THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

Attracting Foreign Direct Investment and FDI's Impact on Economic Development in Vietnam

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Abstract:
Foreign direct investment (FDI) has played an important role in boosting Vietnam's economic growth with great contributions in terms of several aspects. Vietnam has recently signed in various international agreements and treaties related to global integration opening hopeful opportunities to attract FDI into Vietnam in the next period of time. However, attracting FDI also has faced several threats from both inside and outside environment. The relationship between Foreign Direct Investment and economic development also has been increasingly paid attention by both developed and developing countries. FDI is not only an important source of capital, complements domestic private investment, but FDI projects also have created more new job opportunities. This paper examines this issue by applying the bounds testing approach to cointegration for the period from 2010 to 2020 in Vietnam.

Keywords: FDI, economic development, attracting, impact

1. Introduction

Globalization has been taking place strongly, dominating all aspects of socio-economic life of most countries in the world. Each economic and political move of each nation may affect the overall situation of the world socio-economy and other countries. For instant, the world's foreign direct investment (FDI) flow has recently been changing. In early 2019, the United Nations Trade and Development Forum (UNCTAD) commented in the Foreign Investment Report that the Global FDI in 2018 reached US $ 1,300 billion, down 13% compared to 2017. An important cause of the decline in FDI is the fact that many American multinational companies have repatriated from abroad to enjoy the American Government's preferential tax policies. Additionally, some other developed countries also reduced investment abroad, so FDI of these countries dropped by 25% to 557 billion USD in 2018. On the other hand, FDI into developing countries increased by 2% in 2018, accounting for 54% of global investment capital, compared to 46% in 2017. Therefore, half of the world's top 20 FDI-attracting economies are developing and transforming ones.

Being a developing country located in Asia-Pacific area, attracting foreign direct investment (FDI) has always been a key part of Vietnam's external economic affairs. Vietnam already has many advantages and an increasingly strong investment environment. We are doing so by vigorously renovating the business and investment climate, and by recognizing that the FDI sector is an integral part of the economy – essential to restructuring the economy and raising national competitiveness. Therefores, the Vietnamese government is committed to continuously revitalizing a fair and attractive business environment for foreign investors, and constantly improving its legal framework and institutions related to business and investment.

According to the general statistics office of Vietnam, until 2018, the economy has attracted more than 26,600 FDI projects with total registered capital of US$334 billion over the past 30 years. Of the total pledged capital, US$184 billion has been disbursed. FDI enterprises currently account for a quarter of the country's total investments and over 70% of its export revenue [1]. In the last decade, Vietnam has participated in the field of investment liberalization by signing many new generation trade and investment agreements such as FTAs with Chile, Japan, Korea and ect. Especially, since *EU-Vietnam Free Trade Agreement (EVFTA)* was signed on June 30th 2019, it marked a milestones for Vietnam's exports, helping to diversify markets and export commodities, especially agricultural and aquatic products.

After Vietnam first entered the group of 20 leading FDI attracting countries in 2018, the disbursed FDI capital of Vietnam also exceeded the US$ 20 billion mark for the first time in 2019, while global FDI has been tending to decrease the speed of increase. FDI outflow has been positively changing to contribute in general development of Vietnam's socio-economy. In addition, the Industrial Revolution 4.0 can be seen obviously that lots of large Vietnamese companies have been finding the ways to automate production, reduce labour and increase productivity. Automation that may be even in the future, but unemployment because of low-skilled quality will definitely increase. Also, FDI attraction into Vietnam may decline if the cheap labour resource is continuously considered as a competitive advantage. It means that FDI has a significant role in economic development of Vietnam as remarkable opportunities to mark a milestone in industrialization and modernization period, but it always goes along with a lot of threats. The trade war between USA and China among the terrible period of Covid-19 epidemic worldwide have probarly affected on global FDI flow and on attrating opportunites of

Vietnam. Therefore, Vietnam government must have suitable strategies and policies for the next period to match national strengths with opportunities, to improve weaknesses and limit effectively threats's impact.

2. Literature Review

The Organisation for Economic Co-operation and Development –OECD (2009) wrote in Chapter 3 of OECD Benchmark Definition of Foreign Direct Investment that foreign direct investment is a category of cross-border investment in which an investor resident in one economy establishes a lasting interest in and a significant degree of influence over an enterprise resident in another economy. FDI is not only considered a key element in international economic integration because it creates stable and long-lasting links between economies but it is also an important channel for the transfer of technology between countries, promotes international trade through access to foreign markets.

Binuyo Babatunde Oloyede (2014) examined the effects of FDI on Agriculture sector in Nigeria in the period of 1981-2012. The results showed that FDI and Exchange rate have positive impact on Agricultural sector, while interest rate has negative impact. An important finding of this study is that FDI to Nigeria is majorly driven by natural resources, and that governments can play an important role in promoting and developing its natural resources to encourage more investments to Nigeria. Foreign investment can be effective if it is directed at improving and expanding managerial and labor skills. In other words, foreign direct investments into Nigeria will not on its own lead to sustainable economic growth except it is combined with the right structures and infrastructures that could facilitate fruitful results.

Judit Kozenkow (2015) supposed that foreign direct investment might be a company's physical investment into building a plant in another country, acquisition of a foreign firm or investment in a joint venture or strategic alliance with a foreign company in its local market. The author showed that global foreign investment flows have exceeded $1 trillion in the 21st century -- from $14 billion in the 1970s, according to the United Nations Conference on Trade and Development. These investments impact the host country and the home country of the investing business. Small businesses experience the effects of FDI by hosting foreign companies in their local markets or by investing internationally. From actual examples of FDI projects implemented by famour coporations, advantages and disadvantages of both FDI inflows and outflows were mentioned, then some recommendations of attracting and using the capital of FDI were also commented.

Tran Song Thuong (2018) compiled overall statistics of FDI in Vietnam from 1991 to 2017 to examine some issues raised in the situations of FDI. Low efficiency of investment compared to national competitivenesses, problems in technology transfer and limited range of manufacturing sectors of FDI projects were mentioned as big problems occuring in attracting FDI into Vietnam. After that, the author gave some solutions focusing on changing policies, choosing strengths to attract FDI and promoting FDI enterprises in manufacturing for export.

3. Methods of the study

This study almost uses secondary data sources. The author collected data about FDI flows into Vietnam from Statistical Yearbook by General Statistic Office, official website of General Statistic of Vietnam and Foreign Investment Department - Ministry of Planning and Investment in the period of 2010-2020. Besides, the author also refered data of FDI mentioned in some manuscripts published specialized magazines. After that, the author aggregated necessary statistics for this paper. After obtaining and integrating data, the author analyzed statistics by using graphs, tables and comparative method to make the study clear and lively. Besides, information technology softs such as Microsoft Excel, Paint,… and some computer tools were used to support the study.

The basic model of this study is based on endogenous growth theory where total production is a function of technology, capital, and labor. FDI is included in the model to represent the externalities and spill-over effects. The variables capital (domestic investment) and labor are major components in production function which determine the level of production. The control variable, trade openness will capture the externalities in relation to international trade and reduce the omitted variable bias.

Variable	Description	Time	Source of Data
GDP	Real GDP is used as a measure of both a national total output of goods and services and its total income	2010- 2020	General Statistic Office
FDI	Inflow of Foreign Direct Investment is used as an explanatory variable to explain the FDI - economic growth relationship	2010-2020	General Statistic Office
DI	Domestic Investment is investments by public and non-public sectors	2010-2020	General Statistic Office
TO	The variable trade openness is calculated taking the summation of exports and imports as a ratio to the GDP	2010-2020	General Statistic Office
LB	The labor force is used as a proxy for human capital. The total volume of the labor force is indicated by LB	2010-2020	General Statistic Office

Table 1: Description of Variables

The author applies ARDL Bound Test Approach to Cointegration to analyze the long run as well as short run relationship between selected variables. There are several relative advantages to the ARDL that make it more useful than others. Firstly, the ARDL allows for the integration of the variables regardless of their order and whether they are stationary

at I(0) or I(1). Secondly, the ARDL determines a dynamic unrestricted error correction model (UECM) through a linear transformation. The UECM integrates the short-run dynamics with the long-run equilibrium without losing any information over time. The unrestricted error correction model (UECM) of ARDL approach is used to examine the long run and short run relationship through the following setting:

$\Delta \ln GDP = \delta_0 + \delta_1 \ln GDP_{t-1} + \delta_2 \ln FDI_{t-1} + \delta_3 \ln DI_{t-1} + \delta 4 \ln TO_{t-1} + \delta 5 \ln LB_{t-1} + \sum_{i=1}^{q1} \alpha i \, \Delta \ln GDP_{t-i} + \sum_{i=1}^{q2} \beta i \, \Delta \ln FDI_{t-i} + \sum_{i=1}^{q3} \gamma i \, \Delta \ln DI_{t-i} + \sum_{i=1}^{q4} \mu i \, \Delta \ln TO_{t-I} + \sum_{i=1}^{q5} \tau i \, \Delta \ln LB_{t-i} + \varepsilon_t$

(GDP is Real GDP; FDI is Foreign Direct Investment; DI is Domestic Investment; TO is Trade openness; LB is The total volume of the labor force; Δ is the first difference operator).

In order to streamline the data, all variables were converted to natural logarithm. The use of natural logarithm mitigates correlations among the variables. It also helps in reducing heteroscedasticity as it compresses the scale in which variables are measured.

The first part of the equation (1) with $\delta 1$, $\delta 2$, $\delta 3$, $\delta 4$, $\delta 5$, refer to the long run coefficients and the second part with α, β, γ, μ, τ, ω, refer to the short run coefficients. To implement the Autoregressive Distribution Lag (ARDL) Bound Test Approach to Co-integration, two steps are involved.

First, for testing whether cointegration exists between share prices and the explanatory variables of the model, we test null hypothesis (H0) against alternative hypothesis (H1).

H0: $\delta 1 = \delta 2 = \delta 3 = \delta 4 = \delta 5 = 0$ H1: $\delta 1 \neq \delta 2 \neq \delta 3 \neq \delta 4 \neq \delta 5 \neq 0$

Null hypothesis (H0) shows that there is no cointegration between variables while alternative hypothesis (H1) illustrate that co-integration exists between variables.

Null hypothesis (H0) against alternative hypothesis (H1) is tested using ARDL bound test. ARDL bound approach to cointegration is a non-standard distribution without considering whether variables are integrated at I(0), I(1) or mix order of integration but no variable is integrated at I(2) or higher order. Pesaran et al. (2001) gave two set of critical values i.e., lower bound values and upper bound values. The set of lower bound values assumes that all variables are I(0) and other set of upper bound values assumes that all variables are I(1). These sets provide a band which covers all possible categories of the integrated variables into the I(0), I(1), even fractionally integrated or mix order of integrated. ARDL bound test is based on F- test. Wald test for determination of F-statistic value is used in the study. If the computed F-statistic value is greater than the critical value of upper bound, it rejects null hypothesis (H0) in favor of alternative hypothesis (H1), indicating that there is cointegration between the variables. If the computed F-statistic value is less than the critical value of lower bound, it rejects alternative hypothesis (H1) in favor of null hypothesis (H0), indicates that there is no cointegration exists between the variables. If the computed F-statistic is fall between the lower bound and upper bound, the result is inconclusive.

Second, after establishing the cointegration, an appropriate lag length of the variables is selected through Akaike Information Criteria (AIC), Schwarz Information Criterion (SIC), and Hannan-Quinn Criterion (HQ). After determination of appropriate lag length of the selected variables, the long run ARDL model for the stock price is estimated as follow:

$\ln GDP = \delta_0 + \delta_1 \ln GDP_{t-1} + \delta_2 \ln FDI_{t-1} + \delta_3 \ln DI_{t-1} + \delta_4 \ln TO_{t-1} + \delta_5 \ln LB_{t-1} + u_t$

The estimated residual series of the long-run model is known as error correction term (ECT). Next, the error correction model associated is estimated with one lagged ECT to obtain the short-run dynamic parameters. The error correction model is based on the re-parameterization of the estimated long-run ARDL model. The negative and significant coefficient obtained for one lagged ECT will establish the presence of cointegration and it also represents the adjustment speed of the disequilibria from the previous period's shock which converge back to the long run equilibrium in the current period.

4. Results and Discussion

According to the annual statistics of the General Statistics Office of Vietnam, there are approximately 18,339 FDI projects registered in Vietnam in the period of 2010-2020. The total registered investment capital in this whole period is more than USD293 billion while the total realized investment capital achieved USD144.8 billion. Yearly, FDI was estimated by around 24 percent in the total social investment capital.

Year	Number of newly granted FDI projects	Registered FDI capital (billion USD)	Realized FDI capital (billion USD)	Proportion of capital realization (%)	Proportion of FDI in total social investment capital (%)	Average scale of a FDI project (million USD)
2010	969	18.60	11.0	59.14	25.8	19.20
2011	1191	15.61	11.0	70.47	25.9	13.11
2012	1100	13.00	10.5	80.77	23.3	11.82
2013	1275	21.60	11.5	53.24	22.0	16.94
2014	1588	20.23	12.4	61.30	21.7	12.74
2015	2013	22.76	14.5	63.71	23.3	11.31
2016	2556	24.37	15.8	64.83	23.4	9.53
2017	2591	35.88	17.5	48.77	23.8	13.85
2018	3046	35.46	19.1	53.86	23.4	11.64
2019	3883	22.50	20.4	90.67	23.0	5.79
2020	2523	20.00	19.7	98.50	21.4	7.93
Total/Average	22735	250.01	163.4	67.75	23.36	12.17

Table 2: Statistics of FDI in Vietnam in period 2010-2020
Source: Calculated by Author Basing on Data Obtained from the General Statistic Office of Vietnam

The table shows that in the period of 2010-2015, annual registered FDI capital decreased due to the impact of global economic depression. In contrast, from 2015 to 2020, annual granted FDI capital rose with average growth rate of 13.12 percent per year. This increase of FDI capital into Vietnam might reflect recovering signals of global economy after a very long crisis. The registered FDI capital increased strongly in term of quantity year by year, but the realized FDI capital rose quite slowly by average 5.5 percent. In 2018, accompanied with general development of global economy and Asian – Pacific area, Vietnam's economy achieved remarkable results including records of FDI during last 10 years. The effect of Covid-19 epidemic caused the decrease of registered FDI capital attracted in 2019 down to USD22.50 billion (decreasing by 36,55 percent compared to 2018), but the realized one increased to USD 20.4 billion (estimated by 106.81 percenrt of 2018). Total FDI capital in Vietnam as of December 20, 2020, including newly registered capital, adjusted registered capital and value of capital contribution and share purchase of foreign investors reached 28.5 billion USD, down 25% compared to 2019. Realized FDI capital in 2020 is estimated at nearly 20 billion USD, down 2% from the previous year.
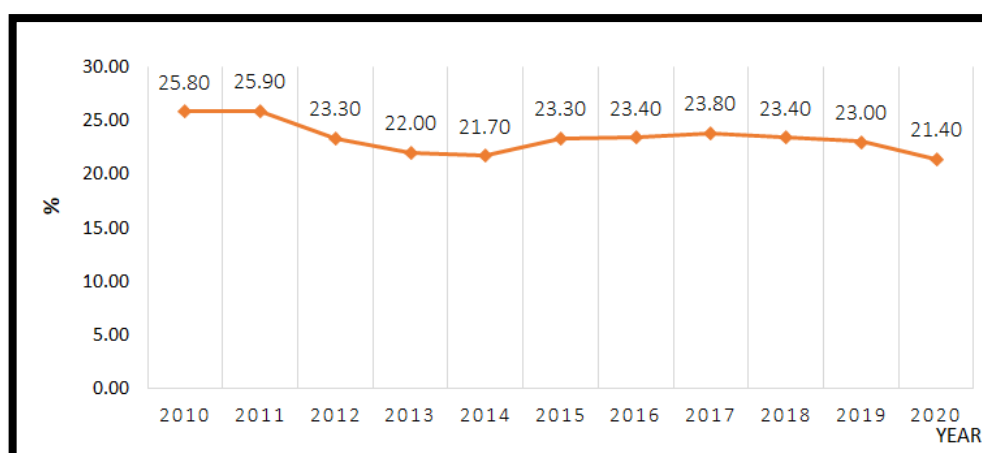

Figure 1: FDI's Contributions to Total Social Investment Capital in Period 2010-2020
Source: Calculated by Author Basing on Data Obtained from the General Statistic Office of Vietnam

FDI has been contributing to economic growth. More than US$182 billion worth of capital has entered Viet Nam in the past three decades of attracting FDI. Today, FDI sector has become an important part in Vietnam's economy with remarkable contributions to GDP. It has been considered as one of the most capital sources for general industrialization and modernization. From 1998 to 2007, average annual FDI gained 17.7 percent in total social investment capital, but it has grew up approximately 24.4 percent since 2008. Proportion of FDI sector in GDP has been increasing year by year. In 1992, it was 2 percent, and then it grew up 14.9 percent in 2005 and 26.4 percent in 2017. In addition, it is easy to see that FDI sector has increasingly contributed to rise revenue for the State budget, create more jobs and stabilize society. In the period of 1995-2000, FDI sector contributed USD 1.8 billion to the budget, 14.2 billion USD in the next ten years and 23.7 billion USD from 2011 to 2015. All of these statistics have strongly stated that FDI sector has an increasingly important role in the national economy of Vietnam..

Table 2 below exhibits the univariate analysis results of ADF unit root test for selected variables. It showed that only the variable log LDI is stationary on a level I(0). After running the same test taking the first difference, all the variables

became stationary except for labor. Hence, the unit root test confirmed that the variables are stationary on different levels I(0) and I(1). However, since LLB is I(2), it is droped from the model so that futher steps can be performed. It is worth noting that from the literature review, especially from the papers mentioned above, labor was not significantly effectGDP and FDI, therefore, it does not affect the model to exclude labor.

Variables	t-Statistic	Prob.*	Results
lnGDP	-3.349900	0.0823	Non-stationary
lnI	-4.747790	0.0008	Stationary
lnFDI	-2.486998	0.3311	Non-starionary
lnTO	-0.851097	0.7866	Non-starionary
lnLB	2.132905	1.0000	Non-starionary
D(lnGDP)	-5.390898	0.0002	Stationary
D(lnFDI)	-3.862214	0.0070	Stationary
D(lnTO)	-4.295069	0.0026	Stationary
D(lnLB)	-2.045729	0.5503	Non-starionary
D(D(lnLB))	-4.788685	0.0040	Stationary

Table 3: Stationarity Results of the Variables – ADF Test Statistics Results

Eviews software is used to run ARDL approach to co-integration and the test result of the model is shown in table 3. The appropriate lag is selected automatically based on Schwarz Criterion and the selected ARDL model is (1,0,0,1). The probability of F-statistics is less than 0.05 for the short-run model indicating its significance. Diagnostic tests such as serial correlation, normality test, and heteroscedasticity test were conducted to determine the validity of the data. The statistical value of heteroscedasticity is 0.625 and the probability level is 0.708 which is greater than 0.05.

Dependent Variable: LGDP				
Selected Model: ARDL(1, 0, 0, 1)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LGDP(-1)	0.361606	0.116871	3.094046	0.0057
LDI	0.145381	0.082370	1.764964	0.0928
LFDI	0.139250	0.033417	4.167004	0.0005
LTO	-0.332330	0.187504	-1.772390	0.0916
LTO(-1)	0.299218	0.165906	1.803543	0.0864
C	8.794464	2.119854	4.148619	0.0005
@TREND	0.042667	0.013847	3.081424	0.0059
R-squared	0.997732	Mean dependent var		24.68712
Adjusted R-squared	0.997052	S.D. dependent var		0.978237
S.E. of regression	0.053116	Akaike info criterion		-2.814245
Sum squared resid	0.056427	Schwarz criterion		-2.478287
Log likelihood	44.99230	Hannan-Quinn criter.		-2.714347
F-statistic	1466.445	Durbin-Watson stat		1.399706
Prob(F-statistic)	0.000000			

Table 4: ARDL Estimetion Results

Dependent Variable: D(LGDP)				
Method: Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.016048	0.026196	0.612598	0.5474
D(LGDP(-1))	0.404240	0.135971	2.972990	0.0078
D(LDI)	0.178965	0.120290	1.487786	0.1532
D(LFDI)	0.113751	0.038618	2.945565	0.0083
D(LTO)	-0.065284	0.155402	-0.420101	0.6791
D(LTO(-1))	0.463729	0.134504	3.447687	0.0027
ECM(-1)	-0.772478	0.245404	-3.147783	0.0053
R-squared	0.720142	Mean dependent var		0.121058
Adjusted R-squared	0.631766	S.D. dependent var		0.075028
S.E. of regression	0.045529	Akaike info criterion		-3.116152
Sum squared resid	0.039384	Schwarz criterion		-2.777434
Log likelihood	47.50998	Hannan-Quinn criter.		-3.018614
F-statistic	8.148614	Durbin-Watson stat		1.533212
Prob(F-statistic)	0.000188			

Table 5: Error Correction Representation for the Selected ARDL Model

5. Conclusion and Recommendations

After participating in new generation liberalization agreements, FDI projects into Vietnam has been increasing and developing in depth. Investment liberalization has opened many opportunities for Vietnam to attract more FDI, boost exporting goods and improve competitiveness in many fields of socio-economy. Also, international integration and FDI attraction have created conditions for Vietnamese enterprises have opportunities to access to modern technologies and more abundant and cheaper raw materials. The empirical results the study are associated with previous research which found a strong relationship between FDI and economic growth in Vietnam. Among the other selected variables, FDI is found as the main driver of economic growth in Vietnam. FDI is weakly and positively correlated with economic growth in the long run and short run. This is an indication of low productivity in domestic sector, and high productivity in FDI investments. Inshort run, GDP and trade openness in the previous period also act as positive indicators for economic growth. Therefore, Vietnam need to implement such suitable and flexible policies that the economy emphasizes its strengths to take advantages of opportunities and limits weaknesses to pass threats in the coming period.

6. Acknowledgement

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