

Determinants of Inward Foreign Direct Investment in Vietnam

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I . Introduction

In recent years, the empirical analyses of the relationship between Foreign Direct Investment (FDI) and its determinants have received considerable attention in response to the dynamics of the investment climate (Asiedu 2002, 107; Bakar and Sern 2005, 14; Kariuki 2015, 346). A good understanding of the determinants of FDI in an economy by examining the behavior of the investment function is significant for the formulation and implementation of an effective investment policy; with general agreement that FDI can promote technology spillovers, assist human capital formation, contribute to international trade integration, create a more competitive business environment and strengthen enterprise development. All of these contribute to higher economic growth, which is an important tool for reducing poverty and providing the platform for sustainable development in developing economies (Thaddeus and Yadirichukwu 2013, 41; Brima 2015, 123).

Vietnam has been reasonably successful in attracting FDI since the introduction of the reform policy known as Doi Moi in 1986. In 1987, the first Law on Foreign Investment was passed as the framework for the business activities of foreign investors in Vietnam. This law has been amended four times since then, and the newest law was promulgated in 2006. These adjustments are towards a more comfortable and reasonable environment for both domestic and foreign firms operating in Vietnam. According to the General Statistics Office of Vietnam (GSO), from 1988 to the end of 2014, total FDI inflows to Vietnam were approximately US\$ 291 billion in terms of commitments, while the implementation capital inflows were US\$ 124 billion. During this period, inward FDI to Vietnam has played a very important role, not only in providing investment capital but also in promoting export activities as well as introducing new labor and management skills, transferring technologies and creating job

opportunities.

The objective of this study is to examine the main determinants of FDI inflows to Vietnam by applying the time-series regression technique. It differs from existing studies in the following aspects. First, it employs a more updated and reliable dataset on inward FDI and relevant variables from 1990 to 2013 in Vietnam. Second, along with the traditional determinants, the study adds to the literature by specifically investigating the relationship between FDI and its other crucial determinants such as interest rate, exchange rate, external debt, etc.

The remainder of the paper is organized as follows. Section 2 gives an overview of inward FDI in Vietnam in terms of trend, sector, region and countries of origin. Section 3 reviews the literature on the key determinants of FDI inflows to the host country. Section 4 discusses the research methodology and data used in the regression analysis. The empirical results are presented in section 5. Finally, section 6 draws the conclusion and proposes policies and issues for future research.

II . Overview of FDI in Vietnam

As late for FDI compared to other countries in the region, FDI in Vietnam has a relatively short history of development. After enduring long economic instability, Vietnam embarked on a path of reform, known as “Doi Moi” shifting its economy in the direction of capitalism towards a market economy following the passage of the first Law on Foreign Direct Investment in 1987. Throughout the twenty-eight years since then, Vietnam has attracted a substantial and growing amount of FDI. However, the increasing trend has not been consistent. As shown in Figure 1, from 1990 to 1996, total new FDI commitments increased by double-digit growth rates annually. Nevertheless, there has been a decline since 1997 due to considerable negative impacts of the Asian financial crisis in 1997. However, the FDI inflows began to rise again as countries in the region recovered from the crisis, and the United States-Vietnam Bilateral Trade Agreement was signed in 2001. Specifically, the situation has changed much since Vietnam became an official member of the WTO at the beginning of 2007. According to the General Statistics Office of Vietnam (GSO), in 2008 FDI inflows into Vietnam achieved a record high of \$71.7 billion of registered capital after

twenty years of issuing the first Law on Foreign Direct Investment. However, during the period 2009-2014, the registered FDI decreased rapidly because of the global financial and economic crisis.



Source: Statistical Yearbook of Vietnam, 2014.

Table 1: FDI inflows into Vietnam by sector, 1988-2014

Sector	FDI inflows by sector (%)
Manufacturing	55.95
Real estate activities	19.10
Construction	4.51
Accommodation and Food service activities	4.43
Electricity, gas, steam and air conditioning supply	3.87
Information and communication	1.63
Wholesale and retail trade; repair of motor vehicles and motorcycles	1.59
Transportation and storage	1.49
Agriculture, Forestry and Fishing	1.47
Arts, entertainment and recreation	1.44
Mining and quarrying	1.34
Professional, scientific and technical activities	0.71
Human health and social work activities	0.69
Water supply, sewerage, waste management and remediation activities	0.53
Financial, banking and insurance activities	0.53
Education and training	0.32
Administrative and support service activities	0.08
Other service activities	0.30

Source: Statistical Yearbook of Vietnam, 2014.

As shown in Table 1, there is an uneven distribution of FDI in the industrial sector related to the number of investment projects and the amount of registered capital in the period 1988-2014. In terms of the industrial sector, over 54% of the number of projects and 56% of registered capital were invested in manufacturing, around 40% to service and the rest to agriculture. Within the manufacturing, during the early part of 1990s, the majority of FDI was in oil and mining sector, but recently, light and heavy industries have dominated the field. In addition, the share of FDI in agriculture now is increasing compared with that in the 1990s. In the service sector, the real estate activities accounted for the largest proportion, making up more than 19% of total registered FDI. A different point is that in the early history of the FDI in Vietnam, in the service sector, there was no investment in construction of industrial zones, offices and apartments, but now these fields are started attracting significant portion of FDI inflows.

Table 2 presents the top 10 countries of origin of FDI inflows into Vietnam during 1988-2014. The inward FDI in Vietnam is dominated by regional investors, accounting for over 70% of the total number of investment projects, registered capital and implemented capital. The top five investors were South Korea, Japan, Singapore, Taiwan, and British Virgin Islands. Although the United States is a late comer to Vietnam, the inward investment inflow has increased significantly since 2001, after the conclusion of the Bilateral Trade Agreement, and now it is in the seventh position of investment ranking. The investments from European countries remained small, accounting for about 14% of the number of projects, 19% of the registered capital and 20% of the implemented capital.

In terms of regional distribution of FDI inflows, during the period 1988-2014, all sixty three provinces in Vietnam received FDI. However, the distributions of FDI across provinces are very much uneven. As shown in Figure 2, the South East region (covering Ho Chi Minh City and its surrounding provinces) accounted for the largest share of FDI, making up more than 54% of the number of projects and 43% of registered capital. In the North, Hanoi and neighboring provinces were the second destinations of FDI inflows, accounting for about 30% of the number of investment projects and 25% of registered capital. By contrast, the Central Highlands attracted less than 1% of the FDI inflows. Specifically, Ho Chi Minh City received over US\$38 billion in FDI

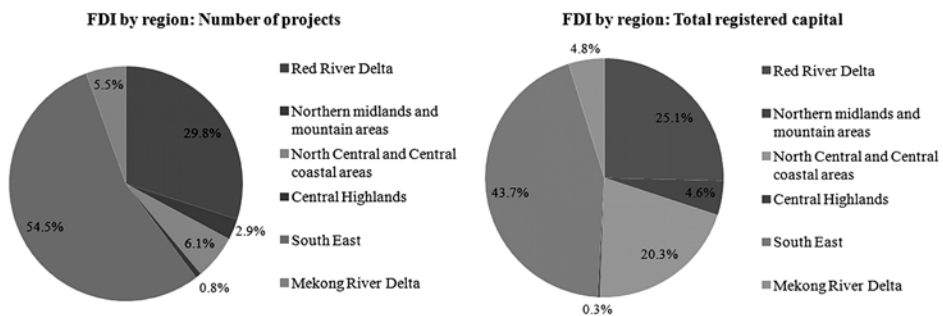
in the period from 1988-2014, while Thai Nguyen province, the tenth largest destination for FDI, received just over US\$6.9 billion. Conversely, the smallest 10 provinces in terms of FDI inflows jointly accounted for only US\$526 million during the same period.

Table 2: Top 10 countries of origin of FDI inflows into Vietnam, 1988-2014

Country of origin	FDI inflows by country of origin (%)
South Korea	14.93
Japan	14.77
Singapore	13.03
Taiwan	11.27
British Virgin Islands	7.12
Hong Kong	6.17
United States	4.35
Malaysia	4.28
China	3.16
Thailand	2.67

Source: Statistical Yearbook of Vietnam, 2014.

Figure 2: FDI inflows into Vietnam by region, 1988-2014



Source: Statistical Yearbook of Vietnam, 2014.

III . Literature review

It is argued that the attractiveness and absorptive capacity of FDI by the host country depend on various factors. According to UNCTAD (1998), foreign investors who aim at exploring new markets would examine the market development, access to the international trade from host country as well as the market structure of host country before investing in any country. In addition, the resource-seeking FDI would be determined by cost of raw material, labor cost and availability of skilled worker, infrastructure development, etc. whereas the efficiency-seeking FDI is driven by creating innovative or new bases of competitiveness for businesses.

In the following headlines, some of the main determinants and their impacts on inward FDI will be discussed in the light of earlier studies.

3.1. Market growth

The growth rate of an economy or the absolute annual changes of GDP may be used to measure the market growth. The more output growth indicates the more possible investment induced (Thaddeus and Yadirichukwu 2013, 43). It is obvious that a well-functioning economy gives the investors higher profitable prospects and capabilities of the market. Thus, larger markets should be favorable for capturing the potential benefits of economies of scale (Ledin and Strömberg 2012, 5). The importance of output growth has been confirmed in many previous empirical studies (Nunnenkamp 2002, 17; Arbatli 2011, 10; Alavinasab 2013, 43). Therefore, GDP growth should be considered a key element in attracting FDI inflows, even though it is not the only factor affecting FDI.

3.2. Market size

The market size which is one of the most important determinants of FDI is often measured by GDP per capita. Various empirical studies have shown that an increase in GDP per capita is associated with increasing inward FDI into host economies (Mukhtar et al. 2014, 29; Erdogan and Unver 2015, 85; Voka and Dauti 2015, 37). Rising income levels are an indicator for the expansion in the market size and purchasing power (Zenasni and Benhabib 2013, 303). The general implication is that host countries with higher GDP per capita will

provide more and better chances for the industries to exploit their ownership advantages and thus, will attract more FDI, particularly for those FDI inflows that are market-seeking.

3.3. Trade openness

Trade openness refers to the degree to which countries or economies permit or have trade with other countries or economies. It is generally measured by the ratio of imports and exports to the GDP. Jordaan (2004) states that trade openness may have a different impact on the inflows of different types of FDI. When investments are market-seeking, trade restrictions (and thus less openness) can have a positive effect on FDI. The reason derives from the “tariff jumping” hypothesis, which argues that foreign enterprises that seek to serve local market may decide to establish subsidiaries in the host country if it is difficult to export their products to the country. In contrast, FDI firms engaged in export-oriented investments may prefer to locate in a more open economy since the increased imperfections that associate with trade protection generally lead to higher transaction costs related to exporting. Liargovas and Skandalis (2012), Chawla and Rohra (2015), Kariuki (2015), Ngendakumana and Kaseke (2015) reveal trade openness is one of the key factors that have strong positive impact on FDI inflows whereas Schmitz and Bieri (1972) obtained a weak positive relationship.

3.4. Interest rate

Interest rate is considered as the cost of capital when foreign firms want to use the financial resources in the host country; this is the entry cost of production activities and businesses (Hoang and Bui 2015, 216). Local borrowings in the host country might be enhanced when interest rates are likely lower than those in the home country or elsewhere. Thus, interest rate is also an important element of FDI inflows. Çevis and Çamurdan (2007) found that FDI is related positively with interest rates in developing countries and transition economies. Payaslioglu and Polat (2013) by using monthly time-series data for the period from 2004-2012 in Turkey also revealed that interest rate has positive and significant effect on FDI inflows. Conversely, Hoang and Bui (2015) investigate that the real interest rate has a significant negative relationship with FDI inflows in ASEAN countries over the period from 1991 to

2009. The rise in real interest rates encourages capital cost to increase, it also indicates that the financial risks exist; therefore it will limit FDI inflows to the region.

3.5. Inflation rate

Representing the changes in the general price level, inflation is considered as a proxy of the macroeconomic stability. The higher the rate; the less favorable the economic climate for investments since more time, money and efforts are needed by foreign investors to adapt to the increasing price level (Lo et al. 2013, 41). Markets with a volatile and unpredictable inflation rate will create uncertainty in setting the price and profitability rate to market-seeking FDI firms and therefore, discourage their activities (Kamal et al. 2014, 258). By its influence on local currency devaluation, high inflation rate diminishes the real return on investment. Consequently, a low and predictable inflation rate is expected to stimulate the FDI flows into the host country and vice versa.

3.6. Infrastructure

Infrastructure consists of many dimensions ranging from roads, railways, ports, electricity and water supplies, and telecommunication systems to institutional development such as accounting, legal services, etc. According to Marr (1997), poor infrastructure may be seen as both an obstacle and a chance for FDI firms. It is generally considered as one of the main constraints for most low-income economies. However, foreign investors also recognize the potential for attracting FDI inflows if local governments allow more significant foreign participation in the infrastructure sector. Moreover, Alavinasab (2013) stated that well-developed infrastructure improves the capabilities of domestic industries, promotes the inter section relationship in the economy and supports to generate the conditions for effective distribution of goods and services. The previous studies of Sahoo (2006), Kamal et al. (2014), Sfar (2015) and Ahmad, Ismail and Nordin (2015) also reveal that countries with good infrastructure facilities attract more foreign investments; and thus have positive effects on inward FDI. According to Asiedu (2002), the number of telephone lines per 1,000 inhabitants is a standard measurement in the literature for infrastructure. Considering the availability of public data in Vietnam for a long period of time required by our study, this variable is also selected as a proxy for the

development of infrastructure.

3.7. Exchange rate

There are various ways the exchange rate can impact on the inward FDI. When exchange rate increases in terms of host country currency as compared with home country currency, it results in devaluation of host country currency. As host country currency depreciates, the purchasing power of the foreign investors in local currency is enhanced, and therefore, it encourages FDI firms to invest in host country's assets (Mukhtar et al. 2014, 30). Moreover, Culem (1998) suggests that exchange rate affects relative labor cost. A decline in host country currency allows home country investors to hire more labor for a certain amount of home country currency. As a result, there is a significant increase of FDI flows into the host country.

3.8. Government expenditure

Edwards (1990) and Ancharaz (2002) found that government consumption has a negative impact on the FDI inflows to host economy. The reason for this negative relation is that a large size of the government spending can create opportunities for misuse of funds by government officials. In addition, big government may crowd out the private investment (including FDI) in important sectors of the economy. It also generates a complex bureaucratic structure that makes the investment environment unattractive to inward FDI and raises the possibility of passage of higher tax rates in the future (Onyeiwu 2003, 7; Filipovic 2005, 21). By contrast, Goodspeed et al. (2007) and Samargandi et al. (2015) state that government spending may crowd in the private investment since a higher level of government expenditure should translate into provision of more public goods, especially in education, health care and infrastructure that should encourage production and growth.

3.9. Human capital

Foreign investors are concerned about the quality of the labor force in addition to its cost. A more educated workforce can handle machines and new technologies faster and more efficiently, and is therefore generally more productive (Sichei and Kinyondo 2012, 6; Hoang and Bui 2015, 216). Noorbakhsh, Paloni and Youssef (2001), and Sfar (2015) reveal that human capital is a

statistically significant determinant of FDI inflows into the host country. Therefore, higher level of human resource is a good indicator of the availability of skilled labors, which tends to promote the locational advantages of a country as well as ensures higher returns on investments. According to O'Meara (2015), the number of individuals who have attained secondary-level education is used as a proxy for human capital.

3.10. External debt

The level of external debt indicates the net external assistance to host country in the form of loans. Khan and Hassan (2013) suggested that external debt has a negative effect on the inward FDI in Malaysia over the period 1980-2010. In addition, Chopra (2003) stated that the level of external indebtedness shows the burden of repayment and debt servicing to the economy, which makes the country less attractive to foreign investors.

IV . Data description and methodology

In this study, we employ a multiple regression model to estimate the relationship between inward FDI and its potential determinants in Vietnam. Annual time-series data ranging from 1990 to 2013 were collected for various variables that have been discussed in the literature review section such as FDI, GDP growth rate, GDP per capita, trade openness, interest rate, inflation rate, etc. The data were obtained from General Statistics Office of Vietnam and World Development Indicators published by the World Bank for Vietnam. In line with previous studies (Wafure and Nurudeen 2010, 27; Rasheed et al. 2012, 204; Thaddeus and Yadirichukwu 2013, 44; Brima 2015, 127) that have identified the role of key factors in explaining the behavior of FDI inflows to host country, the model for this study is specified as follows:

$$Ln(FDI_t) = \beta_0 + \beta_1 Ln(GGR_t) + \beta_2 Ln(GPC_t) + \beta_3 Ln(TO_t) + \beta_4 Ln(INT_t) + \beta_5 Ln(INFr_t) + \beta_6 Ln(TEL_t) + \beta_7 Ln(EXC_t) + \beta_8 Ln(GC_t) + \beta_9 Ln(SEC_t) + \beta_{10} Ln(DEB_t) + \mu t$$

Where $\beta_1, \beta_2, \dots, \beta_{10}$ are coefficients of elasticities; Ln represents the natural logarithm of variables; and μ is the error term,

FDI = Foreign Direct Investment inflows in Vietnam in terms of registered capital

GGR = GDP growth rate

GPC	= GDP per capita
TO	= Trade openness (sum of Exports and Imports as a percentage of GDP)
INT	= Interest rate
INF	= Inflation rate
TEL	= Telephone lines (per 1,000 people)
EXC	= Exchange rate
GC	= Government consumption (as a percentage of GDP)
SEC	= Secondary education, general pupils (as a share of Population)
DEB	= External Debt

The use of log-linear specification to estimate the coefficients of variables has several reasons. First, the relationship between these different variables is not linear. Second, in the case of log model, the value of coefficients could be interpreted in terms of percentage or elasticity rather than unit. Moreover, we expect that FDI has positive relation with host country's market size, market growth, openness of the economy to international trade, infrastructural development, and human capital while FDI is expected to have negative relationship with interest rate, inflation rate, exchange rate, government spending, and external debt.

Regarding the methods of estimation for time-series data, the unit root test is firstly applied to examine the stationarity condition of the variables (Thaddeus and Yadirichukwu 2013, 44). Second, once the stationarity properties of the individual series are established, linear combinations of the integrated series are tested for cointegration. The cointegrated relationship between variables, in general, is interpreted as their long-run equilibrium. To conduct the cointegrating test, this study employs the Johansen cointegration methodology.

V . Empirical results

5.1. Unit root test

To avoid the problem of spurious regression, we need to examine the properties of stationarity for each series. In this study, unit root test would be applied to test for the stationarity of each variable. Since the original unit root test of Dickey-Fuller (DF) test has the weakness of presence of autocorrelation in the disturbance term, we employ the modified DF test or the Augmented

Dickey-Fuller (ADF) test to estimate the order of integration of each variable.

Table 3 presents the ADF unit root test results for the variables involved in the analysis. It has been observed that the null hypothesis of presence of unit root or non-stationarity has been rejected for all the first difference variables specified. Our findings indicate that all variables exhibit integrated order one or I(1). This means that the series are non-stationary in level but stationary in first-differences. Therefore, the implication is that there is a possibility of having a cointegrating vector of which coefficient can directly be interpreted as the long-term equilibrium.

Table 3: Augmented Dickey-Fuller unit root test results

Series	Level		First Difference	
	Without Trend	With Trend	Without Trend	With Trend
LnFDI	-1.568	-2.244	-4.009***	-3.866**
LnGGR	-2.301	-3.185	-4.237***	-4.227**
LnGPC	-1.003	-1.523	-5.881***	-5.673***
LnTO	-2.150	-1.368	-10.209***	-9.888***
LnINT	-2.033	-1.447	-4.899***	-5.159***
LnINF	-2.570	-2.663	-3.280**	-3.557*
LnTEL	-2.561	-0.198	-3.170**	-4.473***
LnEXC	-0.532	-1.916	-9.219***	-8.466***
LnGC	-0.733	-1.078	-8.709***	-8.280***
LnSEC	-1.554	-2.497	-4.089***	-4.177**
LnDEB	-2.264	-0.453	-4.482***	-5.464***

Source: Author's calculation.

Note: *, ** and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

5.2. Cointegration test

The cointegrating relationship between the variables is tested by employing the Johansen Maximum Likelihood method. The test is needed to find the long-term relation between a group of variables, particularly in the case that the series are non-stationary at level. The prerequisite for the cointegration test is that each series has to be integrated of the same order. According to the results of unit root test in Table 3, all variables exhibit integrated order one or I(1). Therefore, we will examine the long-term relationship by a cointegration test.

In this study, Johansen trace test and maximum eigenvalue test are applied

to check whether there exists a cointegration relationship between the variables of interest. Results of these tests are shown in Table 4 which provides the number of cointegrating vectors.

Table 4: Johansen cointegration test results

Hypothesized Number of Cointegrating Equation(s)	Eigenvalue	Trace Statistics	5% Critical Value
None*	-	664.565	277.71
At most 1*	0.9998	474.078	233.13
At most 2*	0.9979	332.359	192.89
At most 3*	0.9847	236.236	156.00
At most 4*	0.9272	175.963	124.24
At most 5*	0.9230	117.006	94.15
At most 6*	0.8309	76.133	68.52
At most 7*	0.7138	47.356	47.21
At most 8	0.6274	24.652	29.68
At most 9	0.4896	9.184	15.41
At most 10	0.3280	0.043	3.76

Source: Author's calculation.

Note: * denotes rejection of the null hypothesis at the 5% significance level.

As presented in Table 4, the trace test and maximum eigenvalue test imply the existence of 8 cointegrating vectors at the 5% level of significance. This finding confirms that there is a long-run relation among FDI, GDP growth rate, GDP per capita, Trade openness, Interest rate, Inflation rate, Telephone lines, Exchange rate, Government consumption, Secondary education and External Debt.

The results regarding long-term relationship between FDI and its determinants are presented in Table 5. GDP growth rate shows a positive and statistically significant relationship with FDI inflows in Vietnam. Particularly, a 1% increase in the rate of GDP growth will lead to about 0.4% rise in FDI inflows. This result is consistent with the findings of Nunnenkamp (2002), Arbatli (2011), and Alavinasab (2013). It is obvious that Vietnam, with a rapidly growing economy, provides relatively better opportunities for foreign investors in making profits. A high rate of economic growth is an indicator of development potential.

However, our findings show that GDP per capita has an insignificant effect

on FDI inflows with an unexpected sign. Consistent with the findings of Asiedu (2002) and Akin (2009), this result suggests that FDI is taken into account the size of market in Vietnam not in per capita basis but rather in aggregate size.

Table 5: Long-run regression results

Variable	Coefficient	Std. Error	t-Statistics	Prob.
LnGGR	0.3950*	0.2150	1.84	0.066
LnGPC	-0.8462	0.7504	-1.13	0.259
LnTO	4.1078***	1.3883	2.96	0.003
LnINT	0.2841	0.6421	0.44	0.658
LnINF	-0.8947***	0.1937	-4.62	0.000
LnTEL	-0.9540***	0.2680	-3.56	0.000
LnEXC	3.8311**	1.5407	2.49	0.013
LnGC	-6.4177***	1.9002	-3.38	0.001
LnSEC	3.9608***	0.9621	4.12	0.000
LnDEB	3.2150***	0.5092	6.31	0.000

R-squared = 0.8962

Adjusted R-squared = 0.8821

Source: Author's calculation.

Note: *, ** and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Openness to trade including imports and exports has a positive and statistically significant influence on FDI inflows. This conforms to both economic and statistical expectation. This means that a decrease in the level of restrictions imposed on trade exchanges tends to enhance FDI inflows into the host country. Demirhan and Masca (2008), Ranjan and Agrawal (2011), and Kamal et al. (2014) also found a strong positive relationship between trade openness and FDI. A significant portion of imports of Vietnam consists of highly capital-intensive products, fuel and raw materials used for domestic production which help to expand the country's production capacity. Whereas the demand for imports has been increasing since 1990, Vietnam is also emerging as an important exporter to the international market such as apparel and clothing accessories, rice, fishery products (Anwar and Nguyen 2011, 43). Additionally, Vietnam has widened its export markets from traditional trading partners such as Japan, Korea, and other Asian countries to Australia, the United States, Canada, Germany, and France.

The estimation results also reveal that interest rate has a statistically insignificant effect on inward FDI with an unexpected positive sign. It indicates

that interest rate does not affect the FDI inflows in Vietnam during this period.

By contrast, the coefficient of inflation rate is negative and statistically significant at the 1% level of significance. It also indicates that a 1% rise in inflation rate tends to decrease FDI inflows by 0.89%. Consistent with the previous study of Thaddeus and Yadirichukwu (2013), the high inflation rate devalues domestic currency and raises the cost of production such as wages, cost of raw material, land prices and cost of capital. As a result, it erodes the real return on investment and discourages FDI in countries with high inflation rates.

Telephone lines are found to have a negative and statistically significant relationship with FDI. This unexpected sign might be derived from the unavailability of annual data for mobile phone subscribers in Vietnam that should be included in this proxy. By the end of 2014, the number of telephone subscribers nationwide was 142.5 million, which included approximately 136 million mobile phone subscribers and only 6.4 million fixed telephone lines (GSO, 2014). Another possible reason is that this measure only captures the availability and not the reliability of the infrastructure (Asiedu 2002, 111).

The effect of exchange rate on FDI inflows in Vietnam is positive and statistically significant at the 5% significance level. It exhibits that FDI will increase by about 3.83% if exchange rate increases by 1%. This result is in line with our expectation that a depreciation of exchange rate enhances host market's competitiveness due to lower cost of production and promotes export growth, and thus it provides more favorable conditions for FDI inflows in Vietnam. Exchange rate regime of Vietnam is officially described as a "managed floating regime" and yet has some characteristics of a crawling peg, with a steady pace of devaluation against the U.S. dollar (Nguyen and Nguyen 2009, 139).

Moreover, the empirical findings show that government consumption has a negative and statistically significant impact on the inward FDI in the case of Vietnam. Its coefficient of elasticity also reveals that FDI inflows are more responsive to government spending than other variables of interest. This result might be derived from the ineffectiveness of Vietnamese government expenditure, specifically in infrastructure, education, etc. Consistent with the findings of Edwards (1990) and Ancharaz (2002), recent economic reforms by both developed and developing countries are meant to reduce the relative size

of government to make it more effective through better remuneration packages. Therefore, the smaller a government is, the more efficient it is perceived to be, thus creating a more favorable environment for both domestic and foreign firms operating in the host country's market.

Secondary education as a proxy for human capital has a positive and statistically significant relation with the FDI inflows at the 1% significance level. It implies that a 1% rise in secondary education will lead to about 3.96% increase in inward FDI. An educated labor force has been recognized as an important determinant of FDI inflows in Vietnam, especially when firms are efficiency seeking. Sfar (2015) also suggests that a higher level of education in the workforce can promote higher levels of FDI.

Lastly, external debt is found to have a positive and statistically significant effect on inward FDI. The possible reason for this unexpected sign is that Vietnam's economy is characterized by low levels of savings. Inflows of external debts and external aids support the economy to invest more than its domestic saving. This also might help the economy to establish projects necessary for the development and growth of the economy (Ali 2013, 185). As the development of infrastructure, construction of heavy mechanical industries and other important industries often require huge financial resources; external loans can assist Vietnam to establish these overheads for the economy, thereby creating an attractive environment for foreign investors.

VI . Conclusion

It has been acknowledged that FDI brings benefits to the recipient countries through providing capital, foreign exchange, modern technology and also narrows the gap between domestic savings and investments (Azam and Lukman 2010, 41). This study investigated the key determinants of inward FDI in Vietnam by using time-series data from 1990 to 2013. The empirical results reveal that GDP growth rate, trade openness, exchange rate, secondary education as a proxy for human capital and external debt encourage FDI inflows in Vietnam while inflation rate, telephone lines as a proxy for infrastructure development and government expenditure tend to deter inward FDI. The effects of GDP per capita and interest rate on inward FDI, in addition, are statistically insignificant with unexpected signs. These results are consistent

with previous studies of Demirhan and Masca (2008), Ranjan and Agrawal (2011) and Sfar (2015).

The empirical findings have several important policy implications. First, since the market growth of the host country has a significant positive impact on inward FDI, there is need for sustainable growth of the country's GDP. This will strengthen the attractiveness of Vietnam's economy for foreign investors. Second, as the openness of the economy is also a significant determinant, government should make further efforts to enhance the implementation of its reform agenda, which has the potential to attract more FDI inflows. Third, inflation rate is found to have a negative relationship with FDI inflows, which indicates a sign of weak macroeconomic performance and investors both foreign and domestic may not be willing to invest in a market with high inflation rate. Thus, the authorities should maintain policies aimed at controlling the rate of inflation. This requires a monetary policy framework which focuses on inflation as a target variable (Brima 2015, 132). In addition, to ensure the attraction of more inward FDI, Vietnamese government should improve the quality of infrastructure; increase the public spending on education to enhance capacity of labor force and augment cooperation between training centers and foreign firms.

With regard to the scope for further studies, we recommend future researchers to examine other potential determinants that are likely to affect the inward FDI in Vietnam such as political regime, regulations, rule of law, effectiveness of government, control of corruptions, taxes and tariff, and natural resources. Infrastructure can also be investigated as a different proxy with available data, e.g. roads, electricity and water supplies, which might lead to more reliable results. It may also be worthwhile to examine the correlation as well as the causal relationship between economic growth, trade openness, interest rate, etc. and inward FDI in Vietnam by applying the Granger causality test. Additionally, it would be interesting to implement wider analyses for groups of countries, including Vietnam to identify the determinants of FDI inflows.

References

- Ahmad, A. Nor, Normaz W. Ismail and NurHaiza Nordin. "The Impact of Infrastructure on Foreign Direct Investment in Malaysia". *International Journal of Management Excellence* 5, no. 1 (2015): 584-590.
- Akin, M. Seref. "How is the Market Size Relevant as a Determinant of FDI in Developing Countries? A Research on Population and the Cohort Size". *International Symposium on Sustainable Development* (2009): 425-429.
- Alavinasab, M. Seyed. "Determinants of Foreign Direct Investment in Iran". *International Journal of Academic Research in Business and Social Sciences* 3, no. 2 (2013): 258-269.
- Ali, Sharafat. "External Debt and Domestic Investment in Pakistan: A Cointegration Analysis". *Journal of Managerial Sciences* 7, no. 2 (2013): 180-191.
- Ancharaz, V. Dey. "The Determinants of Foreign Direct Investment in a Comparative Perspective: Is there a Bias against Sub-Saharan Africa?". *University of Mauritius Research Journal*, no. 4 (2002).
- Anwar, Sajid and Lan P. Nguyen. "Foreign Direct Investment and Trade: The Case of Vietnam". *Research in International Business and Finance*, no. 25 (2011): 39-52.
- Arbatli, Elif. "Economic Policies and FDI Inflows to Emerging Market Economies". *IMF Working Paper*, no. 192 (2011).
- Asiedu, Elizabeth. "On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different?". *World Development* 30, no. 1 (2002): 107-119.
- Azam, Muhammad, and Ling Lukman. "Determinants of Foreign Direct Investment in India, Indonesia and Pakistan: A Quantitative Approach". *Journal of Managerial Sciences* 4, no. 1 (2010): 31-44.
- Bakar, A. A. Nor and Lau Ming Sern. "A Re-Evaluation of the Determinants of FDI in Malaysia". *Malaysian Management Journal* 9, no. 1&2 (2005): 13-23.
- Brima, Sesay. "Macroeconomic Determinants of Foreign Direct Investment in Sierra Leone: An Empirical Analysis". *International Journal of Economics and Finance* 7, no. 3 (2015): 123-133.
- Cevis, Ismail and Burak Camurdan. "The Economic Determinants of Foreign Direct Investment in Developing Countries and Transition Economies". *The Pakistan Development Review* 46, no. 3 (2007): 285-299.
- Chawla, Kanika and Neha Rohra. "Determinants of FDI: A Literature Review". *The International Journal Of Business & Management* 3, no. 3 (2015): 227-250.
- Chopra, Chanchal. *Foreign Investment in India: Liberalisation and WTO-the Emerging Scenario*. New Delhi: Deep & Deep Publications, 2003.
- Culem, G. Claudy. "The Locational Determinants of Direct Investments among Industrialized Countries". *European Economic Review* 32, no. 4 (1988): 885-904.
- Demirhan, Erdal and Mahmut Masca. "Determinants of Foreign Direct Investment Flows to Developing Countries: A Cross-Sectional Analysis". *Prague Economic Papers* 2008, no. 4 (2008): 356-369.
- Edwards, Sebastian. "Capital Flows, Foreign Direct Investment, and Debt-equity Swaps in Developing Countries". *NBER Working Papers*, no. 3497 (1990).
- Erdogan, Mahmut and Mustafa Unver. "Determinants of Foreign Direct Investments: Dynamic Panel Data Evidence". *International Journal of Economics and Finance* 7, no. 5 (2015): 82-95.
- Filipovic, Adnan. "Impact of Privatization on Economic Growth". *Undergraduate Economic Review* 2, no. 1 (2005): 1-38.

- General Statistics Office. *Statistical Yearbook of Vietnam* 2014. Vietnam: Statistical Publishing House, 2014.
- Goodspeed, Timothy, Jorge Martinez-Vazquez and Li Zhang. "Are Government Policies More Important than Taxation in Attracting FDI?". *International Studies Program Working Paper*, no. 07-02 (2007), Andrew Young School of Policy Studies, Georgia State University.
- Hoang, H. Hiep and Duc H. Bui. "Determinants of Foreign Direct Investment in ASEAN: A Panel Approach". *Management Science Letters*, no. 5 (2015): 213-222.
- Jordaan, C. Johannes. "Foreign Direct Investment and Neighboring Influences". Doctoral Dissertation, Faculty of Economic and Management Sciences, University of Pretoria, 2004.
- Kamal, A. Muhammad, Zhaohua Li, Ghulam Akhmat, Malik F. Bashir and Khalid Khan. "What Determines China's FDI Inflow to South Asia?". *Mediterranean Journal of Social Sciences* 5, no. 23 (2014): 254-263.
- Kariuki, Caroline. "The Determinants of Foreign Direct Investment in the African Union". *Journal of Economics, Business and Management* 3, no. 3 (2015): 346-351.
- Khan, A. Gulzar and Irfan Hassan. "Analyzing the Determinants of Foreign Direct Investment (FDI): A Study of Malaysia from 1980-2010". *Management and Administrative Sciences Review* 1, no. 2 (2013): 33-39.
- Ledin, Erik and Carl Strömberg. "Determinants of Inward FDI: The Case of Chinese Regions". Bachelor's Thesis in Economics, Jonkoping International Business School, Jonkoping University, 2012.
- Liargovas, G. Panagiotis and Konstantinos S. Skandalis. "Foreign Direct Investment and Trade Openness: The Case of Developing Economies". *Social Indicators Research* 106, no. 2 (2012): 323-331.
- Lo, Chen-Chang, Yaling Lin, Tsung-Li Chi and Dominique J. Joseph. "Foreign Direct Investment Inflows in Haiti: Its Determinants and Impact on Economic Growth". *Business Management Dynamics* 2, no. 9 (2013): 36-50.
- Marr, Ana. "Foreign Direct Investment Flows to Low-Income Countries: A Review of the Evidence". Overseas Development Institute Briefing Paper, London, 1997.
- Mukhtar, Aqeel, Mehtab Ahmad, Mudasser Waheed, Rana Kaleen Ullah and Hifza Inam. "Determinants of Foreign Direct Investment Flow in Developing Countries". *International Journal of Academic Research in Applied Science* 3, no. 3 (2014): 26-36.
- Ngendakumana, Leonidas and Corelleta Kaseke. "An Analysis of Factors Affecting Foreign Direct Investment in Zimbabwe (1980-2011)". *Academic Research International* 6, no. 2 (2015): 114-127.
- Nguyen, T. Phuc and Nguyen D. Tho. "Exchange Rate Policy in Vietnam, 1985-2008". *ASEAN Economic Bulletin* 26, no. 2 (2009): 137-163.
- Noorbakhsh, Farhad, Alberto Paloni and Ali Youssef. "Human Capital and FDI Inflows to Developing Countries: New Empirical Evidence". *World Development* 29, no. 9 (2001): 1593-1610.
- Nunnenkamp, Peter. "Determinants of FDI in Developing Countries: Has Globalization Changed the Rules of the Game?". *Kiel Working Paper*, no. 1122 (2002).
- O'Meara, Graeme. "Examining the Determinants of Foreign Direct Investment". *Undergraduate Economic Review* 11, no. 1 (2015): 1-17.
- Onyeiwu, Steve. "Analysis of FDI Flows to Developing Countries: Is the MENA Region Different?". ERF 10th Annual Conference, Marrakech, Morocco, 2002.
- Payaslioglu, Cem and Burcak Polat. "The Impact of Exchange Rate Uncertainty on FDI

- Inwards into Turkey". WEI International Academic Conference Proceedings, Antalya, Turkey, 2013.
- Ranjan, Vinit and Gaurav Agrawal. "FDI Inflow Determinants in BRIC Countries: A Panel Data Analysis". *International Business Research* 4, no. 4 (2011): 255-263.
- Rasheed, K. Muhammad, Hazoor M. Sabir, Safdar H. Tahir and Muhammad U. Farooq. "Determinants of Foreign Direct Investment in Pakistan over the Period 1975-2011". *Interdisciplinary Journal of Contemporary Research in Business* 4, no. 8 (2012): 202-210.
- Sahoo, Pravakar. "Foreign Direct Investment in South Asia: Policy, Trends, Impact and Determinants". *ADB Institute Discussion Paper*, no. 56 (2006).
- Samargandi, Nahla, Jan Fidrmuc and Sugata Ghosh. "Is the Relationship between Financial Development and Economic Growth Monotonic? Evidence from a Sample of Middle Income Countries". *World Development*, no. 68 (2015): 66-81.
- Schmitz, Andrew and Jurg Bieri. "EEC tariffs and U.S. Direct Investment". *European Economic Review* 3, no. 3 (1972): 259-270.
- Sfar, B. E. Souad. "The Attracting Factors of Foreign Direct Investment: Tunisia's Cause after the Revolution". *International Journal of Advanced Research* 3, no. 2 (2015): 369-375.
- Sichei, M. Moses and Godbertha Kinyondo. "Determinants of Foreign Direct Investment in Africa: A Panel Data Analysis". *Global Journal of Management and Business Research* 12, no. 18 (2012): 1-14.
- Soumia, Zenasni and Benhabib Abderrezzak. "The Determinants of Foreign Direct Investment and their Impact on Growth: Panel Data Analysis for AMU Countries". *International Journal of Innovation and Applied Studies* 2, no. 3 (2013): 300-313.
- Thaddeus, O. Ebiringa and Emeh Yadirichukwu. "Determinants of Foreign Direct Investment Inflow: A Focus on Nigeria". *European Journal of Business and Management* 5, no. 24 (2013): 41-52.
- UNCTAD. *World Investment Report 1998: Trends and Determinants*. United Nations, New York and Geneva, 1998.
- Voka, Ismet and Bardhyl Dauti. "Institutional Determinants of Foreign Direct Investment in Macedonia: Evidence from Panel Data". *European Journal of Business, Economics and Accountancy* 3, no. 4 (2015): 35-44.
- Wafure, G. Obida and Abu Nurudeen. "Determinants of Foreign Direct Investment in Nigeria: An Empirical Analysis". *Global Journal of Human Social Science* 10, no. 1 (2010): 26-34.

Abstract

Determinants of Inward Foreign Direct Investment in Vietnam

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Foreign direct investment (FDI) is seen as one of the key sources of capital inflows and driver of economic growth and development in many developing countries. Vietnam has recorded high level of success in mobilizing huge investment to support its economic growth. During the past three decades, Vietnam's economy grew at an annual average rate of about 7.5%, making it one of the fastest growing countries in the world. This study aims to examine the determinants of inward FDI in Vietnam over the period 1990-2013 using time-series analysis techniques that address the problem of nonstationarity of data. Specifically, the Unit root test and Cointegration approach are applied to ensure that the regressions are not spurious. The empirical results reveal that gross domestic product (GDP) growth rate, trade openness, exchange rate, secondary education and external debt have positive effects on FDI inflows whereas inflation rate, telephone lines and government consumption are found to have negative impacts on FDI inflows. Moreover, the effects of GDP per capita and interest rate on inward FDI are statistically insignificant with unexpected signs. Ultimately, the paper suggests that synchronized efforts should focus on strengthening the capacity of economic growth, trade effectiveness, and labor skills in order to ensure stability in macroeconomic performance, which enhances the confidence of foreign investors in Vietnam.

Keywords: Foreign Direct Investment (FDI), FDI determinants, Vietnam, Time-series analysis.