.

Investment and its characteristics have been studied in practice and theory by the world's leading economists.

Some economists see investment as an important part of economic growth and financial globalization. They believe that the inflow of foreign and domestic investment can bring not only the necessary additional foreign capital, but also new technologies and know-how, improved management and marketing skills[4].

Michael J.Osei, Jaebeom Kimfactorically analyzed the relationship between investment and economic development across national economies[5].

Findley va Rodrigez-Klerclearly explain the relationship between investment and economic growth through neoclassical and endogenous growth models, i.e., an increase in investment volume or efficiency leads to economic growth in the short, medium, and long term[6].

In general, recent research shows that the positive impact of investment growth depends on countries 'investment policies and environment, including financial sector development, human capital, trade openness, and economic development[7].

Research aimed at attracting foreign investment to the national economy has been studied by Uzbek economists B. Mamatov, D. Khujamkulov, O. Nurbekov, J. Karimkulov, A. Sotvoldiyev, G. Karimova and others.

B.Mamatov, D.Khujamkulov, O.Nurbekov focus on the importance of investments in the development of the national economy. They emphasized that foreign investments can be made by directing production capital to the production of goods and services, firms and companies 'shares could be introduced through the acquisition of a controlling stake, the construction of production facilities, the establishment of joint ventures, and a number of other ways [8].

Attracting foreign investment is an important factor in the active development of the economy, attracting foreign investment into the national economy through free economic zones and increasing their efficiency is becoming one of the main tools for working with foreign investment [9].

Economist G. Karimova suggested that the uneven distribution of investments in the country be considered a serious problem in the study, and as a solution, the introduction of tax incentives for enterprises that attract foreign investment to the regions [10].

In his research, economist A. Sotvoldiyev suggests the use of "round-tripping and BOT (built-operate-transfer)" methods of investing in enterprises to increase foreign investment.The positive features of using these investment methods are:

- The state plays an important role in investment, but the budget does not cover the costs;
- Upon expiration of the investment agreement, the state will have a ready-made facility;
- Investment allows the state to solve social and economic problems[11].

Based on the research discussed above and their results, we believe that it is necessary to conduct a comprehensive econometric analysis of the economy of the Republic of Uzbekistan, in particular, the investment process in the country, to study the dynamics of investment in Uzbekistan through econometric models to assess the impact of other macroeconomic factors on investment.

Research methodology
The study used the least squares method of econometric modeling and the research model was tested using statistical tests. In some places, comparisons have been made.

Analysis and results
The level of investment in the economy reflects the level of investment climate in the country.We know that before making an investment, the investor studies and analyzes the current situation in the national economy, in particular, the state of labor resources, the amount of wages spent on them, and, if the investor is satisfied, makes the investment.In addition, the macroeconomic situation, in particular, the fact that the economy is growing at a steady pace, is of interest to investors, because where there is sustainable economic growth, it is easier and more convenient to invest and make a profit. in our opinion, the state of economic growth can also determine the business environment. In Uzbekistan, it is advisable to use correlation and regression analysis to assess the impact of these factors on investment.This study analyzes the indirect impact of changes in the level of gross domestic product (ЯИМ), cash supply (М2) and income and labor resources (МР) on the volume of investments (И) in the economy of Uzbekistan in 2000-2019.

Table 1.Investment, GDP, the size of the money supply in circulation and human resources indicators of Uzbekistan (in current prices)[12]

Years	Investment (И) (billion UZS)	Gross domestic product (ЯИМ)(billion UZS)	Cash supplyin circulation (M2)(billion UZS)	Labour resources(MP) (thousand people)
2000	744,5	3255,6	332,1	12469
2001	1 320,90	4925,3	502,4	12817,4
2002	1 526,60	7450,2	700,3	13181
2003	1 978,10	9664,1	898,8	13607,2
2004	2 629,00	12189,5	1255,5	14048,8
2005	3 165,20	15210,4	2159,9	14453,2
2006	4 041,00	20759,3	3093,1	14816,5
2007	5 903,50	28186,2	4876,2	15219,6
2008	9 555,90	36839,4	6925,8	15685,7
2009	12 531,90	49375,6	10171,4	16103,5
2010	16 463,70	74042	15548,8	16726
2011	19 500,00	96949,6	21038,1	17286,4
2012	24 455,30	120242	26814,0	17564,3
2013	30 490,10	144548,3	33535,2	17814,1
2014	37 646,20	177153,9	41454,0	18048
2015	44 810,40	210183,1	50443,9	18276,1
2016	51 232,00	242495,5	59411,4	18488,9
2017	72 155,20	302536,8	88945,8	18666,3
2018	124 231,30	406648,5	80109,8	18829,6
2019	195 927,30	524230	92264,5	18949

We know that the change in a quantity is influenced by some factor that is not directly related to it, which is measured by the correlation coefficient.In our study, changes in the volume of investment (И) are indirectly affected by changes in the country's GDP (ЯИМ), labor resources in the economy (МР) and money supply (М2).The relationship between them is shown in Table 2.

Table 2. Correlation coefficients on the relationship between investment, GDP, labor resources, money supply in circulation

Indicators	Investment (И)	GDP (ЯИМ)	Money supply in circulation (М2)	Labour resources (MP)
Investment (И)	1,00	0,9695	0,8895	0,6947
GDP (ЯИМ)	0,695	1,00	0,9696	0,8182
Money supply in circulation (М2)	0,8895	0,9696	1,00	0,8562
Labour resources (MP)	0,6947	0,8182	0,8562	1,00

The correlation coefficient between investment (И) and change in GDP (ЯИМ) is 0.9695, the correlation between investment (И) and labor resources (МР) is 0.8895, the correlation between investment (И) and money supply (М2) is 0.6947.It turns out that these factors have a strong positive impact on investment.When the distribution of quantities over the years was checked by the Skewness / Kurtosis test, it was found that they were normally distributed. The fact that the correlation between the factors influencing the volume of investment obtained for the study is also strongly correlated is not considered a positive situation. However, in order to draw preliminary conclusions about the general situation, in our study we consider it expedient to formulate the equation of dependence of these factors on changes in the volume of investments.

When the Dikey Fuller test, which assesses the steady state of investment and gross domestic product, was tested using the Akaike criterion, it was found that their condition was 90 percent accurate.

The non-autocorrelation condition was 1.410 <DW <2,590 when the Darbin-Watson statistic was calculated on the basis of a 5% significance statistic table, while the Darbin-Watson statistic in our model is at 2.09, which means that there is no autocorrelation problem. Examination of the normal distribution of the remains revealed that they were normally distributed.

Based on the processing of Table 1 data using the STATA program, we obtained the following results:

Table 3. Regression equation for the effect of gross domestic product (ЯИМ), money supply in sirculation (M2) and labor force (MP) on changes in investment (И)

Source	SS	df	MS		Number of obs	=	20
					F(4, 15)	=	2165.02
Model	4.5702e+10	4	1.1425e+10		Prob > F	=	0.0000
Residual	79159510.7	15	5277300.71		R-squared	=	0.9983
					Adj R-squared	=	0.9978
Total	4.5781e+10	19	2.4095e+09		Root MSE	=	2297.2

И	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
ЯИМ	.3130563	.0364074	8.60	0.000	.2354557	.3906569
M2	-1.158615	.0780614	-14.84	0.000	-1.324999	-.992231
MP	2.220806	.8799515	2.52	0.023	.3452337	4.096378
c.ЯИМ#c.M2#c.MP	1.34e-10	1.65e-11	8.15	0.000	9.92e-11	1.70e-10
_cons	-29547.68	11980.54	-2.47	0.026	-55083.59	-4011.77

Note: The calculations were performed on the Stata software suite.

We create an econometric model of the relationship between changes in the volume of investment (b) and changes in factors.According to the inductive analysis of this model, the statistical significance of the above model (F-statistics) is less than 0.05, so this model is statistically significant. The coefficients for the effect of the independent variables (GDP, M2, and MR) on the dependent variable are also less than 0.05, which is also statistically significant.The regression equation takes into account the effect of factors when all factors change at the same time.

Econometric model of the effect of GDP (ЯИМ), money supply (M2) and labor resources (MP) on changes in investment (И):

$$И = -29547{,}68 + 0{,}3131ЯИМ - 1{,}1586M2 + 2{,}2208MP + (1.34*e{-}10)*(c.ЯИМ\#c.M2\#c.MP) + e \quad (1)$$

Here: И- the volume of investments, billion UZS;

ЯИМ - gross domestic product, billion UZS;

M2 - money supply in circulation, billion UZS;

MP - the amount of labor resources, thousand people;

e - factors not taken into account.

Note: This model was obtained as a result of calculations in the software complex Stata. (c.YaIM # c.M2 # c.MR) The effect of the simultaneous change of three factors.

The determination coefficient (R-squared) of the constructed equation is 0.9983. This amount can explain 99.83% of the change in the volume of investment (И), including gross domestic product (ЯИМ), money supply (M2) and labor resources (MP).The coefficient in front of ЯИМ (gross domestic product) (0.3131) means that a one percent increase (decrease) in household income will lead to an increase (decrease) in investment by 0.3131 units,as well as the coefficient before the money supply M2

(-1.1586) represents a 1% increase (decrease) in the money supply, a decrease (increase) in investment by 1.1586 units,an increase (decrease) in labor resources (MP) by one unit (2.2208) leads to an increase (decrease) in investment by 2.2208 units.An increase (decrease) as a result of the simultaneous change of these three factors (с.ЯИМ # с.М2 # с.МP) results in an increase (decrease) of 1.34 * e-10 units.

Conclusion

Summarizing the results of the study, it is worth noting the following:

– Changes in the factors used in the model are strongly related to changes in investment, and changes in all factors affect changes in investment;

– An interesting aspect of the equation is that an increase in the money supply has a negative effect on the volume of investment, which means that most of the income of the population in the country is directed to consumption or other sectors.

– Investment in the economy of our country, in particular, the attraction of foreign investment is an important factor in ensuring the effective implementation of economic reforms in our country. In this regard, in order to improve the existing investment climate and increase the country's investment attractiveness, it is necessary to accelerate reforms to simplify existing administrative procedures, simplify tax legislation, ensure economic transparency, and revise regulations in accordance with the current situation.

– The crisis of covid-19 will have a negative impact on the volume of foreign investment in the national economy.the measures to be taken in this regard will need to be reconsidered in accordance with the circumstances of the pandemic crisis and its aftermath.

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