The Relationship between Foreign Direct Investment, Trade and Economic Growth in Vietnam

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Abstract: Trade balance improvement and Foreign Direct Investment (FDI) encouragement to promote economic growth are the most crucial issues which the Vietnam government has paid much attention. The empirical analysis of relationships between FDI, trade and economic growth of Vietnam should be firstly done. Time-series data from 1990 to 2015 in Vietnam, and Vector Error Correction Model (VECM) are used to analyze the relationships both in the short and long term between FDI and trade and economic growth. The results show that survival in the long-term relationship between FDI, trade and economic growth in Vietnam. In addition, a causal relationship is existed between FDI and economic growth in Vietnam. At the same time, in the short term, FDI also impacts the economic growth of Vietnam.

Keywords: Vietnam, Economic growth, Foreign Direct Investment (FDI), Vector Error Correction Model (VECM).

1. INTRODUCTION

As known, the primary concern for policymakers is how to improve the trade balance and attract FDI to promote national economic growth because FDI brings many important benefits such as advanced scientific technology, expertise, advanced management level, etc.. Furthermore, FDI promotes the development of new industries especially for high technological demand. Therefore, FDI shows its significant effects on the economic growth of host countries (Balasubramanyam et al., 1996). Additionally, Blomström et al. (1994) suggest that the government should create the favorable investment environment to attract FDI, to increase employment and labor income in the country which lead to enhance the economic growth. In the world, FDI are normally made by multinational companies. Many studies show FDI has a positive and statistically significant effect to economic growth and in contrast, FDI also gains negative impacts on economic growth in the developing countries because of the creation of income inequality (Mansfield & Romeo, 1980; Saltz, 1992).

Furthermore, as an official member of the World Trade Organization (WTO) in 2007, ASEAN Economic Community (AEC) in 2015 and the Trans-Pacific Partnership (TPP) Agreement in 2016, Vietnam are strongly in the process of industrialization - modernization in the context of globalization. Therefore there are many the positive impact of this integration practices and commercial activities with other economies help boosting national economic growth.

To gain the deep understanding, these theories should be examined and this study focuses on analyzing the relationship between imports and exports, FDI and economic growth in Vietnam through time series data from 1990 to 2015. The variables to be tested is the total domestic product variables such as (GDP), labor (L), capital (K), net exports (NX) and FDI have been linked together. Therefore, identifying trends and impact pattern on the relationships among these variables will help the establishment of the development policy in Vietnam.

2. LITERATURE REVIEW

The impact of FDI on economic growth

In FDI literature, FDI and economic growth in general shows their positive relationships and few explanations on this matter have also been formulated. As in theory, economic growth encourages FDI inflow when it flows into consumer markets, or when growth leads to greater economies of scale and create the increase of the cost efficiency. On the other hand, FDI may affect to factors of economic growth such as capital stock, technology transfer, skill acquisition or market competition. Many empirical studies on FDI impacts are existed of which results show FDI stimulates economic growth through different channels. As a starting, the exogenous growth theory is used because it is often referred to as neoclassical growth model or Solow-Swan growth model by Solow (1957) in which the economic growth is generated through the exogenous factors of production functions such as accumulation of capital and labor.

\[ Y = AK^\beta L^{1-\beta} X^\gamma \]

Where Y, K, L, and A are the output of the economy, investment, labor and production efficiency. X is a vector of additional variables. The equation (1) is in logarithm, of the form:

\[ g_Y = g_A + g_g K + g_g L + g_g X \]
Where: \( g_Y, g_A, g_K, g_L, g_x \) are the growth rate of Y, A, K, L, X and \( \alpha, \beta, \gamma \) are output elasticity to investment, labor and other variables.

Solow (1957) argues that increasing in the amount of capital per worker results in productivity growth. In contrast, the marginal productivity of capital declines as capital per worker increases. Eventually, when the capital labor ratio reached a constant, the productivity growth ceases. In the long run equilibrium GDP, the capital and labor force all grow at the same exogenously determined rate. Barro et al. (1995) demonstrate a positive relationship exists between economic growth and capital accumulation over time. As in Exogenous growth theory, FDI increases the total capital in the host country and then promotes economic growth towards a new steady state by capital accumulation. Besides, FDI impacts on economic growth by affecting domestic investment (Herzer et al., 2008).

In the mid-1980s, they theory of exogenous growth has been determined to be inappropriate in explaining determinants of long-run growth (Barro et al. 1995). Therefore, endogenous growth theory, pioneered by Romer (1986), focuses on two factors: economic growth which is derived from human capital and technological change (De Jager, 2004). In endogenous growth theory, economic growth is determined by the introduction of new technological production process to the host country and also FDI is assumed to be more efficient than domestic investment. As the result, economic growth is enhanced by technology spillovers, labor mobility, skills training, management and organizational arrangements. Furthermore, foreign investors are able to increase the productivity of a country’s economy and FDI is considered as a catalyst for domestic investment and technological advance.

**The impact of trade on economic growth**

According to Marxist point of view (1867), the relationship between the two variables of trade and economic growth, are for the exchange and production in the final analysis. “The depth, breadth and the way of exchange are decided by the development and structure of production. ... We can see that all the elements of exchange are included in the production directly, or are decided by it” (Marx, 1867). Essentially, the exchange is decided by the production but the exchange as a stage of the exchange is not solely decided and can react to produce under certain conditions. Also, the counteractive of promoting or inhibiting is tremendous. As the result, production and exchange always affect each other. A very important revelation is contributed to many economists from this result.

Concerning to the relationship between trade and economic growth, mercantilists consider trade as the source of economic growth as a country which becomes richer by making another poorer. Classical economic theory overcomes this limitation. Adam Smith (1776), the father of classical political economy, argues foreign trade promotes economic growth in two ways. On the one hand, foreign trade improves the optimal distribution of resources and productivity consequently and then stimulates the economic growth. On the other hand, for the country, raw materials and equipments are gained without production and the material basis for economic development are provided. A country involved in the international division of labor through an absolute competitive advantage, but with other opinion, international trade based on comparative advantage can bring benefits and growth for all countries joining to the trade (Ricardo, 1817).

Similar to classical economic theory, the neoclassical economists argue, exports can bring income and higher consumption for a country but they go further. Heckscher (1919) and Ohlin (1933) point out the type of goods that can ensure a comparative advantage for those countries. For example, countries export commodities which have factors of production (capital and labor) as the dominant proportion of production costs, and they can own absolute advantages. Heckscher-Ohlin theory was verified by US data. Liontief (1953) discovers imports and import substitution of Americans have a 30 per cent higher level of capital intensity in comparison to the export commodities. The reason for the occurrence of “Liontief Paradox” is because Americans have high levels of human capital than other countries. Later, the dynamics of trade theory (also known as technology innovation theory) analyze the transition from static competitive advantage to dynamic competitive advantage. The developing countries should exploit the comparative advantage of abundant labor resources to accelerate capital accumulation and proceed to the comparative advantage of human capital and technology. According to “technology gap” theory by Posner (1961), developing countries can narrow the technology gap with the developed countries by purchasing patents, licenses and technology. Another version of this theory is the "Product life cycle" (Vernon, 1966) under which manufacturing industries undergo lifecycle with four stages - starting with designing new products in the developed economies and end by mass production in developing countries. “Flying geese paradigm” by Kaname (1962) shows building the leading science and technology countries transfer advanced technology to countries with lower levels of development. In addition, the impact of international trade to economic growth is supported by demand-side economics in the short term perspective. Accordingly, aggregate demand shifts
according to changes in exports will affect the output through the multiplier effect (Keynes, 1994).

Evidence and experiences from empirical studies

Solow (1957) is as the first contribution to the theoretical basis and the foundation for further studies. Under this neoclassical perspective, the author decomposes economic growth into the growth of input factors such as technology, capital, labor, FDI, combined with additional variables from estimated equations such as exports and imports. Following that study, many studies have developed the Solow model (1957). Findlay (1978) has developed the Solow model in which the growth rate of production efficiency is assumed as a function of FDI. Granger causality test and co-integration test is used by Chengxiang (1999) to test the hypothesis of "Chinese export-oriented economic growth" by the data of export and GDP in china from 1977 to 1998 and the result show a two-way causal relationship are remained between the two relations without their long-term and stability.

Oteng - Abayie et al. (2006) conducted in Ghana in the period 1969-2002. Solow model are also used and developed by adding FDI and TRP trade variables into the model. Dummy variable D model are added because this represents economic liberalization and reflect the trade regime in Ghana (receive a value of 1 for the period 1969 to 1972, 1983 to 2002 and value of 0 for the period 1973-1982). The model specification are:

\[ Y = AK^\alpha L^\beta FDI^\gamma TRP^\delta D^\phi + \varepsilon \] (2)

Where Y is the ratio of real GDP to the total investment; A, K, L, FDI are the total factor productivity, investment shock, labor shock, total foreign direct investment, the ratio of exports and imports to GDP. Equation (2) is in natural logarithm and has the form:

\[ \ln Y = \alpha \ln K + \beta \ln L + \gamma \ln FDI + \delta \ln TRP + \delta \ln D + \varepsilon_t \] (3)

Where: \( \alpha, \beta, \gamma, \delta \) are elasticity of Y with respect to K, L, FDI, TRP, D; c is a constant and \( \varepsilon_t \) is regression error. Equation (3) reflects the long-term relationship of output, investment, labor, foreign direct investment, trade and economic liberalization. The result indicates the impact of FDI on growth are negative and this is consistent with the ones from past studies. However, trade is found to have significant positive impact on growth.

Hsiao & Hsiao (2006) use time series data and panel data from 1986 to 2004 to examine the causal relationship (Granger) between GDP, exports and FDI of eight countries in East Asia and Southeast Asia (China, Korea, Taiwan, Hong Kong, Singapore, Malaysia, the Philippines and Thailand). The result shows the causal relationship is different upon countries and a universal rule is also not occurred. Then, three variable panel data for eight economies and using fixed effects method, random effects method, and causality (Granger) method are also built and the result shows FDI prevails one way direct impact to GDP and indirect impact through exports. In addition, evidence of a causal relationship are existing between exports and GDP.

Oteng - Abayie et al. (2006) uses the vector error correction model (VECM) to find evidence of the relationship between short-term and long-term variables in the model. The study results shows that the long term relationship between economic growth, employment growth, investment growth and trade exists of which imply in the long term, the labor, investment and trade growth rate and play the role of explaining economic growth. Also, in the short term, significant effect of investment and trade growth to economic growth are found statistically. However, both in the short and long term, evidence of the impact of FDI on economic growth in Ghana are not found.

Solomon (2011) studies the relationship between FDI and economic growth of those host countries. GMM method with panel data from 111 countries within and outside the OECD from 1981 to 2005 are used. The result states economic development, human resources and political environment in the host country impact on FDI inflows. At the same time, FDI level has significant influence on the economic growth of countries with low GDP per capita.

Roman & Padureanu (2012) propose a model for the relationship between FDI and GDP based on empirical evidence from Romania during the transition period. The neoclassical model and production function Cobb - Douglas are used to analyze the impact of FDI on economic growth of this country. As the result, FDI has a positive impact on GDP and fiscal policies of Romania. FDI is as a key component to solve the problem of capital deficit. The causal relationship between FDI and economic growth is a two-way relationship.

The most recent research is the study of Hsia (2014) implemented in Taiwan in the period of 1978-2009. The author also studies the impact of FDI, trade to economic growth in Taiwan on the basis of inheriting the Solow model (1957), Oteng - Abayie et al. (2006). Their model is as follows:

\[ Y = AK^\alpha L^\beta FDI^\gamma NX^\psi + \varepsilon \] (4)

Where Y, K, L, FDI, NX are GDP, total investment, total labor, total foreign direct investment and net export in Taiwan, respectively. Equation (4) is also in natural logarithm, as follows:

\[ \ln Y = c + \alpha \ln K + \beta \ln L + \gamma \ln FDI + \psi \ln NX + \varepsilon_t \]
Where: $\alpha, \beta, \gamma, \varphi$ are elasticity of Y with respect to K, L, FDI, NX; $c$ is a constant and $\varepsilon_t$ is regression error. Equation (3) reflects the long-term relationship between GDP, investment, employment, foreign direct investment, net exports.

Hsia (2014) also uses vector error correction (VECM) to examine evidence of relationships both in the short and long term between variables in the model. The study indicates there is a long-term relationship between FDI and economic growth of Taiwan. Granger causality test indicated that the relationship between FDI and economic growth is a one-way relationship from economic growth to FDI. Therefore, since Solow model (1957) was published to date, many studies have been done on the relationship between FDI, trade and economic growth and different models have been developed depending on the specific economic structure of each country. Also inheriting from those study results, in this study, the model developed by Hsia (2014) is used as following:

$$lnY = c + \alpha lnK + \beta lnL + \gamma lnFDI + \varphi lnNX + \varepsilon_t$$

Where, Y, K, L, FDI, NX are GDP, total investment, total labor, foreign direct investment and net export in Vietnam, respectively; c is a constant and $\varepsilon_t$ is regression error. $\alpha, \beta, \gamma, \varphi$ coefficients are expected to be positive, reflecting positive impact of these variables to economic growth in Vietnam. Equation (4) reflects long-term relationship between variables in the model.

3. RESEARCH METHOD

This research method inherits the one used in Oteng - Abayie et al (2006), Hsia (2014). Vector error correction model is used by the authors to identify both the short term and long-term relationship between economic growth, FDI and net exports in Vietnam. Vector error correction model is specified as follows:

$$\Delta y_t = \pi y_{t-1} + \tau_1 \Delta y_{t-1} + \tau_2 \Delta y_{t-2} + \ldots + \tau_{k-1} \Delta y_{t-(k-1)} + u_t$$

Where $y_t$ is the vector of Y, K, L, FDI, NX; $\pi$ is a nxn square matrix; $\tau_i$ is a nxn square matrix; $u_t$ is an error vector; k is the number of lags.

The variable Y represents economic growth, as measured by the natural logarithm of annual domestic product. K represents the total capital in the economy, as measured by the natural logarithm of total annual investment. The variable L represents the labor of the economy, as measured by the natural logarithm of the total working age every year. FDI represents foreign direct investment into the economy and it is measured by the natural logarithm of foreign direct investment. The variable NX represents trade, as measured by the natural logarithm of the absolute value of net exports.

This study uses data from various sources from 1990 to 2015 of which are the gross domestic product (GDP), the total investment, the annual total number of labor collected from the General Statistics Office (GSO), exports, imports and total FDI obtained from the World Bank (World Bank). Microsoft Excel is used to calculate and filter needed data, then, Eview 8.0 is used to analyze data and estimate the model.

Hypothesis tests and estimations used are as follows: (i) Test for stationary in time series data was conducted by unit root tests. (ii) Determine the order of integration to obtain a stationary time series data. (iii) Selecting the optimal number of lag in the model is based on AIC, HQ (Hannan-Quinn criteria), SC (or BIC), FPE (Final Prediction Error criterion) information criteria. (iv) Cointegrations test is based on the method proposed by Johansen (Johansen Cointegrations test) to determine whether there exists a long-term relationship between variables in the model. (v) Granger causality test was used to determine the impact direction of variables in the model. (vi) The determination of the relationship in the short term is based on the vector error correction model. Impulse response function was used later to identify the lag impact.

4. RESULTS AND DISCUSSIONS

Results

Descriptive statistics of the sample is presented in table 1.

<table>
<thead>
<tr>
<th></th>
<th>GDP</th>
<th>L</th>
<th>K</th>
<th>NX</th>
<th>FDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>67403,69</td>
<td>40,88038</td>
<td>23600,99</td>
<td>3880,858</td>
<td>5200,019</td>
</tr>
<tr>
<td>Max</td>
<td>198643,1</td>
<td>54,61000</td>
<td>136720,0</td>
<td>13525,43</td>
<td>12350,00</td>
</tr>
<tr>
<td>Min</td>
<td>6471,740</td>
<td>29,40000</td>
<td>813,2300</td>
<td>403,1400</td>
<td>328,8000</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>59422,97</td>
<td>8,035647</td>
<td>28080,51</td>
<td>3644,386</td>
<td>4279,430</td>
</tr>
<tr>
<td>Jarque-Bera statistics</td>
<td>4,084620</td>
<td>1,877590</td>
<td>101,3019</td>
<td>7,101315</td>
<td>3,653906</td>
</tr>
<tr>
<td>P-value</td>
<td>0,129729</td>
<td>0,391099</td>
<td>0,000000</td>
<td>0,028706</td>
<td>0,160903</td>
</tr>
</tbody>
</table>

Source: World Bank in the period of 1990-2015 calculated with EVIEW 8.0

Each time series needs to be a stationary process. Stationary test is conducted through Unit root test. The result shows that time series of LNGDP, LNL, LNK, LNNX, LNFDI are
integration process of order 1, which means that these series would be stationary after taking first differences. Then, authors proceed to select the optimal number of lags. As known, there are many methods to select the optimal number of lags. In this study, the lag Order Selection Criteria is represented to search for appropriate lags. Results are presented in table 2.

Table 2: The optimal number of lags

<table>
<thead>
<tr>
<th>Lag</th>
<th>LogL</th>
<th>LR</th>
<th>FPE</th>
<th>AIC</th>
<th>SC</th>
<th>HQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>24,40705</td>
<td>NA</td>
<td>1.37e-07</td>
<td>-1.617254</td>
<td>-1.371826</td>
<td>-1.552142</td>
</tr>
<tr>
<td>1</td>
<td>139,3704</td>
<td>172,4451*</td>
<td>8.00e-11</td>
<td>-9.114202</td>
<td>-7.641635*</td>
<td>-8.723530</td>
</tr>
<tr>
<td>2</td>
<td>168,6835</td>
<td>31,75586</td>
<td>7.65e-11*</td>
<td>-9.473628*</td>
<td>-6.773921</td>
<td>-8.757395*</td>
</tr>
</tbody>
</table>

Source: World Bank in the period of 1990-2015 calculated with EVIEW 8.0

According to results, there are three criteria suggesting 2 lags of which is in the final prediction error (FPE); Akaike information criterion (AIC); information criteria Hannan-Quinn (HQ). Therefore, 2 lags is selected to estimate the VECM model. After determining the two optimal number of lags, the existence of the long term equilibrium relationship are done between variables in the model and as a final, cointegration tests proposed by Johansen are applied.

Table 3: Cointegration test results

<table>
<thead>
<tr>
<th>Null Hypothesis H0</th>
<th>Eigenvalue</th>
<th>Trace statistics</th>
<th>Critical values (5% level)</th>
<th>P_value</th>
</tr>
</thead>
<tbody>
<tr>
<td>None *</td>
<td>0.926565</td>
<td>60,06125</td>
<td>33,87687</td>
<td>0,0000</td>
</tr>
<tr>
<td>At most 1</td>
<td>0.668673</td>
<td>25,40693</td>
<td>27,58434</td>
<td>0,0926</td>
</tr>
<tr>
<td>At most 2</td>
<td>0.591954</td>
<td>20,61665</td>
<td>21,13162</td>
<td>0,0589</td>
</tr>
<tr>
<td>At most 3</td>
<td>0.399941</td>
<td>11,74673</td>
<td>14,26460</td>
<td>0,1205</td>
</tr>
<tr>
<td>At most 4</td>
<td>0.005445</td>
<td>0,125567</td>
<td>3,841466</td>
<td>0,7231</td>
</tr>
</tbody>
</table>

Source: World Bank in the period of 1990-2015 calculated with EVIEW 8.0

P-value in Table 3 shows that a cointegration relationship exists between variables in the model at a significance level of 5 percent. Therefore, there is evidence of the existence of a long term equilibrium relationship between variables in the model. Given that the optimal number of lags is 2, the causal relationship test is also conducted between FDI and economic growth with the following results:

Table 4: Granger test

<table>
<thead>
<tr>
<th>Null hypothesis H0</th>
<th>Number of observations</th>
<th>F-statistics</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNGDP does not impact LNFDI</td>
<td>24</td>
<td>6.62667</td>
<td>0.0066</td>
</tr>
<tr>
<td>LNFDI does not impact LNGDP</td>
<td>15.7439</td>
<td>0.0000</td>
<td></td>
</tr>
<tr>
<td>LNNX does not impact LNFDI</td>
<td>24</td>
<td>0.10286</td>
<td>0.9028</td>
</tr>
<tr>
<td>LNFDI does not impact LNNX</td>
<td>3,31482</td>
<td>0.0582</td>
<td></td>
</tr>
<tr>
<td>LNNX does not impact LNGDP</td>
<td>24</td>
<td>0.79880</td>
<td>0.4644</td>
</tr>
<tr>
<td>LNGDP does not impact LNNX</td>
<td>1,24737</td>
<td>0.3097</td>
<td></td>
</tr>
</tbody>
</table>

Source: World Bank in the period of 1990-2015 calculated with EVIEW 8.0

Granger test results show FDI and economic growth has a causal relationship in the model. However, there is not existing a causal relationship between net export and economic growth.
\[ \Delta \text{LNGDR}_t = -0.8728(\text{LNGDR}_{t-1} - 0.2496\text{LNFDI}_{t-1} + 0.0668\text{LNX}_{t-1} - 0.2096\text{LNK}_{t-1} - 2.7096\text{LNL}_{t-1} + 2.7894) + 0.5999\Delta \text{LNGDR}_{t-1} + 0.2117\Delta \text{LNGDR}_{t-2} + 0.0192\Delta \text{LNFDI}_{t-1} - 0.153\Delta \text{LNFDI}_{t-2} + 0.0224\Delta \text{LNX}_{t-1} + 0.0045\Delta \text{LNX}_{t-2} + 0.0268\Delta \text{LNK}_{t-1} - 0.0856\Delta \text{LNK}_{t-2} - 3.6319\Delta \text{LNK}_{t-2} - 3.6058\Delta \text{LNK}_{t-3} + 0.2302 + \epsilon_t \]

Stability test for VECM model demonstrates that most of the roots are inside the unit circle. Therefore, this model is highly stable.

Figure 1: Stability test of VECM model
Inverse Roots of AR Characteristic Polynomial

Source: by authors

The authors continues to consider the response of economic growth on FDI and net export shocks through the impulse response function is shown in Figure 2.

Figure 2: Impulse Response function

5. CONCLUSIONS AND RECOMMENDATIONS (IMPLICATIONS)

Conclusions
The results of VECM model shows that the coefficient of the integrated equation is negative at -0.872751 and statistically significant at 10%. Therefore, in the long term, there exists a equilibrium relationship between FDI, labor, investment, net exports and economic growth in Vietnam and this also implies that in the long term, FDI and net exports affect economic growth in Vietnam. Specifically, when FDI increases by 1%, economic growth rises by 0.24%. At the same time when net imports rises by 1%, economic growth increases by 0.07%. Also when investment grows by 1%, economic growth increases by 0.21%. When the number of labor grows by 1%, economic growth rises by 2.71%. In addition, the results of
Granger causality test shows the feedback effect of economic growth to Vietnam's FDI attraction. Regression coefficients of the integrated equation has a value of -0.872751, reflecting that there is 87.28% of variation in economic growth adjusted in the following year.

To check the existence of short term impact of FDI, net exports to economic growth, authors examine the statistical significance of the regression coefficients corresponding to the variables representing FDI and net export in the estimated VECM model. Regression coefficients of variable D (LNFDI (-2)) has a value of -0.152952 and is statistically significant at 5% level. This means in short term, FDI also affects economic growth in Vietnam. The negative regression coefficient illustrates that, in short term, FDI has a negative impact on economic growth. This can be explained why FDI flows can increase inflation and widen income gap between economic sectors, resulting in a negative impact on economic growth. Regression coefficient corresponding with variables representing net export is not statistically significant, which means that in short term, net exports does not affect economic growth.

Impulse response function demonstrates that an increase in FDI has no immediate impact on economic growth, but only occurs after one year and last for three years thereafter. Similarly, an increase shock in net exports does not immediately lead to an increase in economic growth, but only occurs after a year and last for the next five years. Furthermore, a shock in economic growth does not affect FDI immediately, but only occurs after a year and lasts for the next year.

As a consequence, the research results show that in the long term, FDI and net export have an impact on economic growth in Vietnam. This result is consistent with the findings of Hsia Sung - Ming (2014). Their research indicates that the long term relationship between FDI and economic growth in Taiwan exists. More of that, the research results for the case of Vietnam shows a causal relationship between FDI and economic growth, but in a study by Hsia (2014), this is a one-way relationship from economic growth to FDI. This result shows that, in Vietnam, FDI inflows has contributed to the construction of infrastructure, modern technology, management experience, employment increase, labor income in the country and thereby enhancing economic growth.

**Recommendations and implications**

The study results illustrate the influence of FDI to economic growth in Vietnam in both short term and long term. In the longer term, FDI increased by 1 percent, economic growth also increase by 0.24 percent. Conversely, in the short term, the FDI increase negatively affects economic growth. Therefore, the government should develop policies to attract a rational and efficient use of FDI to promote economic growth in Vietnam. The first is to attract high-tech FDI projects from multinational companies and restrict projects as mining and real estate or projects which cause environmental pollution. This should be done because it will invest in and develop supporting industries. The second is for the encouragement of further development of joint ventures between domestic enterprises and foreign ones to promote technology transfer and it is required that domestic enterprises need to promote innovation and investment, improve corporate governance, the quality of human resources and the level of technology enough to absorb technology transfer. The third is the improvement of the management efficiency of the government for FDI such as the balance and harmony development of the economy, simplified investment procedures, transparency of procedures, and the integration of information technology to reduce time for investment procedures, etc.

Moreover, research results show long-term impact of trade on economic growth in Vietnam. In the long term, net exports increase by 1% and economic growth also increase by 0.07%. Therefore, the government should develop policies to support exports to promote economic growth of Vietnam. The first is to be proactive economic integration with the region and the world to take advantage of these favorable conditions such as low-tariff barriers, conclusion of multilateral and bilateral agreements with other countries in WTO on strengthening support in the fields of science, technology, increasing production capacity in order to facilitates support for Vietnamese enterprises. The second is to raise awareness of the trade promotion centers on the need such as a medium and long term economic development strategy for the national and the local levels. The third is for methods to support businesses’ promotion and exports.

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