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Impacts of Foreign Direct Investment on Vietnam's Unemployment Rate

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ABSTRACT

The paper aims to analyze the influence of foreign direct investment (FDI) on the unemployment rate in the context of Vietnam. In this research, secondary data was collected from the reports World Bank and World Monetary Fund (IMF), in the period from 1991 to 2019. The findings reveal that FDI, inflation, GDP, and exchange rate negatively impact the unemployment rate, whereas trade openness has a positive influence on the unemployment rate. This means that the increase in FDI attraction can reduce the unemployment rate of Vietnamese labors. As a result, some governance implications will be proposed to help enterprises attract more FDI and decline the rate of unemployment in Vietnam.

Key words: foreign direct investment (FDI), unemployment, unemployment rate, trade openness

INTRODUCTION

According to the Foreign Investment Report 2019 of the United Nations International Conference on Trade and Development (UNCTAD), the inflow of foreign direct investment (FDI) into Southeast Asia in 2019 was 149 billion USD, in which Vietnam attracted 36.4 billion USD, accounting for 24.5%, which ranked third, only behind Thailand and Malaysia. By the beginning of 2020, foreign investment has contributed nearly 20% of GDP and is an important additional capital source for development investment with the proportion of about 23.7% of the total social investment capital. Along with the achievements, one of the difficulties in the current Vietnamese economy is unemployment. Therefore, Vietnam government has taken anti-recession measures and forecasted the domestic and world economic situation to regulate and operate the country's economy effectively, especially to reduce the employment situation. With the opening in 1998, the investment capital of the FDI sector was nearly 372 million USD, creating jobs for 25,000 workers by participating in the basic construction of works and projects of production.

According to the General Statistics Office in 2017, the contribution from FDI enterprises to the State budget was more than 8 billion USD, accounting for 14.4% of total budget revenue, as well as creating jobs for more than 3.6 million direct workers and about 6 million indirect ones. As the number of registered projects and the realized capital of foreign direct investment is continuously increasing, it seems that many projects put into operation will create more jobs for workers. However, according to the first quarter of 2019 data of the General Statistics Office,

it was estimated that the employed population aged 15 and over was 54.3 million people, which decreased by 208.3 thousand people as compared to the fourth quarter of 2018. In this case, is the quality of FDI in the current period completely optimal? Therefore, in order to get an accurate perspective on the current quality of foreign investment flows, the assessment of the impact of FDI on unemployment is an issue that needs to be considered. That is the reason why the authors conduct research on the topic "***The impact of foreign direct investment on unemployment rate in Vietnam***".

THEORETICAL BASIS

Rationale

The concept of foreign direct investment (FDI)

As defined by the World Trade Organization: Foreign Direct Investment (FDI) occurs when an investor from one country (the host country) has an asset in another country (the country attracting investment) with the right to manage the property. The management dimension is what distinguishes FDI from other financial instruments. In most cases, both the investor and the assets that person manages abroad are businesses. In such cases, the investor is often referred to as the "parent company" and the assets are referred to as the "subsidiary" or "subsidiary company". Thus, foreign direct investment (FDI) is a form of long-term investment by individuals or companies from one country to another by setting up production facilities. That foreign individual or company will take control of this business and production facility.

Unemployment and unemployment rate

According to the International Labor Organization (ILO), "Unemployment is a situation in which some people in the workforce want to work but cannot find jobs at prevailing wages".

According to the General Statistics Office of Vietnam: Unemployed people are those aged 15 years or older that in the reference period meet the following factors: currently not working; are looking for a job; ready to work.

Unemployment rate: According to the General Statistics Office, the unemployment rate is the indicator that represents the rate of the number of unemployed people per the labor force.

$$\text{Unemployment rate (\%)} = \frac{\text{The number of unemployed}}{\text{Labor force}} \times 100\%$$

Research model

The regression model estimated has the form:

$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \beta_8X_8 + e_i$

in which,

- Y: Dependent variable (Unemployment rate)
- β_0: Coefficient of freedom, which indicates the mean value of unemployment Y when the independent variable X takes the value of 0.
- X_1, X_2, .. X_8: Independent variables
- Bi: Angular coefficient, which indicates by how many units the average value of the dependent variable Y will change (increase or decrease) when the value of the independent variable X increases by 1 unit, and the conditions for other values remain unchanged.
- e_i: Model error

The dependent variable Y (Unemployment rate): The unemployment rate is measured by the percentage of unemployed workers at the total working age.

The independent variables are included in the model:
LnFDI (X1): The amount of foreign direct investment (realized FDI), which helps supplement capital for the economy, especially in developing countries. Thanks to additional capital, the number of projects investing in the development and expansion increases, creating more job opportunities for employees, thereby reducing the number of unemployed people (Muhammad Arslan, 2014). LnFDI variable expectations have the opposite effect on unemployment.

INF (X2): The inflation variable in the model expected to have an opposite effect on the unemployment rate, consistent with the theoretical basis that the Phillips curve proved, that is the economy with high inflation, meaning the economy in a period of hot growth, reduces the number of unemployment Nayyra, 2014).

GDP growth (X3): The GDP growth rate that is expected to have a negative correlation with the unemployment rate, based on the explanation from Okun's law with the equation: % Real GDP growth = 3 - 2 * % Unemployment rate.

LnPop (X4): Expected value of the population variable positively correlates with unemployment. In case of the population increase, the number of jobs in the labor market is less than the number of people of working age, leaving a certain number of people unemployed.

TO (X5): Trade openness - open to trade is expected to reduce unemployment. The trend of opening trade increases opportunities for job exchange and labor rotation among economic sectors contributing to balancing the labor market.

EDU (X6): Education year - Measure average education level, reflected by years of schooling. The education level is expected to reduce unemployment because qualified and trained workers will have better access to work, increasing the rate of employed people and reducing the unemployment rate.

Urban (X7): The speed of urbanization and the trend of urbanization are increasing in developed countries. Investment is also pouring into the central areas, attracting a concentrated labor force in one location. The intense competition in job search in these regions increases the unemployment rate, so the Urban variable expectation positively correlates with the unemployment rate in the model.

ExchangeRate (X8): Exchange rate, of which the expected value is positively related to the unemployment rate. The increase in the exchange rate makes the value of the local currency increase, creating favorable conditions for export, thus contributing to creating a trade surplus. Considering the aggregate demand equation AD = C + I + G + NX, the trade surplus contributes to the increase in aggregate demand, in economic growth and in the reduction of unemployment.

Research methodology

Data collection

The topic uses secondary data, collected from Vietnam governmental agencies such as: General Statistics Office; Foreign Investment Department; Ministry of Planning and Investment; Ministry of Labor - Invalids and Social Affairs, in the period from 1991 to 2019 (29 years). In addition, the secondary data is synthesized based on reports of international organizations such as: World Bank; World Monetary Fund (IMF). At the same time, the research also uses data from prestigious scientific reports sourced from UNDP (United Nations Development Program); Journal of the world economy (The global economy), ... to make the article more convincing.

Data analysis

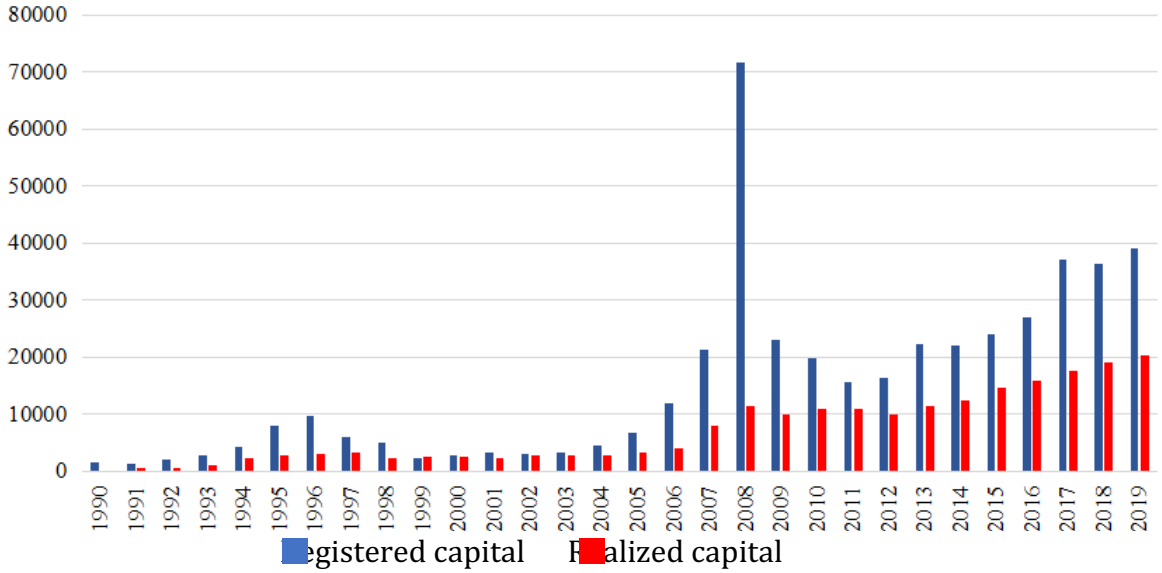
Comparative method is used in the study to analyze the current situation of attracting foreign direct investment (FDI) in Vietnam. Next is the use of quantitative research methods based on descriptive statistics and multivariate regression analysis to build the model of the impact of FDI on the unemployment rate in Vietnam, in which, the study conducted F-test to consider the impact between the independent variables on the dependent variable to measure the suitability of the model. Based on the above analysis results, the study summarizes the shortcomings and limitations of the research, thereby proposing solutions to attract FDI and reduce the unemployment rate.

RESEARCH RESULTS

Current situation of attracting FDI

Based on the statistical data collected from different sources, there have been fluctuations in FDI inflows into Vietnam since 1988; however, the total FDI has increased over time. It is worth mentioning that the implemented FDI capital tends to increase significantly.

Unit: Million USD



Source: General Statistics Office, 2019

Figure 1 Vietnam's FDI implementation in the period 1988-2019

According to the Figure 1, the use of capital in the FDI sector has been more and more efficient since 2009, thanks to increasingly improved infrastructure and policies to encourage investment for investors. However, to improve the ratio of realized capital to registered capital, it is required to have a policy to attract stable investment capital, manage and use FDI more effectively.

The model of the impact of FDI on the unemployment rate

Descriptive information and descriptive statistics about data files

The values of the variables included in the proposed model are data collected and recorded from 1991 to 2019.

Table 1 – Descriptive statistics of Unemployment rate

			Statistic	Std. Error
Y	Mean		1.9190	.08832
	95% Confidence Interval for Mean	Lower Bound	1.7380	
		Upper Bound	2.0999	
	5% Trimmed Mean		1.9186	
	Median		1.9600	
	Variance		.226	
	Std. Deviation		.47564	
	Minimum		1.00	
	Maximum		2.87	
	Range		1.87	
	Interquartile Range		.44	
	Skewness		-.406	.434
	Kurtosis		-.004	.845

Source: Aggregate data, 2019

The dependent variable *Unemployment rate* is recorded based on the percentage of unemployed workers in the working age group compared to the total number of labor force in the age group. Table 1 shows descriptive information and descriptive statistics about *Unemployment rate* in 29 years. According to Table 1, the average unemployment rate in working age is 1.9190% with Standard Error of 0.08832 and 95% confidence interval of [1.7380; 2.0999]. The minimum value of the Unemployment rate is 1% and the maximum value is 2.87% with a standard deviation of 0.47564.

Table 2 – Descriptive statistics of predictors

	N	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
INF	29	-1.80	81.80	10.4552	2.93557	15.80853	249.910
GDP	29	4.77	9.54	6.8500	.22706	1.22277	1.495
TO	29	66.21	210.40	132.5762	7.96504	42.89307	1839.815
EDU	29	4.10	8.20	6.3759	.26817	1.44411	2.085
Urban	29	20.63	36.63	27.7490	.92282	4.96956	24.696
LnFDI	29	6.06	9.92	8.4624	.19311	1.03991	1.081
LnPop	29	18.06	18.38	18.2386	.01713	.09222	.009
LnExchange	29	9.22	10.05	9.6690	.04933	.26564	.071

Source: Aggregate data, 2019

In Table 2, the study used the Natural logarithm of the variables to reduce the value in order to avoid variable variance in the regression model.

The model of the impact of FDI on unemployment in Vietnam

Using application SPSS 25 to calculate and select the optimal multiple linear regression model on the basis of input independent variables and output dependent variable as described in section 3.2.1. The software will perform the F-test and explain the significance of the independent variables in the model with the hypothesis H0: The predictors included in the model do not affect the unemployment rate outcome.

Among predictors, 3 variables *Urban, EDU, LnPop* are excluded from the MLR because of probability of *F-to-remove* >= 0.100. Thus, the model includes 5 predictors *INF, GDP, TO, LnFDI, LnExchange* in which the coefficient R = 0.790 and R^2 = 0.625. This is the optimal MLR with the AIC (= - 60.55445) and BIC (= - 52.35067) having the smallest value and the Adjusted R^2 using Wherry's equation having the largest value in the models.

Table 3 – Model Summary[b]

				Change Statistics					
R	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**R Square Change**	**F Change**	**df1**	**df2**	**Sig. F Change**	**Durbin-Watson**
.790[a]	.625	.543	.32144	.625	7.661	5	23	.000	2.393

Table 4 – Coefficients[a]

	Unstandardized Coefficients		**Standardized Coefficients**			**95.0% Confidence Interval for B**	
	B	**Std. Error**	**Beta**	**t**	**Sig.**	**Lower Bound**	**Upper Bound**
(Constant)	50.949	11.208		4.546	.000	27.764	74.134
INF	-.020	.005	-.663	-3.995	.001	-.030	-.010
GDP	-.193	.071	-.496	-2.735	.012	-.339	-.047
TO	.029	.008	2.593	3.798	.001	.013	.044
LnFDI	-.406	.165	-.888	-2.459	.022	-.748	-.064
LnExchange	-4.952	1.209	-2.765	-4.096	.000	-7.452	-2.451

Source: Aggregate data, 2019

From the results of the regression analysis in Table 4, it is shown that the p-values are all less than 0.05, so b-coefficient are significant different from 0, in other words the predictors make a significant contribution to predicting the outcome Y as the OLS equation:

Y = 50.949 - 0.2 INF – 0.193 GDP + 0.29 TO – 0.406 LnFDI – 4.952 LnExchange

The beta coefficients show the impact of the variables on the unemployment rate are as follows:

INF *(The inflation*): β = -0.020 indicates that as INF increases by 1%, Unemployment rate decrease by 0.020%. This means that when the economy is highly inflationary, unemployment will be reduced.

GDP *(GDP growth rate*): β = -0.193 indicates that as the GDP growth rate increases by 1%, the Unemployment rate decreases by 0.193%, which means that when the economy achieves high growth, unemployment will be reduced.

TO *(Trade openness*): β = 0.29 indicates that as INF increases by 1%, the Unemployment rate increases by 0.29%, which means that the trend of opening trade increases the unemployment rate.

LnFDI *(Natural logarithm of the realized FDI)*: β = -0.406 indicates that as Natural logarithm of FDI increases by 1%, Unemployment rate decrease by 0.406%. This means that foreign direct investment contributes to reducing unemployment.

LnExchange *(Natural logarithm of the Exchange rate)*: β = -4.952 indicates that as natural logarithm of the VND/USD exchange rate increases by 1 unit, Unemployment rate decrease by 4.952%. In other words, the devaluation of the local currency can help a part of the unemployment rate improve in the economy provided other factors remain unchanged.

Discussion

In the authors' model of the impact of foreign direct investment (FDI) on the unemployment rate, R^2 = 77.85% shows that the factors included in the model affect the unemployment rate in Vietnam as expected, specifically:

The realized value of FDI has a negative impact on the unemployment rate, showing that the attraction and implementation of this FDI will make Vietnam's unemployment rate decrease significantly. In fact, when FDI projects are put into operation, they will create many jobs for workers and at the same time, create many opportunities for employees to exchange experience, management skills, to access machines, and scientific and technical equipment. This will make the quality of labor increasingly improve and it will be easier to find jobs suitable to their own capabilities.

Economic growth is negatively correlated with the unemployment rate. This shows that when the rate of economic growth (GDP) increases, unemployment will decrease. When the economy attains a high growth rate, the total national output increases, the income of the population increases, creating a physical premise to consolidate national security, strengthen the political regime, increase prestige and the management role of the state towards the society, especially creating conditions for jobs and reducing unemployment for workers.

Population is an important factor that directly affects the unemployment rate as a result of the authors' model. In fact, at present, the population is continuously increasing over the years, while the proportion of the working age population without a job is high. If Vietnam can create enough quality jobs to meet the expanding labor force, it can accelerate economic development and address gaps in the labor market. At the same time, the macroeconomic stability and strong labor market institutions will help create a better business environment, attract more investment and stimulate economic demand.

The openness of the economy in the authors' model, the trade openness (TO) does not affect the unemployment rate. In fact, however, in today's integrated economy, countries tend to open up trade, increase investment opportunities from other countries, and trade opening also increases job opportunities, labor rotation between regions, contributing to the balance of the labor market.

The average number of schooling years of employed people is negatively related to the unemployment rate. This clearly shows that the more time to study, the more professional workers will be trained from basic to complex levels. This makes it easier for workers to find jobs and be sensitive and sharper at work. At the same time, improving the education and training quality, and the quality of job service providers will help Vietnamese workers and job seekers meet the needs of industries and businesses and grabs new and better job opportunities.

The exchange rate is negatively correlated with the unemployment rate in the authors' model, i.e. a high exchange rate causes the unemployment rate to decrease. In the context of increasingly deep integration into the world economy, if a country's currency is stronger, its exports will be more expensive and imported goods will be cheaper and vice versa. While the high exchange rate is good for exports, in practice it's not entirely good for consumers and for the economy. A currency devaluation can lead to inflation, expenditures for state-financed agencies and organizations are also increased in proportion to the devaluation of the local currency, which will have a negative impact on factors that increase State budget deficit, thus adversely affecting the economic development of the country.

Limitations

It is difficult to control the accuracy of the data as the data is mainly secondary based on official data provided by the General Statistics Office, Foreign Investment Agency, and the Ministry of Planning and Investment, World Bank (World Bank), together with data in scientific reports and journals, which are not exactly accurate according to international practices.
In addition, the results of the research model are not entirely true, and some variables included in the model are not as significant (e.g. inflation, trade openness, urbanization rate) as the authors' expectations.

Suggested governance implications

Suggested governance implications for FDI attraction

Based on the research results, the authors propose a number of governance implications to increase FDI attraction as follows:
Firstly, train high quality human resources to meet the requirements of FDI enterprises in order to create conditions for enterprises, increase labor productivity, lower costs, improve product quality, and promote production, sales, service, and export.

Second, focus on perfecting the legal system and appropriate policy mechanisms, contributing to creating a favorable business environment to attract resources from all economic sectors in Vietnam and other countries, synchronously develop and manage effective management of all branches and fields.

Third, attracting FDI must be suitable to the conditions, development level and planning of each locality in the regional linkage, ensuring overall economic - social - environmental efficiency.

Fourth, reform and reduce the time to process the procedures, while simultaneously consider financial support for the initial work of FDI projects: Market analysis, project appraisal, ... Focus on directing and timely supporting projects in operation.

Fifth, strengthen control over import and technology transfer in investment cooperation. For hazardous technologies, there should be a ban list or category indicators to check.

Suggested governance implications for reducing the unemployment rate

When FDI investment increases, the number of projects invested for development and expansion increases, creating job opportunities for workers, thereby reducing the unemployment. Therefore, it is necessary to improve the quality of labor through focusing on the training of skills and professional knowledge for employees, thereby helping employees increase opportunities to find jobs. In addition, family planning policies should be implemented to limit the population explosion. The flexible exchange rate policy is an effective tool when Vietnam is an exporter, ensuring to maintain the trade balance at a trade surplus, contributing to the growth of total economic output and reducing unemployment. In the coming development phase, Vietnam government will have to make more efforts to increasingly improve the investment efficiency of foreign direct investment inflows into the country in creating more jobs for workers.

CONCLUSION

The research focuses on analyzing the impact of foreign investment FDI on the unemployment rate in Vietnam. One of the prominent contributions of FDI is the significant reduction in the unemployment rate, many newly invested and put into operation projects have created millions of jobs for workers. Labor structure by occupation has also shifted from more than 80% of workers in agriculture, up to now there has been an increase in the number of employees in the foreign invested economic sector in particular and in the whole industry in the general industry - service sector.

In addition to the FDI factor, the steady annual economic growth with the increasing trend also contributes to the balance between the total output and the production capacity of the society, thereby ensuring the creation of jobs. to meet the supply of labor. Along with education (in terms of average years of schooling) increasingly improved, workers' skills have been sharpened, labor productivity has been enhanced, thereby increasing job opportunities and reducing unemployment.

Although the unemployment rate tends to decrease, the number of unemployed workers is still quite high, and one of the reasons comes from population growth. The population is growing rapidly, while the population structure of our country is in a state of a young population, the labor force increases greatly each year, creating a large labor supply. In addition, the speed of urbanization takes place rapidly, the phenomenon of crowded land from these two factors increases the unemployment.

Based on that, the study proposes implied management solutions to increase FDI attraction and reduce the unemployment rate in Vietnam.

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