

Investment location selection: Strategies for foreign direct investment in Vietnam

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Abstract: Foreign direct investment distribution is unequal in terms of economic activities as well as among regions, provinces and cities within countries. Therefore, understanding reasons why foreign investors favour a location over others are necessary for policymakers, governments, and international investors. Although determinants of selecting investment locations have been studied, different determinants are identified in different countries. Additionally, studies on the investment location selection within a country are limited, especially in Vietnam. This gives rise to questions which factors make a location more attractive to the foreign investors and whether they have similar effects in different provinces and cities within a country.

This paper aims to investigate the determinants of investment location selection at the provincial level in Vietnam based on foreign investors' perspectives. The four groups of factors include human capital, economic, provincial competition and institutional, and infrastructure. The study uses panel data set with 63 Vietnam provinces and cities from 2000 to 2015. The ordinary least squares estimation supported by the Hausman test is employed in the empirical estimation. The results of models with and without a lag term are robust.

Unlike many previous studies, we employ retail sales of goods and services instead of gross domestic product to represent economic growth at the provincial level. The provincial competitiveness index is employed to represent economic governance of provinces and cities. The investment incentive policies index is proposed as the aggregate index of three types of investment incentives (free land, income tax exemption, and import tax exemption) instead of considering only tax incentives. The country risk index is proposed to represent the political stability and security. Ranking of provinces and cities based on their socio-economic conditions is employed to investigate the different effects of the determinants in different areas in Vietnam.

Surprisingly, this study shows that foreign investors tend to invest more in areas with fewer investment incentives. Additionally, foreign direct investment flows into Vietnam increased after the financial crisis in 2008 as foreign investors may take advantage of lower value currency and lower cost in the areas offering high investment incentives. The effect of infrastructure development on investment location selection is weaker in areas under more difficult socio-economic conditions. This study suggest that Vietnamese policymakers and provincial governments should invest more in education and training, control exchange rate and inflation rate, enhance investment efficiency, maintain political stability and security, improve infrastructure to boost economic growth, and improve economic governance in addition to offering more investment incentives.

Keywords: *Investment location selection, foreign direct investment, investment incentive policies, provincial competitiveness index, country risk index*

1. INTRODUCTION

Foreign direct investment (FDI) brings economic, political, social, and natural environment effects to a host country (Pazienza, 2014). Identifying the determinants in selecting investment locations from the investors' viewpoint is necessary for home countries to understand why the capital distribution is unequal among economic activities and among areas within the countries.

However, studies related to investors' decisions about where to locate capital is limited. In addition, different researchers identify different institutional factors that have significant effects on choosing investment locations. Some of the identified factors are investment liberalization (UNCTAD, 2018), economic governance (VCCI, 2016), improved democracy (Hasan & Mahvash, 2015), higher education levels and lower delinquency rates (Escobar, 2013), and political stability and security (Castiglione *et al.*, 2012).

Investors' subjective decisions in choosing the investment's location are important to the economic growth and development of host countries. However, few researchers (Hoang & Goujon, 2014; Vu *et al.*, 2009; Nguyen & Nguyen, 2007) have focused on this topic in Vietnam and their results are inconsistent. Hoang and Goujon (2014, p. 103) find "a dominance of the regional trade platform FDI and regional agglomeration effects". Vu *et al.* (2009) investigated the determinants in selecting investment locations based on mining and quarrying industry data. The results do not show any factors impacting FDI projects' location in all industries at the provincial level in Vietnam. Using spatial econometric models to investigate the determinants of the FDI distribution at the Vietnam provincial level, Nguyen and Nguyen (2007) find the concentration of foreign investors in certain locations because of the market, labour availability, infrastructure and investors' nationalities.

To attract foreign investors, countries compete for FDI by implementing several investment incentives (Haaparanta, 1996). These forms of investment incentives include grants, tax preferences or holidays, free land or other inputs, and regulatory policy concessions, etc. (Thomas, 2009). The investment incentive policies (IIP) such as regional tax policy (Li & Shen, 2008; Sun, 2002), environmental policy (Zhu *et al.*, 2011), policies of land-use fee, corporate income tax, fee holidays, or services for FDI projects (Oman, 2000) make some regions more favourable in competing for limited fund from abroad.

Our study differs from the previous studies in the following ways. Our study investigates the determinants of investment location selection at the provincial level in Vietnam based on the foreign investors' perspective. Interestingly, the results show that foreign investors tend to invest more into areas offering fewer investment incentives, which is different from the findings of Hoang and Goujon (2014), Vu *et al.* (2009), Li and Shen (2008), and Oman (2000). The proposed IIP index includes free land, income tax and import tax exemption instead of considering only tax incentives in previous studies such as Wei and Li (2011), Li and Shen (2008), and Sun (2002).

Surprisingly, FDI flows into Vietnam increased after the financial crisis in 2008 as foreign investors may take advantage of lower value currency and lower cost in the areas offering high investment incentives. The effect of infrastructure development on investment location selection is weaker in areas under more difficult socio-economic conditions. The results suggest Vietnamese policymakers and provincial governments should invest more in education and training, control exchange rate and inflation rate, enhance investment efficiency, maintain political stability and security, improve infrastructure to boost economic growth, and improve economic governance in addition to offering more investment incentives.

The study suggests academia employs retail sales of goods and services (RS) instead of gross domestic product (GDP) to represent economic growth at non-national levels. This is because RS reduces the limitations of the GDP calculation at the non-national levels. Additionally, the country risk (CR) index is proposed to represent the political stability and security as one of institutional factors that impact strategic decisions of foreign investors in Vietnam.

The paper is organised as follows. Section 2 discusses the literature and hypotheses development. Section 3 describes the econometric models. Section 4 presents the study data. Section 4 reports the main results and conclusions.

2. LITERATURE REVIEW

The determinants of FDI encouraging foreign investors to invest in one single country or a single location have been studied by many researchers such as Hasan & Mahvash (2015), Omri & Kahouli (2014), Razmi & Behname (2012), and Haq (2001). These determinants have been considered as FDI-attractive factors which make some regions more favourable in competing for limited fund from abroad than others. To identify the

FDI-attractiveness or FDI-competitive determinants, some studies conducted empirical analyses at the national levels (Kinuthia & Murshed, 2015; Labes, 2015; Thanyakhan, 2008; and Haq, 2001), and others at the sub-national levels (Castiglione *et al.*, 2012; Pradhan, 2012; Wei & Li, 2011; and Sun, 2002).

The FDI competition using investment incentives is a worldwide phenomenon at all levels of governments including the national and sub-national levels (Oman, 2000). UNCTAD (2018) documents that investment incentives are one of the most common investment policy tools for industrial development in the world from 2010 to 2017. The IIP or institutional structures have been used as subsidies to affect FDI flows. Foreign investors make strategic decisions on where and how to set up their operations based on the institutional structures (such as grants, tax preferences or holidays, free land or other inputs, and regulatory policy concessions) that vary not only among countries, but also within the host economy (Thomas, 2009).

Some China-related studies investigate the effects of policies on attracting FDI among provinces of the country. At the provincial level, Sun (2002) finds that regional tax competition does exist, and taxation is still an important factor affecting the spatial distribution of FDI, but its role has been weakened over time. The study of Li and Shen (2008) also suggests that the provincial competition strategies expanded from the pure tax price to the government expenditure in China because of the different levels of economic development. Similarly, Wei and Li (2011) results support that a better performance of economic growth other than tax incentives is likely to be a more significant factor in attracting FDI in central and eastern region of China compared with the relatively underdeveloped western region. According to the empirical results of Zhu *et al.*, (2011), in neighbouring municipalities, environmental policy could be taken into consideration in competing for FDI and compared with the regions with high level of FDI. The study shows the effect of “race to the bottom” of environmental policy may be higher in the regions with lower level of FDI.

In Vietnam, studies about the effects of policies on FDI in Vietnam are limited and the results from some empirical studies are inconsistent. Vietnamese provincial governments issued extra legal documents granting extra incentives of tax and land, and extended exemption periods to investment projects (Vu *et al.*, 2007). Vu (2007) reveals that in provinces adopting extra-legal incentives, there is a decrease in the amount of FDI per capita received the year after adoption of those incentives. However, according to Vu *et al.* (2009), Vietnam made the greatest efforts to regulate sub-national incentives; and provincial policies were identified as important factors to attract more FDI (Hoang & Goujon, 2014). Therefore, whether investment incentives reduce or raise the amount of FDI or make any differences in the investment location selection at the provincial level in Vietnam is debatable.

An institutional factor in attracting FDI at the sub-national level in Vietnam is the economic governance evaluated by the provincial competitiveness index (PCI) introduced by Vietnam Chamber of Commerce and Industry (VCCI). PCI was used to evaluate and compare competitiveness of FDI flows, and the relationship between economic governance and FDI attraction in Vietnam in Nguyen and Ho (2013), Nguyen *et al.* (2012), Malesky (2010), and Nguyen and Nguyen (2007) studies. However, the findings are mixed. While Malesky (2010) found a strong and positive correlation between the PCI and FDI flows in Vietnam provinces and cities, Nguyen *et al.* (2012) concluded that the provinces or cities with better governance are not strongly associated with higher total registered capital of licensed inward FDI projects in the North Central and South Central Coast areas of Vietnam. In addition, Nguyen and Ho (2013) showed there was a sub-national competition in the 64 provinces to attract FDI, whereas Nguyen and Nguyen (2007) conclude that it is not a significant factor when considering some provinces and other partner countries of Vietnam. Thus, how PCI helps Vietnam provinces and cities to compete for the limited capital of foreign investors is questionable.

3. MODEL

The four groups of factors, human capital (HC), economic (EC), provincial competition and institutional (PC), and infrastructure factors (IN), are included in our regression model (1).

$$FDI_{it} = \alpha_0 + \sum_{m=1}^M \beta_m HC_{mit} + \sum_{k=1}^K \mu_k EC_{kit} + \sum_{q=1}^Q \varphi_q PC_{qit} + \sum_{p=1}^P \vartheta_p IN_{pit} + \sum_{r=1}^R \omega_r PR2_{it} X_{rit} + \delta_i + \gamma_t + e_{it} \quad (1)$$

where α , β , μ , φ , ϑ and ω are parameters; e is error terms; HC_{mit} , EC_{kit} , PC_{qit} , and IN_{pit} are m , k , q , and p variables of the four groups of factors, respectively; $PR2_{it}$ is province ranking and X_{rit} are r variables in interaction terms with PR2; i stands for provinces or cities; t stands for years; δ is the fixed effect for each cross-section; and γ is the random effect for each period.

This study adopts the panel ordinary least squares (OLS) estimation procedure from previous studies such as Hasan and Mahvash (2015), Labes (2015), Nguyen and Ho (2013), and Razmi and Behname (2012) to investigate the determinants of investment location selection at the provincial level in Vietnam. The Hausman test (Hausman, 1978) shows that random effects models are appropriate for our empirical estimation.

Table 1 shows the four groups of variables impact on FDI in selected references and the variables of each group used in this study.

Table 1. Groups of Variables

Variable group	Variable used in previous studies	Impact on FDI	Reference	Variable used in this study
Human capital factor	Education level	PS	Kumari (2014), Omri and Kahouli (2014), Escobar (2013), Zhao and Xiang (2012), Huang and Chai (2006)	EDU
	Economic Growth (GDP)	PS	Nguyen et al. (2012), Hoang, Wiboonchutikula, and Tubtintong (2010), Srinivasan et al. (2010), Thanyakhan (2008), Kornecki and Rhoades (2007)	RS
	Exchange Rate	PS NS	Kinuthia and Murshed (2015), Labes (2015) Haq (2001)	ER
Economic factors	Investment efficiency	PS	Kumari (2014)	ICOR
	Labour cost	NS	Kinuthia and Murshed (2015), Malesky (2010)	INC
	Inflation	PS NS	Kinuthia and Murshed (2015) Hasan and Mahvash (2015), Razmi and Behname (2012)	CPI
	Financial crisis	NS		CRI
	Economic governance	PS I	Malesky (2010) Nguyen et al. (2012), Nguyen and Nguyen (2007)	PCI
Provincial competition and institutional factors	Investment incentives (tax)	PS NS	Hoang & Goujon (2014), Wei and Li (2011), Thomas (2009), Vu et al. (2009), Li and Shen (2008), Sun (2002) Vu (2007)	IIP
	Political stability and security	PS	Castiglione et al. (2012)	CR
Infrastructure factors	Infrastructure development	PS	Kinuthia and Murshed (2015), Hasan and Mahvash (2015), Castiglione et al. (2012), Pradhan (2012)	GF
				BED
				WEB
Province Ranking	-	-	-	PR2

PS is positive and significant; NS is negative and significant; and I is insignificant.

Mukherjee (2014) used RS to identify the relationship between growth in RS and FDI in India from 1975 to 2010. In Mukherjee’s study, private final consumption is employed as a proxy for retail sales¹, which is an important component of GDP. Jude and Masca (2009) employed consumption to examine the interdependence of FDI in Romania from 2000 to 2006 and the results show the impact of FDI on consumption indirectly affects economic growth.

RS is used to represent economic growth at the provincial level in Vietnam because it can overcome the limitations of provincial GDP data. First, RS measures consumer spending which is a component of GDP. According to the US Census Bureau (2008), RS is defined as finished goods and services sold to consumers at the end of the supply chain, generally without transformation, over a specified time period. Following the expenditure approach, GDP is calculated based on the final goods and services purchased by individuals, businesses, governments, and foreigners (Pritzker et al., 2015). Hence, RS can reflect consumer spending patterns impacting GDP of the economy. In other words, an increase or a decline in RS can be a positive or negative signal of economic growth, respectively.

Second, while GDP is calculated at the country level (VnExpress, 2014), RS can be used to measure economic growth of regions, provinces or cities. This is because RS calculates finished goods and services sold to retailers (the US Census Bureau, 2008), which does not result in the overlap of calculation.

Third, RS highly correlates with GDP in Vietnam based on the data obtained from the Vietnam general statistics office (GSO). A correlation of 0.9974 (close to 1) is found between RS and GDP from 1990 to 2015.

4. DATA

Table 2 summarises the definitions and sources of the model variables.

¹ According to Mukherjee (2014), the private final consumption includes household expenditures on durable and nondurable goods and services during a certain period. This shows the expenditure patterns of consumers in consumption goods, thus an increase or a decrease in the private final consumption directly relates to the increase or decrease in retail sales.

Table 2. Definitions and Data Sources of the Model Variables

Variable group	Variable	Definition	Source
Human capital factor	EDU	Education level in % (2000-2015)	GSO
	RS	Retail sales at current prices in billion VND (2000-2015)	GSO
	ER	Exchange rate VND/USD, annual averaged (2000-2015)	GSO
Economic factors	ICOR	Investment efficiency (the incremental capital output ratio) (2000-2015)	GSO
	INC	Monthly average income in thousand VND (2000-2015)	GSO
	CPI	Inflation rate (consumer price index), annual averaged (2000-2015)	FXTOP (2017)
	CRI	Financial crisis 2008 is a dummy variable (2000-2015), CRI=1 after 2007, CRI=0 otherwise	
Provincial competition and institutional factors	PCI	The provincial competitiveness index (2005-2015)	VCCI (2016)
	IIP	The investment incentive policies index (2000-2015) [1]	Lawsoft
	CR	The country risk index (2000-2015) [2]	PRS (2017)
Infrastructure factors	GF	Volume of goods freight in thousand tons (2000-2015)	GSO
	BED	Number of patient beds in thousand beds (2002-2015)	GSO
	WEB	Quality of official websites (2000-2015) [3]	Vietnam state bodies' official websites
Province Ranking	PR2	PR2 is a dummy variable based on PR (2000-2015), PR2 = 1 if PR = 2, PR2 = 0 otherwise [4]	
FDI attraction	FDI	The total registered capital of licensed inward FDI projects in million USD (2000-2015)	GSO

[1] The IIP index including free land, income tax and import tax exemption is constructed based on Vietnam regulations and laws from 2000 to 2015; [2] The CR is proposed based on a political risk index that is one of the three risk subcategories in the International Country Risk Guide (ICRG) from the Political Risk Services (PRS) Group; [3] WEB is constructed based on five factors including availability of more than one language, availability of law documents, economic and social information (on an English page), documents for investment registration (on an English page), and online registration and support (on an English page); [4] PR is based on Vietnam provinces and cities' socio-economic conditions (PR=2 if extremely difficult, PR=1 if difficult, and PR=0 if non-difficult).

The study period is from 2000 to 2015. There are three reasons for choosing this period. First, most inward FDI flows into Vietnam were over the 16-year period (the percentages of FDI projects in 2000-2015 and 1988-1999 are 86.2% and 14.8%, respectively). Secondly, 75.85% of the total FDI registered capital and 86.83% of the total FDI implemented capital occurred during 2000-2015. Thirdly, data before 2000 at the provincial level were not well developed and updated compared with the data at the national level.

As of 31st December 2015, there are 63 Vietnam administrative units (five cities and 58 provinces) (GSO, 2016). However, the total number of units has changed over time. The number rose from 38 in 1976 to 44 in 1989, increased to 53 in 1991 and to 61 units in 1997 (VOER, 2017). In 2004, Can Tho city and Hau Giang province were established from Can Tho province, the old Lai Chau province was divided into new Lai Chau and Dien Bien, and old Dak Lak province was divided into new Dak Lak and Dak Nong (Assembly, 2008). Therefore, the number of units increased to 64 in 2004. From 2008 onwards, the total reduced to 63 units as Ha Tay province merged with Ha Noi city. As a result, data recorded at the provincial level also changed, resulting in no available data either for the new administrative units (Hau Giang, Dien Bien and Dak Nong) before establishment in 2004 or for the old unit, Ha Tay, after it merged with Ha Noi city in 2008.

Our study uses panel data at the provincial level from 2000 to 2015. However, the number of administrative units increased from 61 (2000-2003) to 64 (2004-2008) but decreased then to 63 units (2008-2015). Therefore, if all 64 units were included in the panel data, there will be missing data points. To minimise the number of missing data points at the provincial level, the data of 64 units are combined into the 60 cross-units.

5. DISCUSSION AND CONCLUSION

Table 3 show the results of the determinants of investment location selection at the provincial level and their effects in different Vietnam provinces and cities. First, we found that foreign investors are more likely to invest in provinces and cities with better governance (higher PCI). Secondly, investment incentives did not play an effective role in enhancing the FDI competition ability of the provinces and cities. Offering free land, income tax and import tax exemption contributing to the IIP index is less likely to attract more FDI at the provincial level over the study period 2000-2015. Foreign investors value the economic governance as a positive factor of local investment environment; and do not highly consider low costs of land use and tax to select investment locations. The study results suggest policymakers should focus on improving the investment environment to attract the foreign investors in addition to offering more investment incentives in Vietnam.

Other findings show that the risk level (the CR index) and the financial crisis in 2008 negatively impact on FDI attraction at the provincial level in Vietnam, which aligns with the findings of Castiglione *et al.* (2012) that the political stability is an important institutional factor attracting investors' interest. However, investors are likely to invest in areas under extremely difficult socio-economic condition after the 2008 financial crisis to take

advantage of lower costs offered in the areas using high investment incentive policies (free land and tax exemption). In addition, at the provincial level in Vietnam, the education level (EDU), economic growth (RS), inflation rate (CPI), exchange rate (ER), and investment efficiency (ICOR) are important factors. The effect of infrastructure development (GF) on FDI attraction is positive and significant over the study period. However, the effect of infrastructure on FDI attraction is weaker in provinces with more difficult socio-economic conditions. The results suggest that policymakers and provincial governments should maintain the political stability and security, invest more on fields of education and training, control the inflation and exchange rates, improve infrastructure, and enhance the investment efficiency.

Table 3. Coefficients of the Regressors with FDI Location Selection at the Provincial Level in Vietnam

Variable group	Variable	Estimation without a time lag										Estimation with a time lag									
		2000-2015					2005-2015					2000-2015					2005-2015				
		1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
Human capital factor	EDU [1]	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS
EG	RS [1]	PS	PS	PS	PS	PS	PS	PS	P	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS
Economic factors	ER	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS
	ICOR	PS	PS	PS	PS	PS	P	P	P	P	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	INC	N	N	N	N	N	P	P	P	P	N	N	N	N	N	N	N	N	N	N	N
	CPI [1]	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Provincial competition and institutional factors	CRI	NS	NS	NS	NS	NS	NS	NS	NS	NS	P	P	N	N	P	N	N	N	NS	N	N
	PCI [2]						PS	PS	PS	PS	PS						PS	PS	PS	PS	PS
	IIP	NS	N	N	N	N	N	P	P	P	P	NS	NS	NS	NS	N	NS	N	N	N	N
Infrastructure factors	CR	N	N	P	P	P	P	P	P	P	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS
	GF	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS
	BED	N	N	N	N	N	P	N	N	N	N	N	NS	N	NS	N	N	N	N	N	N
Province Ranking	WEB	P	P	P	P	P	P	P	P	P	P	P	N	P	N	P	P	N	P	N	N
	PR2		N	PS	P	P		NS	P	N	N		P	P	P	P		N	N	N	P
Interaction terms	CRI*PR2			P	N				P	P				P	P				P	P	
	CR*PR2			N	N				N	P				N	N				P	P	
	GF*PR2			NS		PS			NS		P			PS		NS			P		NS
	BED*PR2			N		NS			P		N			N		P			N		P
	WEB*PR2			P		N			N		N			P		P			P		P

PS is positive and significant; NS is negative and significant; P is positive and insignificant; N is negative and insignificant; [1] There is a lag term in the variables RS, EDU, CPI in estimations with a time lag; [2] The estimations 1-5 from 2000 to 2015 are without PCI as PCI is only available from 2005.

Ranking of provinces in Vietnam, proposing the IIP, CR, and WEB indices are the first efforts to better identify the FDI location selection’s determinants at the provincial level in Vietnam based on foreign investors’ perspective. Future research should include a wider range of investment incentives such as grants, holidays, policy concessions and consider different techniques to construct the IIP index such as surveys to reflect the investors’ opinions. Questionnaires would also improve the CR index to enable future researchers to investigate the FDI location selection based on the investors’ evaluations. Future research should expand the sample size to explore the longer impacts of economic governance (PCI) at the provincial level. Additionally, PCI-sub-indices would be taken into consideration to enrich the study on the determinants of FDI location selection from foreign investors’ point of view.

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