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Productivity Spillovers from Foreign Direct Investment in Vietnam*

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Abstract. During the last decades the linkage between foreign direct investments (FDI) and economic growth has been extensively reviewed in the economic literature. Theories and modern literature provide conflicting results concerning this issue. Some authors argue that foreign direct investment could result in boosting host country economy, while others believe that FDI may bring about vulnerability and dependence to the country. This paper tries to extract the relationship between foreign direct investment and economic growth, specifically in Vietnam, trying to eventually extract a meaning revelation.

Аннотация. В течение последних десятилетий проблема связи между прямыми иностранными инвестициями (ПИИ) и экономическим ростом широко рассматривается в экономической литературе. Теории и современная литература показывают противоречивые результаты в отношении этого вопроса. Некоторые авторы утверждают, что прямые иностранные инвестиции могут привести к стимулированию экономики принимающей страны, в то время как другие считают, что ПИИ могут вызывать уязвимость и зависимость. В данной статье автор старается проследить взаимосвязь прямых иностранных инвестиций с экономическим ростом, в частности, во Вьетнаме.

Key words: Foreign direct investment, FDI, economic growth, Vietnam.

INTRODUCTION

Since the 1990-s, the expansion of globalization and worldwide trade liberalization has pushed Multinational Enterprises (MNEs) into undertaking a growing number of Foreign Direct Investment (FDI) projects across the world. Many studies compared the efficiency between FDI and domestic investment, and most economists tend to favor the free flow of capital across national borders, because it allows capital to sort out the highest rate of return. Therefore, many economies around the world would invest significant resources to attract FDI.

Foreign direct investment serves as a form of international capital flows. It is considered to play an important role in the process of world capital allocation across countries. It is often pictured, together with other forms of capital flows, as shifting capital from well-off, capital-abundant economies to poor, capital-scarce economies, so as to close the gap between the rates of return to capital and strengthen the efficiency of the worldwide stock of capital.

Based on the motive behind the investment from the perspective of the investors, FDI can be divided into three types. The first type of FDI is called market-seeking FDI, whose foremost aim is to serve local and regional markets. It is also called horizontal FDI, as it involves replication of production facilities in the host country. As the reason for horizontal FDI is to better serve a local market, market growth, local production and market size of the host economy play important roles. Barriers to accessing local markets, such as tariffs and transport costs, also encourage this type of FDI. The second type of FDI is called resource-seeking or vertical: when firms invest abroad with main goal to obtain resources not available in the home country, such as natural resources, raw materials, or/and low-cost labor. Particularly in the manufacturing sector, when multinationals directly invest in order to export, factor-cost considerations become important. In contrast to horizontal FDI, this type of FDI involves relocation of parts of the production chain to the host country. Low-cost labor is usually the biggest driver for export-oriented FDI. The third type of FDI, called efficiency-seeking, takes place when the firm can benefit from the common governance of geographically dispersed activities in the presence of economies of scale and scope.

Moving on, the impact of FDI on economic growth has been an interest for many empirical studies. For

* Переливы продуктивности от прямых иностранных инвестиций во Вьетнаме.

developing countries, FDI has by far proved to be more efficient than domestic investment in host developing countries. Hereby, while there is substantial evidence that foreign investments are more efficient than domestic ones, the evidence of its effects on the economy remains relatively mixed.

LITERATURE REVIEW

Foreign direct investment is a particular type of foreign capital, as opposed to domestic investment. The International Monetary Fund's Balance of Payments Manual defines FDI as "investment that is made to acquire a lasting interest in an enterprise operating in an economy other than that of the investor, the investor's purpose being to have an effective voice in the management of the enterprise"[1]. While OECD's benchmark definition of FDI identifies FDI's objective is to obtain a lasting interest by a resident entity ("direct investor") in one economy other than that of the investor ("direct investment enterprise"). The lasting interest implies the existence of a long-term relationship between the direct investor and the enterprise and a significant degree of influence on the management of the enterprise[2].

Many studies compared the efficiency between FDI and domestic investment. For developing countries, FDI has proved to be more efficient than domestic investment in host developing countries. Borensztein E., De Gregorio, J. and Lee, J.W. used a model where economic growth is determined by FDI, human capital, government expenditure, domestic investment, inflation rate and institutions. As a result, they found that: FDI inflows positively influence economic growth, and FDI and domestic investment were complementary[3]. However, De Gregorio in his study on Latin America finds that FDI was three times more efficient than domestic investment[4]. Blomstrom *et al.* and his colleagues confirm that there was no evidence of "crowd out" effect on domestic investment[5]. In contrast, after running the model for 12 countries during the period 1971–2000, Agosin and Machado conclude that in three developing regions (Africa, Asia and Latin America), FDI has no influence on domestic investment. There are several sub-periods for specific regions where FDI displaces domestic investment[6]. Hence, the effects of FDI are discussable.

Although empirical studies have been conducted in different areas and countries of the world to examine the relationship between FDI and economic growth, not much literature has been found for the case of Vietnam. The main obstacle is that there is not enough data available to conduct any system of regression equation; hence the sample might be small due to a short timeframe. Moreover, the two-way linkage between FDI and economic growth in which FDI promotes economic growth and, in turn, economic growth is viewed as a tool to attract FDI is not thoroughly investigated. This paper attempts to analyze the outstanding problem.

According to the Foreign Investment Advisory Service (FIAS) of World Bank, Vietnam had the highest level of FDI as percentage of GDP among all the developing economies during the transitioning period[7]. Factors that stimulated the foreign investor appetite for Vietnam, as suggested by various authors, both foreign and native, included the market size, accessions of Vietnam in international and global organizations, associations and agreements (ACEAN, WTO, BTA, etc.), the attractiveness of a transitional economy, the strong work ethos, the high levels of education yet relatively low labor rate, plentiful resources, and so on (Le Dang Doanh[8], Nguyen Phi Lan[9], Schaumburg-Muller[10], Andréosso-O´Callaghan[11] etc.). Geographical location was also one factor that led to the impressive rise in FDI inflows to Vietnam[12].

Subsequently, in order to thoroughly analyze the factors influencing FDI, studies have been conducted

[1] The IMF Balance of Payments and International Investment Position Manual, Sixth Edition, 2009.

[2] OECD Benchmark Definition of Foreign Direct Investment — 4th Edition, 2008.

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during different timeframes using diverse types of methods, applying either to regions, industries or to the whole country; hence the results may lead to variation of the authors' opinions.

For instance, Nguyen Phi Lan – together with Sajid Anwara – in 2010, using simultaneous equations model, revealed that in overall terms a mutually reinforcing two-way linkage between FDI and economic growth exists in Vietnam. However, this is not the case for each and every region of Vietnam. The results presented in this study suggest that the impact of foreign direct investment on economic growth in Vietnam will be larger if more resources are invested in education and training, financial market development and in reducing the technology gap between the foreign and local firms[13]. The same results were derived from researches done by Nguyen Dinh Chien, empirical results of which showed that FDI has a positive impact on economic growth of Vietnam only in 4 out of 6 regions[14]. In another paper he analyzed the North Central Area and South Central Coast of Vietnam, both of which showed different levels of bi-directional relationship between FDI and GDP[15]. And last but not least, Malesky Edmund also noticed differences in reaction of each province to FDI and vice versa, how FDI helps to explain variation in provincial economic governance[16].

Another study from Nguyen Phi Lan and Sajid Anwara in early 2011 examined the impact of FDI on exports, imports and net export of Vietnam based on a recently released panel dataset involving Vietnam's 19 major trading partners. The empirical analysis reveals that a complementary relationship exists between FDI and exports and FDI and imports[17]. Three months later the duo wrote another article on FDI and export spillovers. According to them, the presence of foreign firms in Vietnam, through horizontal and forward linkages, significantly affects the decision of domestic firms to export as well as their export share[18]. A year before they already covered the problem of investment-linked spillovers and economic growth in Vietnam. Empirical results suggested that FDI-generated spillovers have made a significant contribution to manufacturing sector growth in Vietnam through vertical-backward linkages. The positive impact of vertical-backward linkages on manufacturing sector growth is strengthened by the stock of human capital. Specifically, manufacturing industries with a larger stock of human capital have experienced a higher level of technological advancement and hence stronger economic growth[19]. A study from Thu Thi Hoang, Paitoon Wiboonchutikula and Bangorn Tubtimtong confirmed those results, stating that there is a strong and positive effect of FDI on economic growth in Vietnam as a channel of increasing the stock of capital. However, human capital and trade in Vietnam are not yet the channels that give access to advance technology and knowledge transfers from FDI inflows to increase Vietnamese economic growth[20]. Nguyen Kim Anh also considered the fact that FDI may contribute to generation of positive inter-industry spillover in the form of backward/forward linkage effects in some industries, yet may cause negative impact on others[21].

INVESTMENT AND FDI IN VIETNAM

Located in the midst of one the most dynamic economic region, in Southeast Asia, Vietnam took on an ambitious economic reform at the end of the 1980-s named *Doi Moi*, which included foreign direct investment (FDI) policies aiming to promote national economic development through technological transfer and employment generation. Over the past few decades, Vietnam has achieved a most remarkable economic development that has radically transformed the economic outlook of the country. One of the objectives of the *Doi Moi* reform was a move towards openness. Thus, already in 1987 a new Foreign Investment Law was promulgated by the Vietnamese government. Since then various measures have been taken to increase the

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attractiveness of Vietnam for FDI (i.e. simplified access to licenses for FDI, various investment incentives and reduced restrictions on FDI).

Vietnam has a favorable geographical location right at the heart of East Asia – home to a number of large and vibrant economies. Furthermore, the country is a market economy, a member of the WTO, and a party to multiple frameworks for international economic integration, including free trade agreements with partners both within and outside the region. In particular, the country is part of the Trans-Pacific Partnership negotiations. These factors all go the same way to explaining why so many choose to invest in Vietnam – and should draw in more foreign investors.

Concerning typology and characteristics of investment in Vietnam, according to the General Statistical Office (GSO)[22], in Vietnam the majority of foreign enterprises, 51.6 per cent, are large, while around 28 per cent are small, and around 20 per cent are medium; almost 70 per cent are TNCs and only one third (31 per cent) are stand-alone enterprises. The database is quite balanced in terms of country of foreign investor origin: around 57 per cent originate from industrialized countries, whereas some 43 per cent come from developing countries. Foreign enterprises are mainly located in the province of Binh Duong (33.5 per cent), Ho Chi Minh City (22.4 per cent), Dong Nai (21.5 per cent) and Hanoi (around 10 per cent). In terms of sectorial distribution, three sectors – fabricated metal products (except machinery and equipment), wearing apparel, and plastics products – constitute approximately one quarter, with a high presence of the furniture, textiles and computer, electronic and optical products industries. Categorization according to technology level (following OECD 2005) – shows that most enterprises fall into the low-technology level (47 per cent). Around 28 per cent of foreign firms are located in the high-technology industries, and 22 per cent – in medium-technology manufacturing activities.

Next, Vietnam has been securing socio-political stability, and is known to be one of the most dynamic economies. Economic growth between 1991 and 2010 averaged 7.5% each year and, despite of many difficulties the country faced between 2011 and 2013, GDP growth still rose by 5.6%. Several international forecasts suggest that this trend will continue in 2014–2015 and beyond.

To add new chapters to this success story, the Vietnamese government is continuing to revitalize its business and investment climate. One way it is doing this is its work on three "strategic breakthroughs": putting in place market economy institutions and a legal framework; building an advanced and integrated infrastructure, particularly transport; and developing a quality workforce. These should all be completed by 2020.

The government remains determined to fulfill its treaty obligations and promote the negotiation and conclusion of a new generation of free trade agreements. Vietnam views the success of FDI enterprises as its own success. As such, the government is committed to ensuring a stable socio-political environment, protecting the legitimate rights and interests of investors, and creating an enabling environment for FDI enterprises in the country.

EMPIRICAL RESEARCH

The paper uses a panel data set covering the period 2005 to 2013, constructed from the Statistical Yearbook of Vietnam published annually by General Statistics Office of Vietnam. This Yearbook comprises basic data reflecting the general socio-economic dynamic and situation of the whole country, regions and provinces. In addition, this publication also contains selected statistics of countries and territories in the world to provide reference information for studies and international comparison.

The local TFP was modeled using the DEA (Data Envelopment Analysis), which is a nonparametric method in operations research and economics for the estimation of production frontiers[23]. The framework has been adapted from multi-input, multi-output production functions. Thus we can translate this into a function transforming the energy consumption, labor force and capital investment (or fixed assets) into the GDP. The model is adopted by the one suggested by Didenko A. and Egorova T. in 2014 and is formulated as follows[24]:

$$log(TFP) \sim log(EnergyCons) + log(Labor) + log(FixAssets) + FDISpill$$

where TFP stands for total factor productivity, EnergyCons translates energy consumption, Labor is labor force, FixAssets implies Fixed assets and FDISpill denotes FDI spillovers, which are measured as the ratio of

[22] Statistical Yearbook of Vietnam 2013. 2014. Statistical publishing house. General statistics office. Hanoi.
[23] Cook, W.D., Tone, K., and Zhu, J. 2014. *Data envelopment analysis: Prior to choosing a model,* OMEGA, Vol. 44.
[24] Didenko A., Egorova T. 2014. *Innovations as Factor of Absorptive Capacity of FDI Spillovers across Regions of Russian Federation.* Review of Business and Economics Studies, Volume 2, Number 3.

Coefficients:

	Estimate	Std. Error	t-value	Pr(>|t|)
(Intercept)	−1.0460e+01	3.1548e+00	−3.3155	0.001727 **
log(EnergyCons)	−1.4962e+00	3.3513e−01	−4.4645	4.718e−05 ***
log(Labor)	1.6814e+00	3.8311e−01	4.3889	6.055e−05 ***
log(FixAssets)	−3.9381e−02	7.4032e−02	−0.5319	0.597171
FDISpill	1.8390e−03	8.4983e−04	2.1640	0.035366 *

R-Squared: 0.84335
Adj. R-Squared: 0.76526

FDI capital to total volume of capital of enterprises. The one-way (individual) Random Effect Model was also estimated.

As a result, all coefficients are proved to be significant except for Fixed Assets. While energy consumption is tested to affect TFP negatively, other factors show positive influence. R-Squared or coefficient of determination is relatively close to unity (0.84335) indicating how well data fit a statistical model or how well observed outcomes are replicated by the model, which in our case is good. Adjusted R-Squared, the coefficient of determination that compares the explanatory power of regression model that contains different numbers of predictors, is equal to 0.76526, which is comparatively high, meaning a good regression quality and is proved to be less than R-Squared. The results also show that the impact of FDI spillover effect is positive meaning foreign direct investments may contribute in boosting local productivity in the forms of spillovers.

Subsequently, the following revelations can be obtained. Among the other positive areas, improved efficiency in implementing FDI, skilled human resource with the competitive wage level, improvements in the quality of transport and energy infrastructure can be observed to positively influence the quality and the quantity of FDI inflows into Vietnam. However, with ever growing prices of electricity and other energy resources in the country, energy consumption was shown to affect TFP negatively. Besides, while Vietnam has a potential to attract a critical mass of FDI to accelerate its industrialization, the number of projects and registered and implemented capital are still relatively small and tend to fluctuate annually.

In short, as a major growing emerging economy, Vietnam has integrated into the global economic and business environment and developed a dynamic open market economy. In order to overcome outstanding problems and to enhance the role of FDI in Vietnam's development process policymakers need to improve the investment environment to attract foreign capital inflows for sustainable growth (i.e. more simplified process of granting licenses for FDI, better investment incentives and reduced restrictions on FDI). Moreover, legal framework needs to be more transparent and stable to satisfy foreign investor's requirements, and Vietnam's FDI attraction strategy also needs completion. Then, the attraction of high-quality, capital-intensive, advanced technology FDI projects requires a certain skillful labor force along with better infrastructure, hence the strategy for training a good quality labor force is necessary.

CONCLUSION

In the medium and long term, Vietnam will continue its efforts to attract and efficiently use FDI inflows to advance socio-economic development. The country will target "high quality" FDI inflows, focusing on FDI projects that use advanced and environmentally friendly technologies, and use natural resources in a sustainable way. It will also target projects with competitive products that could be part of the global production network and value chain.

International forecasts suggest that as the world economy recovers, FDI flows will be returning to dynamic economies. Given the positive prospects for both global and regional economies, hopefully Vietnam will continue to find success in this area.

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