

INVESTMENT IN EDUCATION

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***Abstract.** This article examines the impact of foreign direct investment on educational performance in 8 developing countries in East Asia. However, an econometric analysis examined the positive impact of the volume of investment attracted to these countries on educational achievements.*

***Keywords.** Foreign direct investment, level of education, gender, human capital.*

1. Introduction.

Nowadays it has been noticed that the special influence of investments is manifested when studying the stage of any development of a country. In particular, in Shavkat Mirziyoyev's address to the Oliy Majlis on December 20, 2022, the fact that Uzbekistan was able to attract foreign direct investment in the amount of \$8 billion in 2022 means that much attention is paid to investment in our country. country, and as a result, it is good that the fact that results are being achieved confirms our word. In addition, government officials are directly tasked with attracting private investment: starting this year, \$40-50 million for each district governor and up to \$1 billion for the ministers of agriculture, water, forestry and transport on the basis of Public-private partnerships is a division that creates both responsibility and opportunities to attract investment. The second part of our research was the development of the education sector, which every country needs as a leading industry in building a "social state" in accordance with the priorities of 2023. "Salvation is in education, salvation is in upbringing, salvation is in knowledge. Because all noble goals are achieved through knowledge and education," says the appendix [1].

In the field of education, we can see evidence of a number of works that have actually been done in Uzbekistan. This activity can be seen from early childhood education to higher education and further education. In particular, as a result of increasing the level of preschool education of children from 27% to 70% over six years, about 2 million children now attend kindergartens. In 2023, it is planned to build 70 new schools, expand and reconstruct more than 460 schools, the number of universities in higher education has increased by 2.5 times, and the enrollment rate has reached from 9% to 38%, and by 2023 it was called the “Year of Humanity”. The “Year of Attention and Quality Education” can clearly show the attention paid to the field of education. Returning to the research work, the works of the following scientists were studied on the topic of our research, based on the above two main factors. Firstly, as we see from the article studied by Allan Collins, Bhagaporn Wattanadumrong and S. Martin, tourism and human capital are the most powerful factors in the article, which studied the main macroeconomic factors of attracting foreign direct investment using the case of Thailand. It is noteworthy that this turned out to be [2]. An econometric model based on a data set from 1970 to 2004 concluded that the increase in investment attracted to Thailand is due to its policies and also due to the increased emphasis on local incentives and institutional factors. Also, José Guimón and other scientists studied government reforms to attract foreign direct investment using the example of Chile and identified the development of higher and postgraduate education as the main reform, they noted [3]. Why Chile now? The reason is that Chile, a developing country, can attract more investment through research in higher and post-secondary education. We know that foreign direct investment has a direct impact on a country’s economic development and employment levels. That is, the influx of capital makes it possible to provide employment for the unemployed in such areas, as well as to maintain a certain industry. The influence on the relationship between the volume of direct investment and employment is based on the specific characteristics of countries, that is, the formation depending on the age, gender and level of education of workers Laura L. Dargenyte-kacileviciene, Matuzeviciute studied with Butkus [4]. According to this

study, it not only adds to the limited empirical evidence on the elasticities of production and employment by gender, age and education in the EU, but also directly draws conclusions about these relationships in host countries. It also examined how this depends on the level of real investment. Moreover, when the causal effect of FDI on educational enrollment is examined from the perspective of gender segregation in China, FDI has a positive effect on female educational attainment in the host country studied [5].

From the above, we can see that there is a direct impact of foreign direct investment on educational enrollment as shown by works in terms of their enrollment. Our goal is to directly consider the possibility of increasing education coverage by attracting investments using the example of 8 Asian countries and to develop proposals and opportunities for their effective use for Uzbekistan.

1. Methodology.

One of the most important tasks of research work is the correct construction of a model with the correct specification. As is known, the equation of an econometric model must be based on a specific economic theory and, at a minimum, logic. Based on the research, the following model was studied and the main goal was to create a ledger:

$$Education_{it} = \beta_0 + \beta_1 \times Investment_{it} + u_{it}$$

The “investment” and “education” statistics that explain the variables in the model were derived from World Bank data. “Investment” here is foreign direct investment attracted to the selected country, and its value is stated as a percentage of gross domestic product. “Education” describes the educational attainment of the selected countries—the percentage of the population with at least a bachelor’s degree or equivalent. The research register was created in the Stata15 program, and the name of the variables in it is “invest” - it explains the percentage values of foreign direct

investment attracted, and this is an independent variable. “edu” is an independent variable and also an indicator that explains the level of education.

Statistics were obtained from the World Development Indicators database of the World Bank. The data was collected from 8 economically active countries in Asia - Japan, Thailand, China, India, Indonesia, Korea, Malaysia and Singapore during the period 2000-2021. The data were collected in an incomplete panel.

When we looked at the descriptive statistics of the variables, we were able to obtain the following information. The average investment size compared to 176 indicators is 4.14 percent, and the standard difference is 6.5. The average enrollment rate is 18.74 percent and the standard deviation is 8.66 compared to 31 variables.

Descriptive statistics of variables

Table 1

Variable	Obs	Mean	Std. Dev.	Min	Max
invest	176	4.147	6.527	-2.757	29.69
edu	31	18.741	8.668	3.578	32.978

Also in descriptive statistics, one of the important conditions is to check the distribution series of data sets and indicators of their proximity to the normal distribution. It is advisable to create histograms of the variables using the Stata15 program and compare the graph with the normal distribution line.

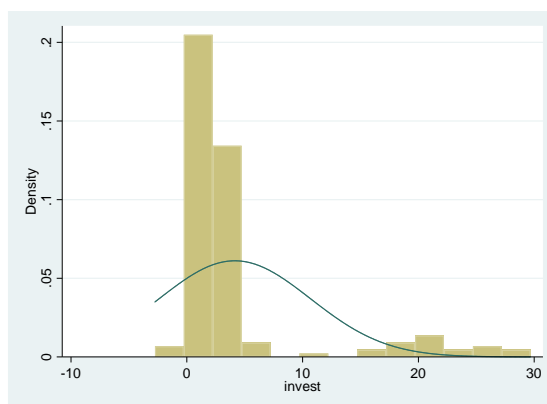


Diagram1. Investment index distribution

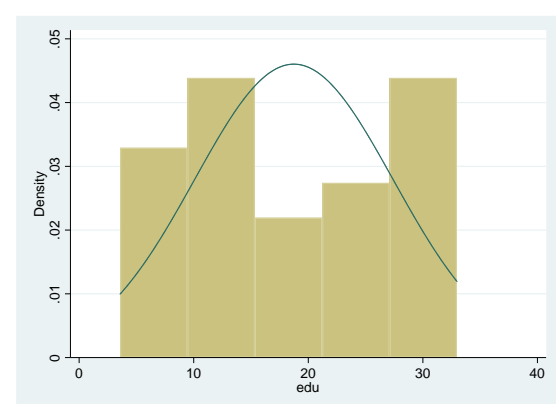


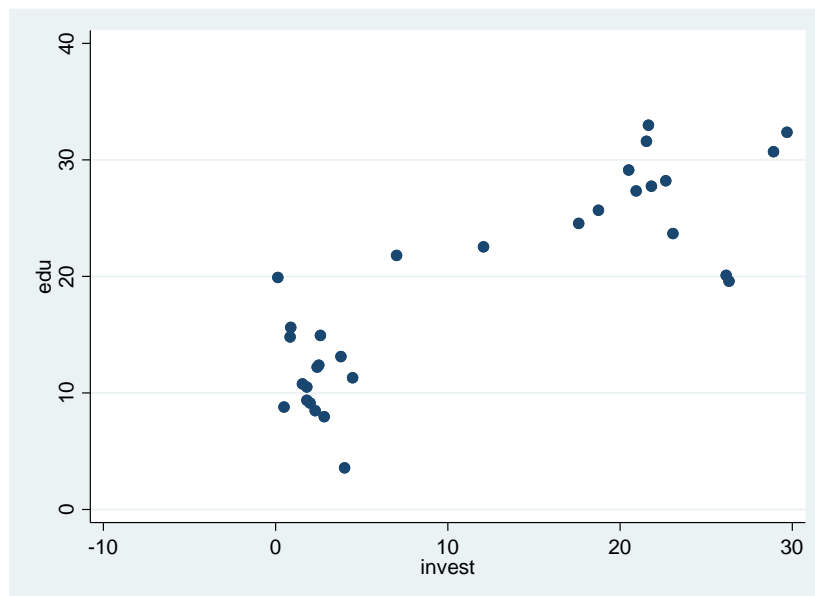
Diagram 1. Distribution of enrollment ratio

As we can see from the charts, we can clearly see that our variable in Chart 2 is normally distributed with respect to the investment rate for the enrollment data set. In Chart 1 we see that the distribution line of the investment indicator is shifting to the right.

The following chart (Chart 3) shows an example of a scatterplot as an indicator of the relationship between two indicators, according to which there is a strong positive relationship between educational level and investment. The reason is that with an increase in investment, educational coverage also increases, in addition, the correlation value between these two variables has a positive, strong relationship.

Scatterplot-3

Relationship between investment and educational level



The correlation value shows that the correlation between these two variables is 0.84. Regarding the main analysis of the study, we aimed to realize the impact of investment on education using OLS regression method, and its results and analysis were presented in the following parts.

1. Analysis of the results.

Selecting a model specification is one of the most important tasks in regression. Since the data itself represents percentage information, it was calculated as a regression

of a linear econometric model. When reviewing the results of our pairwise correlation regression, the following regression results were obtained:

Table-2

Linear regression results

edu	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
invest	.697	.081	8.61	0	.531	.862	***
Constant	10.804	1.246	8.67	0	8.255	13.353	***
Mean dependent var							
		18.741	SD dependent var		8.668		
R-squared		0.719	Number of obs		31		
F-test		74.210	Prob > F		0.000		
Akaike crit. (AIC)		185.499	Bayesian crit. (BIC)		188.367		
*** $p < .01$, ** $p < .05$, * $p < .1$							

From the result of our regression, we know that from the coefficient calculated for the investment variable, it follows that an increase in the amount of investment by 1% serves to increase the educational enrollment by about 0.7, and this variable is known to be a statistically significant variable. It can be said that the coefficient of determination is 0.72, and it can be said that investment can explain the level of education of this value. Since good results of parameter indicators do not always lead to sufficient results, we considered it necessary to take into account some conditions. Specifically, to account for the homoscedasticity condition for the regression, the Brush-Pagan test found that a p value of 0.54 did not reject the hypothesis that the error terms in the model were homoscedastic, which in turn indicated that the model did not is heteroskedastic.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of edu

chi2(1) = 0.36

Prob > chi2 = 0.5459

During the analysis process, we do not need to test for multivariate collinearity because the independent variable is only one in a pairwise correlation regression. However, there is another condition: there is error in estimating econometric models, and if there is error, it is omitted variable error. Although we know that this error is clearly visible to us, it is appropriate to test it and show the result. When we checked the Ramsey RESET test for this condition, we concluded that we actually had a dropped variable error based on the following results:

Ramsey RESET test using powers of the fitted values of edu

Ho: model has no omitted variables

F(3, 26) = 6.18

Prob > F = 0.0026

Summary.

This article examined the impact of attracted foreign direct investment on educational attainment for 8 developing countries in Asia over the period 2000-2021 by conducting EKKU regression. From the results, we learned that a one unit increase in foreign direct investment causes an increase in the educational enrollment rate of 0.69 units. This, in turn, allows us to conclude that it is necessary to expand the possibilities of attracting foreign investment into the country to increase the efficiency of science and expand its scope. In order for the attracted investments to serve the development of the country's economy, they will serve to increase education and research work, and as a result, a process will be created to improve the level of education.

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