check for updates

Impact of FDI absorptive capacity on labor productivity in Vietnam

ⓘ **Tran Khanh Hung[1]**
ⓘ **Dang Thai Binh[2+]**
ⓘ **Tieu Van Trang[3]**
ⓘ **Hoang Van Hoa[4]**
ⓘ **Do Quynh Anh[5]**
ⓘ **Pham Huy Tu[6]**

[1,4,5]*National Economics University, Hanoi, Vietnam.*
[1]*Email: hungtk@neu.edu.vn*
[4]*Email: hoahv@neu.edu.vn*
[5]*Email: anhdq@neu.edu.vn*
[2]*Vietnam Academy of Social Sciences, Vietnam.*
[2]*Email: dangthaibinh1985@gmail.com*
[3]*University of Finance – Marketing, Vietnam.*
[3]*Email: tvtrang@ufm.edu.vn*
[6]*Institute of Labour Science and Social Affairs, Vietnam.*
[6]*Email: huytu@iuj.ac.jp*

(+ Corresponding author)

ABSTRACT

This study examines the impact of Foreign Direct Investment (FDI) absorptive capacity on labor productivity in Vietnam's vibrant and dynamic context. Using panel data analysis of firm-level data from the Vietnam Enterprise Survey for 2008-2018, which was collected by the General Statistics Office of Vietnam, the authors find out that capacity is essential in enhancing labor productivity in Vietnamese firms. The study takes a strong and thorough approach, using panel data analysis to find out the many aspects of firm-level absorptive capacity and what these aspects mean for improving labor productivity in Vietnamese businesses. Specifically, firms with higher absorptive capacity tend to have higher labor productivity levels than those with lower absorptive capacity. Our findings suggest that policy makers in Vietnam and other developing countries must develop their absorptive capacity to benefit from FDI and fully improve productivity. In order to fully benefit from foreign direct investment (FDI), host nations must place a high priority on building their capacity to absorb FDI through wise expenditures in infrastructure, innovation, education, and training, as well as intellectual property rights protection. The study also shows how important absorptive capacity is in the relationship between FDI and productivity by adding to the existing research and finding the specific absorptive capacity indicators that are most useful for increasing labor productivity in Vietnamese businesses.

Contribution/Originality: This research underscores the crucial role of absorptive capacity in enhancing labor productivity within Vietnamese firms. This finding reaffirms the importance of developing the capacity to absorb FDI effectively to fully capitalize on the potential of foreign investments.

1. INTRODUCTION

Foreign Direct Investment (FDI) has been one of the main drivers of economic growth in a large number of emerging countries, such as Vietnam. In recent decades, Vietnam has become Southeast Asia's most important destination for foreign direct investment. The country has attracted significant amounts of FDI in various sectors, including manufacturing, services, and agriculture. As a result, FDI has played a vital role in Vietnam's development and contributes significantly to the country's fast growth and transformation (Nguyen, 2022). Foreign enterprises based in Vietnam not only create jobs for local citizens but also bring new technology to domestic enterprises as well as have different spillover effects on domestic enterprises (Nguyen et al., 2008; Nguyen, Tran, Le, & Trieu, 2020).

143

There is considerable literature on foreign direct investment and its impact on host countries' economic growth and development. FDI is generally believed to positively affect economic growth, as it can bring in new technologies, skills, and knowledge that may not be available locally (Blomstrom, Lipsey, & Zejan, 1992). FDI can also provide access to international markets and increase competition (Lall, 2000), leading to more efficient resource allocation and productivity growth (Harris & Moffat, 2013; Salim & Bloch, 2009).

However, the benefits of FDI for host countries are not automatic, and not all countries, industries, and domestic enterprises can absorb the benefits of FDI equally (Kurtishi-Kastrati, 2013). To fully benefit from FDI, countries must have the necessary absorptive capacity to assimilate and effectively utilize foreign technologies and knowledge. This absorptive capacity is critical for enhancing a country's productivity and competitiveness, as it allows firms to adopt and adapt to new technologies, processes, innovation, and business models (Casadesus-Masanell & Ricart, 2010).

The literature extensively explores the link between FDI and labor productivity. However, there is a lack of in-depth research on the impact of FDI absorptive capacity on labor productivity in Vietnam. While Nguyen (2019) found a positive relationship between FDI and labor productivity in Vietnam, they did not investigate the role of absorptive capacity. To address this research gap, our study delves into the relationship between foreign direct investment absorptive capacity and labor productivity in Vietnam.

The paper is structured as follows: Section 2 provides a review of the literature on FDI, absorptive capacity, and labor productivity. Section 3 outlines the research methodology and data sources employed for the analysis. In Section 4, we present the empirical study results along with their implications and findings. Finally, in Section 5, we conclude the paper and provide recommendations for policymakers and companies operating in Vietnam.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

One of the most crucial factors that will help host countries grow their economies is FDI. That is why many nations, especially developing countries, are ready to offer several incentives to welcome foreign investors. However, spillover effects are also essential apart from the direct impact of FDI, including capital raising, labor creation, or tax. There are two prominent linkages through which FDI can generate spillover effects: Horizontal and Vertical impact. Regarding the horizontal effect, there are four channels: imitation, labor turnover, competition, and exports.

Regarding the vertical effect, there are forward and backward linkages (Görg & Greenaway, 2004). The spillover effects arise when foreign direct investment firms appear and operate in the host countries, but they do not deliberately create them. Instead, it happens because multinational firms cannot capture all quasi-rents when they run their businesses in recipient countries. In many ways, spillovers can affect the domestic industry, and one particular aspect is productivity in host countries. More specifically, several papers focus on the domestic sector's labor productivity, which is the number of goods or services created by workers.

One of the first studies about the impact of FDI spillovers on productivity is the study of Caves (1974). The author analyses the impact of FDI spillover in the case of Canada and Australia and concludes that the competition effect of FDI firms helps improve the productivity of domestic firms. Globerman (1979) and Blomström and Persson (1983) then confirm the positive impact of FDI on productivity in Canada and Mexico. Then, several authors try to test the influence of FDI spillovers across nations and regions. Chang and Luh (1999) identify the economic growth sources in China, Japan, the Asian Newly Industrialized Economies (the NIEs), such as South Korea, Taiwan, Singapore, and Hong Kong, and the ASEAN-4 (Indonesia, Malaysia, the Philippines, and Thailand), using Malmquist productivity indexes from 1970 to 1990. The results show that FDI spillovers and education are critical productivity factors. They not only push productivity to the frontier but also move the entire frontier. Liu, Parker, Vaidya, and Wei (2001) tested the relationship between FDI and labor productivity in 41 Chinese electronics industry sub-sectors in 1996 and 1997. The authors argue that foreign presence (horizontal effect) can positively impact domestic firms'

labor productivity. Despite the authors' assertion that FDI plays no more important role than human capital and firm size.

Mebratie and Bedi (2013) studied the influence of FDI on the labor productivity of domestic firms in South Africa in 2003 and 2007. The authors state that foreign direct investment in advanced technologies and intangible assets may cause spillover effects, which can have a positive influence on domestic firms' productivity. Alam, Arshad, and Rajput (2013) examine the causal relationship between growth, FDI, and labor productivity in 19 OECD countries (The Organization for Economic Cooperation and Development) from 1980 to 2009 using the error correction mechanism from the generalized method of moments (GMM) model. FDI has an effect on labor productivity in both the short and long run. Ahmed and Kialashaki (2023) examine the FDI spillover effects on labor productivity in some Asian-Pacific countries, including Malaysia, Indonesia, Singapore, the Philippines, Thailand, China, Japan, Korea, India, Australia, and New Zealand. Researchers looked at panel data from 1970 to 2012 and found that FDI spillovers have a bigger effect on productivity in host countries than total factor productivity (TFP) (Javorcik, 2004).

Many authors have investigated the impact of foreign direct investment on the performance of the domestic industry in Vietnam, including Anwar and Nguyen (2010), Duong (2020), Le (2008), Le and Pomfret (2011), and Vu and Le (2017). However, the literature presents mixed results for Vietnam. Therefore, this paper aims to examine the relationship between FDI spillovers and the labor productivity of domestic firms in the Vietnamese context.

Spillovers may occur when foreign direct investment firms have their presence in host countries, but the level of impact is likely to be dependent on the domestic industry's ability to absorb them. Duong (2020) argues that the spillover effects cannot automatically convert to benefits for domestic firms. It needs a bridge of absorptive capacity. The term "absorptive capacity" was mentioned by Cohen and Levinthal (1990) as the capability of firms to detect new knowledge and then apply it into practice, and the authors point out that the absorptive capacity needs prior related knowledge. This means that at the individual and organization level, absorptive capacities can be built up and need time to develop. However, the initial definition of Cohen and Levinthal is not specific, and therefore, various subsequent papers redefine it Szulanski (1996); Zahra and George (2002); Tu, Vonderembse, Ragu-Nathan, and Sharkey (2006); and Martinkenaite and Breunig (2016). Vu (2018) argues that absorptive capacity must be examined from inter-firm and intra-firm perspectives. In particular, intra factors refer to the capabilities of firms that do not require labor or capital and, as such, can be seen as a gap between domestic firms and multinational corporations in terms of capacity. Consequently, Vu (2018) suggests that the *"absorptive capacity of a firm is the distance from its firm-specific capability to the top firm-specific capability firms in the same industry"* (Vu, 2018). The paper is based on this argument to measure firms' absorptive capacity.

There is a wide range of evidence regarding the role of absorptive capacity in connecting foreign direct investment (FDI) inflows with the productivity of domestic industries. The variability in these findings may be attributed to the diverse methods employed in measuring absorptive capacity. For instance, Blalock (2002) used research and development (R&D) expenditures to gauge absorptive capacity in the context of Indonesian manufacturing firms from 1988 to 1996. Their study concluded that absorptive capacity and human capital are pivotal factors that enhance the performance of Indonesian firms. Additionally, the authors noted that domestic firms with lower technological levels have more opportunities for improvement through collaboration with foreign counterparts. In the same way, Wang (2010) used R&D stocks to measure absorptive capacity and showed that the forward and backward linkages of FDI can boost the total factor productivity (TFP) of Canadian firms, especially when the domestic sector has high absorptive capacity. Sánchez-Sellero, Rosell-Martínez, and García-Vázquez (2014) made it possible to measure absorptive capacity by adding factors like organizational structure, human capital, market concentration, and outcomes to the list of things that were measured. Their study affirmed the significance of absorptive capacity for the domestic sector to benefit from FDI spillover effects. Looking at things from different points of view, Ferragina and Mazzotta (2014) used technology gap and technology intensity as substitutes for absorptive capacity. They came to the conclusion that, in the case of Italy, the effect of FDI spillovers depends on

absorptive capacity. Furthermore, Girma (2005) argued that the absorptive capacity of the UK manufacturing industry is vital for the influence of FDI on economic growth. The study by Girma also found a non-linear threshold effect of absorptive capacity. This means that domestic companies can only benefit from FDI spillovers after they reach a certain level of absorptive capacity. In the context of the manufacturing sector in Vietnam, Duong (2020) measured absorptive capacity by assessing the efficiency gap between domestic firms and FDI firms. Based on their findings, it was established that absorptive capacity plays a pivotal role in the relationship between FDI spillovers and the performance of domestic firms. Despite the wealth of research on absorptive capacity, there appears to be a gap in the literature concerning the impact of absorptive capacity on FDI spillovers into Vietnam's labor productivity, as far as the knowledge of this paper's author extends. Consequently, this article presents the second hypothesis as follows:

H₂: FDI absorptive capacity facilitates the impact of FDI spillovers on the labor productivity of Vietnamese firms.

3. METHODOLOGY AND DATA

The paper estimates the impact of FDI spillovers on labor productivity in Vietnam by using the following equation:

$$\frac{Y_{it}}{L_{it}} = f\left(\frac{K_{it}}{L_{it}}, \frac{HC_{it}}{L_{it}}, FDI\_spillover_{jt,}, X_{it}\right) \tag{1}$$

It is based on the production function when a firm's output depends on labor, physical capital, human capital, and other control variables. Taking logarithm on both sides, it becomes:

$$\ln LP_{it} = \beta_0 \ln K_{it} + \beta_1 \ln HC_{it} + \beta_2 \ln FDI\_spillover_{jt} + \beta_3 \ln AC_{it} + \beta_4 \ln X_{it} + \varepsilon_{it} \tag{2}$$

Where lp is labor productivity measured by value-added over total workers of a domestic firm i at time t. k is the ratio between physical fixed capital and total workers of domestic firm i. hc is the ratio between human capital and total workers of firm i. Human capital is proxied by the total wage of firm i, which means that higher-skilled workers might receive a higher salary. FDI spillovers are proxied by horizontal effect and backward and forward linkage. The construction of these variables is described below. AC is the absorptive capacity of domestic firm *I* which is based on Duong (2020) X is a set of other control variables that include the age of the firm, size, and institutions.

FDI spillovers are constructed as follows:

$$Horizontal_{jt} = \frac{\sum_{i \in j} y_{it}}{Y_{jt}}$$

Where y is the revenue of foreign firm i in industry j at time t and Y is the revenue of industry j at time t. $Horizontal_{jt}$ presents the appearance of FDI firms in the industry j.

$$Backward_{jt} = \sum_{k \neq j} a_{jk} * Horizontal_{jt}$$

a_{jk} is the proportion of industry j's output consumed by industry k which is taken from the Input-Output table of Vietnam in 2012.

$$Forward_{jt} = \sum_{m \neq j} b_{jm} * \frac{\sum_{i \in m} y_{ijt} - e_{ijt}}{Y_{jt} - E_{jt}}$$

b_{jm} present the proportion of industry m's output consumed by industry j to produce final outputs collected from the Input-Output table 2012. e_{ijt} are exports of foreign firm i in the industry j at time t, and E_{jt} is total exports of industry j at time t. Here, exports are assumed to have a linear correlation with equity.

$$\sum_i e_{ijt} = \frac{\sum_i ka_{ijt}}{KA_{jt}} * E_{jt}$$

ka_{ijt} is equity of a foreign firm i in the industry j at time t and KA_{jt} is the total equity of industry j. E_{jt} is total exports of industry j that is taken from the Input-Output table 2012.

After estimating the effect of absorptive capacity and FDI_spillovers in Equation 2, the paper creates the interaction terms between Absorptive capacity and FDI_spillover effects to see the joint effect as follows:

$$\ln LP_{it} = \beta_0 \ln K_{it} + \beta_1 \ln HC_{it} + \beta_2 \ln FDI\_spillover_{jt} + \beta_3 \ln AC_{it} + \beta_4 \ln X_{it} + \beta_5 \ln AC_{it} * \ln FDI\_spillover_{jt} + \varepsilon_{it}$$

To deal with endogeneity, the paper uses instrumental variables and two-stage least squares. This is because many of the independent variables, like institutions, human capital, and absorptive capacity, are likely to be endogenous. Instrument variables are the lag value of each instrumented variable. The firm-invariant fixed effects are also removed by using fixed-effect estimation.

The paper constructs panel data based on the Vietnam Annual Enterprises Survey from 2008 to 2018, which contains information about total workers, revenue, fixed capital, total capital, equity, ownership, establishing year, sector, etc. All variables are logarithm transformed. The total observation is 101,328 observations from 2008 to 2018, which includes 14,758 FDI firms and 86,570 private and state-owned firms. The description of all variables can be seen in Table 1.

Table 1. Variable description.

Variable	Unit	Obs.	Mean	Std. dev.	Min.	Max.
LP	Log of value added to total worker	86,570	4.000	0.809	-2.334	10.840
HC	Log of total wage to total worker	86,570	3.473	0.706	-3.527	10.840
INST	Log of provincial competitiveness index	86,570	4.086	0.085	3.594	4.346
SIZE	Log of total asset	86,570	9.503	1.904	-0.428	17.276
Hor	Log of horizontal effect	86,570	-2.537	1.821	-7.058	-0.022
Back	Log of backward linkage	86,570	-4.427	2.507	-12.658	0.080
For	Log of forward linkage	86,570	-2.298	0.756	-4.110	-1.197
AC	Log of absorptive capacity	86,570	-0.313	0.218	-6.060	0.087
K	Log of total fixed capital to total worker	86,570	4.475	1.275	-3.649	11.784
Age	Age of firm	86,570	13.677	9.826	1	87
Age2	Age*age	86,570	283.637	507.783	1	7569

4. RESULTS AND DISCUSSION

After the instrumental variables 2SLS (two-stage ordinary least squares) with fixed effect estimation have been run, a regression result is shown in Table 2. Model 1 shows that human capital, institutions, financial per worker, and age of enterprises influence the productivity of domestic firms. Human capital has the highest impact on the labor productivity of domestic firms when a 1% increase in human capital leads to a 0.9787% increase in labor productivity. Institutions and absorptive capacity have similar impacts when the coefficient magnitudes are 0.3971 and 0.3922, respectively. Additionally, a 1% increase in capital per worker brings a 0.1135% rise in the labor productivity of domestic firms. Notably, the coefficient of age is negative and significant. The paper adds the age square variable, and the result shows that domestic firms might have low labor productivity at first, but after some time, the negative effect dies out, and firms start gaining a positive impact. All the coefficients are statistically significant. The coefficient of Size is 0.0018, but it is not significant.

Table 2. Regression result 1.

	Model 1 All domestic firms	Model 2 State firms	Model 3 Private firms
HC	0.978*** (0.034)	1.028*** (0.123)	0.994*** (0.039)
INST	0.397*** (0.056)	0.158 (0.213)	0.425*** (0.060)
Size	0.001 (0.014)	-0.084 (0.080)	0.000 (0.014)
Hor	-0.012*** (0.003)	0.012 (0.011)	-0.015*** (0.004)
Back	0.008** (0.002)	0.001 (0.013)	0.010*** (0.002)
For	0.008	0.012	0.009

	Model 1 All domestic firms	Model 2 State firms	Model 3 Private firms
	(0.009)	(0.041)	(0.009)
AC	0.392***	1.269***	0.384***
	(0.040)	(0.281)	(0.041)
K	0.113***	0.077***	0.112***
	(0.005)	(0.022)	(0.006)
Age	−0.0468***	−0.042***	−0.047***
	(0.001)	(0.007)	(0.002)
Age2	0.000**	0.000	0.000
	(0.000)	(0.000)	(0.000)
N	79363.000	5131.000	74232.00
R_square	0.505	0.1849	0.543
Wald	679934.7	20930.49	676857.41

Note: Standard errors in parentheses.
** $p<0.01$ and *** $p<0.001$.

In Model 1, the primary variables of interest are the FDI spillover effects: Horizontal (Hor), Backward (Back), and Forward (For). First, Model 1 reveals a negative impact of the horizontal effect. The coefficient, -0.0125, suggests that the presence and operations of FDI firms have an adverse effect on the labor productivity of domestic firms within the same industry. This finding aligns with the research of Ni, Spatareanu, Manole, Otsuki, and Yamada (2015), which similarly noted the negative impact of horizontal spillovers on firm total factor productivity across various Asian countries. A comprehensive study by the World Bank (2020) also confirmed the negative impact of FDI on labor productivity, often attributed to a crowding-out effect resulting from increased competition. FDI firms tend to be more technologically and managerially advanced, making it challenging for domestic firms to compete. Additionally, FDI firms are willing to offer higher wages to attract skilled and experienced workers, further reducing the pool of talent available to local firms.

In contrast, the backward channel has a positive and significant influence on the labor productivity of domestic firms. Specifically, a 1% increase in backward spillovers (Back) leads to a 0.0087% increase in the labor productivity of local firms. This finding is consistent with the research of Arif-Ur-Rahman and Inaba (2021), who also identified spillover effects on productivity through backward linkages between FDI and Vietnamese firms. The backward channel operates when FDI firms and domestic firms in different industries establish relationships, with the latter often serving as suppliers to the former. FDI firms entering the local market seek out local partners to tap into local knowledge. To qualify as a domestic partner, firms must enhance their capabilities to meet the criteria set by FDI firms; otherwise, they risk losing their position to other providers. In the context of Vietnam, the positive effect of the backward linkage surpasses any negative impacts, leading Model 1 to detect a favorable backward linkage from FDI to the labor productivity of Vietnamese firms.

In addition, the research results in models 2 and 3 indicate that the backward effect of FDI on labor productivity is better in private enterprises than in state-owned enterprises. Private enterprises often have greater flexibility in decision-making, operational processes, and resource allocation compared to state-owned enterprises. This flexibility allows them to adapt more quickly to new technologies and management practices brought by foreign firms through FDI. As a result, private enterprises may be better positioned to absorb and effectively utilize the knowledge and technology spillovers, leading to improved labor productivity. Private enterprises operate in a more competitive environment where they need to constantly innovate and improve in order to stay competitive. FDI can act as a catalyst for private enterprises to enhance their productivity levels and efficiency in order to compete effectively with foreign firms. On the other hand, state-owned enterprises may have less exposure to competition and may not face the same market pressures to improve productivity, which can limit the impact of FDI on labor productivity. Therefore, the impact of FDI spillovers on private firms is more visible.

Mode 2 and 3 are run on a sub-sample of state-owned and private firms. The critical point is that all FDI spillover variables are insignificant for state-owned firms, while Hor and Back are statistically significant for private firms. It

implies that the appearance and operation of FDI firms do not have a positive or negative impact on the labor productivity of state firms. The existence of FDI firms only impacts private firms' labor productivity. Model 3 shows the horizontal channel's negative effect and the backward channel's positive impact on private firms. It explains that state-owned firms are safer than private firms because they might have protection from the Government.

Next, the paper examines the role of absorptive capacity in the link between FDI spillovers and the labor productivity of domestic firms in Table 3. The interaction terms between absorptive capacity and Hor and Back are added in Models 4 and 5. The interaction term in Model 4 is positive and statistically significant. Note that the main impact of the horizontal effect in Model 1 is negative. Then this result implies that firms with an average absorptive capacity receive less negative impact from the horizontal effect. More specifically, the impact of the Horizontal effect on the firms with the mean value of absorptive capacity is 0.0154*(-0.31369)-0.0072= -0.0120, which is less than the main effect of -0.0125 in Model 1. It interprets that if firms have at least an average level of absorptive capacity, the appearance of FDI firms in the same sector might be less harmful. When firms have an excellent absorptive capacity, they can learn from their foreign counterparts, and consequently, the impact of competition is less and less. The interaction term in Model 5 is also positive and significant. It implies that absorptive capacity can boost Backward linkage's positive effect on domestic firms' labor productivity. The main impact of the Backward linkage on firms with an average value of absorptive capacity now is 0.00682*(-0.31369) + 0.01087=0.008731, which is slightly better than the major impact of 0.0087 in Model 1.

Table 3. Regression results 2.

	Model 4	Model 5
HC	0.981*** (0.034)	0.980*** (0.034)
INST	0.398*** (0.056)	0.398*** (0.056)
SIZE	-0.000 (0.014)	0.001 (0.014)
AC	0.4429*** (0.047)	0.4273*** (0.052)
Hor	-0.007 (0.004)	-0.0123** (0.0037)
AC*Hor	0.015* (0.007)	
Back	0.008** (0.002)	0.010*** (0.003)
AC*Back		0.006** (0.002)
For	0.007 (0.009)	0.008 (0.009)
K	0.113*** (0.005)	0.113*** (0.005)
Age	-0.046*** (0.001)	-0.0468*** (0.001)
Age2	0.0001** (0.000)	0.0001** (0.000)
N	79363	79363
R square	0.502	0.504
Wald	682526.3	681013.37

Note: Standard errors in parentheses.
* $p<0.05$, ** $p<0.01$ and *** $p<0.001$.

It is clear that the differences are minor between firms with an average absorptive capacity, as well as having significant impacts on Model 1 in terms of horizontal effects and backward linkages. Therefore, the paper considers the major impacts on firms with the highest and lowest values of absorptive capacity in Table 4. For the horizontal effect, the negative impact is 0 if firms have better absorptive capacity. For the Backward linkage, there are two

phenomena: the effect is negative for firms with the lowest value of absorptive capacity, and the impact is positive for firms with the highest value of absorptive capacity. It implies that there should be a threshold for absorptive capacity. If firms do not possess some certain level of absorptive capacity, the appearance of FDI firms can bring a negative backward linkage, but if firms have a better level of absorptive capacity, then they will start gaining from this spillover.

Table 2. Main impacts on firms with extreme values of absorptive capacity.

	Absorptive capacity		
	Min.	Average	Max.
Horizontal	–0.100	–0.012	–0.005
Backward	–0.030	0.008	0.011

5. CONCLUSION

This paper has provided comprehensive evidence on the impact of FDI absorptive capacity on the labor productivity of domestic firms in Vietnam. The findings not only highlight the importance of various firm-level factors, such as human capital, institutions, capital per worker, and the age of firms, but also underscore the significant role of absorptive capacity in enhancing labor productivity among Vietnamese firms. The results clearly indicate that firms with higher absorptive capacity exhibit higher levels of labor productivity compared to those with lower absorptive capacity. The implications of these conclusions are far-reaching, particularly for policymakers in Vietnam and other countries aspiring to attract foreign direct investment to bolster productivity. The study's results make it clear that Vietnamese companies need to develop a certain ability to absorb foreign direct investment (FDI) so that they can avoid the potentially bad horizontal effect and make the most of the benefits of FDI spillovers. To fully capitalize on FDI, host countries must prioritize the development of their absorptive capacity through strategic investments in education and training, fostering innovation, strengthening the protection of intellectual property rights, and improving infrastructure. By recognizing the importance of absorptive capacity, policymakers can shape policies and strategies that encourage the acquisition and utilization of knowledge and technology by foreign investors. This will ultimately enhance the productivity and competitiveness of domestic firms, leading to sustainable economic growth and development. The insights provided by this study contribute to the existing literature on FDI and productivity, providing valuable guidance for policymakers and stakeholders seeking to create an environment conducive to maximizing the benefits of foreign direct investment.

REFERENCES

Ahmed, E. M., & Kialashaki, R. (2023). FDI inflows spillover effect implications on the Asian-Pacific labour productivity. *International Journal of Finance & Economics, 28*(1), 575-588. https://doi.org/10.1002/ijfe.2437

Alam, A., Arshad, M. U., & Rajput, W. (2013). Relationship of labor productivity, foreign direct investment and economic growth: Evidence from OECD countries. *Journal of Business and Management Sciences, 1*(6), 133-138.

Anwar, S., & Nguyen, L. P. (2010). Absorptive capacity, foreign direct investment-linked spillovers and economic growth in Vietnam. *Asian Business & Management, 9*(4), 553-570. https://doi.org/10.1057/abm.2010.28

Arif-Ur-Rahman, M., & Inaba, K. (2021). Foreign direct investment and productivity spillovers: A firm-level analysis of Bangladesh in comparison with Vietnam. *Journal of Economic Structures, 10*(1), 1-23. https://doi.org/10.21203/rs.3.rs-154359/v1

Blalock, G. (2002). *Technology adoption from foreign direct investment and exporting: Evidence from Indonesian manufacturing*. Berkeley: University of California.

Blomstrom, M., Lipsey, R. E., & Zejan, M. (1992). *What explains developing country growth?* NBER Working Papers 4132, National Bureau of Economic Research, Inc.

Blomström, M., & Persson, H. (1983). Foreign investment and spillover efficiency in an underdeveloped economy: Evidence from the Mexican manufacturing industry. *World Development, 11*(6), 493-501. https://doi.org/10.1016/0305-750x(83)90016-5

Casadesus-Masanell, R., & Ricart, J. E. (2010). Competitiveness: Business model reconfiguration for innovation and internationalization. *Management Research: Journal of the Iberoamerican Academy of Management, 8*(2), 123-149. https://doi.org/10.1108/1536-541011066470

Caves, R. E. (1974). Multinational firms, competition, and productivity in host-country markets. *Economica, 41*(162), 176-193. https://doi.org/10.2307/2553765

Chang, C.-C., & Luh, Y.-H. (1999). Efficiency change and growth in productivity: The Asian growth experience. *Journal of Asian Economics, 10*(4), 551-570. https://doi.org/10.1016/s1049-0078(00)00032-4

Cohen, W. M., & Levinthal, A. L. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly, 35*(1), 128–152.

Duong, V. H. (2020). The threshold of absorptive capacity: The case of Vietnamese manufacturing firms. *International Economics, 163*, 44-57. https://doi.org/10.1016/j.inteco.2020.04.005

Ferragina, A. M., & Mazzotta, F. (2014). FDI spillovers on firm survival in Italy: Absorptive capacity matters! *The Journal of Technology Transfer, 39*, 859-897. https://doi.org/10.1007/s10961-013-9321-z

Girma, S. (2005). Absorptive capacity and productivity spillovers from FDI: A threshold regression analysis. *Oxford Bulletin of Economics and Statistics, 67*(3), 281-306. https://doi.org/10.1111/j.1468-0084.2005.00120.x

Globerman, S. (1979). Foreign direct investment and "spillover" efficiency benefits in Canadian manufacturing industries. *Canadian Journal of Economics, 12*(1), 42-56. https://doi.org/10.2307/134570

Görg, H., & Greenaway, D. (2004). Much ado about nothing? Do domestic firms really benefit from foreign direct investment? *The World Bank Research Observer, 19*(2), 171-197.

Harris, R., & Moffat, J. (2013). The direct contribution of FDI to productivity growth in Britain, 1997–2008. *The World Economy, 36*(6), 713-736. https://doi.org/10.1111/twec.12059

Javorcik, B. S. (2004). Does foreign direct investment increase the productivity of domestic firms? In search of spillovers through backward linkages. *American Economic Review, 94*(3), 605-627. https://doi.org/10.1257/0002828041464605

Kurtishi-Kastrati, S. (2013). The effects of foreign direct investments for host country's economy. *European Journal of Interdisciplinary Studies, 5*(1), 26-38.

Lall, S. (2000). *FDI and development: Policy and research issues in the emerging context*. QEH Working Paper Series – QEHWPS43. Queen Elizabeth House, University of Oxford.

Le, H. Q. (2008). *Foreign direct investment and wage spillovers in Vietnam: Evidence from firm level data*. Depocen Working Paper Series. No. 10. Hanoi.

Le, H. Q., & Pomfret, R. (2011). Technology spillovers from foreign direct investment in Vietnam: Horizontal or vertical spillovers? *Journal of the Asia Pacific Economy, 16*(2), 183-201. https://doi.org/10.1080/13547860.2011.564746

Liu, X., Parker, D., Vaidya, K., & Wei, Y. (2001). The impact of foreign direct investment on labour productivity in the Chinese electronics industry. *International Business Review, 10*(4), 421-439. https://doi.org/10.1016/s0969-5931(01)00024-5

Martinkenaite, I., & Breunig, K. J. (2016). The emergence of absorptive capacity through micro–macro level interactions. *Journal of Business Research, 69*(2), 700-708.

Mebratie, A. D., & Bedi, A. S. (2013). Foreign direct investment, black economic empowerment and labour productivity in South Africa. *The Journal of International Trade & Economic Development, 22*(1), 103-128. https://doi.org/10.1080/09638199.2013.745287

Nguyen, A. N., Nguyen, T., Le, D. T., Pham, Q. N., Nguyen, D. C., & Nguyen, D. N. (2008). *Foreign direct investment in Vietnam: Is there any evidence of technological spillover effects.* MPRA Paper No. 7273, University Library of Munich, Germany.

Nguyen, L. T. H. (2022). Impacts of foreign direct investment on economic growth in Vietnam. *Journal of Economic and Banking Studies, 4,* 1-15.

Nguyen, P. V., Tran, K. T., Le, N. T. T., & Trieu, H. D. X. (2020). Examining fdi spillover effects on productivity growth: firm-level evidence from vietnam. *Journal of Economic Development, 45*(1), 97-121.

Nguyen, T. V. (2019). The impact of foreign direct investment, human capital on labour productivity in Vietnam. *International Journal of Economics and Finance, 11*(5), 1-97.

Ni, B., Spatareanu, M., Manole, V., Otsuki, T., & Yamada, H. (2015). How will the origin of FDI affect domestic firms' TFP? Evidence from Vietnam. https://doi.org/10.13140/RG.2.1.4675.5604

Salim, R. A., & Bloch, H. (2009). Does foreign direct investment lead to productivity spillovers? Firm level evidence from Indonesia. *World Development, 37*(12), 1861-1876. https://doi.org/10.1016/j.worlddev.2009.05.009

Sánchez-Sellero, P., Rosell-Martínez, J., & García-Vázquez, J. M. (2014). Absorptive capacity from foreign direct investment in Spanish manufacturing firms. *International Business Review, 23*(2), 429-439. https://doi.org/10.1016/j.ibusrev.2013.06.006

Szulanski, G. (1996). Exploring internal stickiness: Impediments to the transfer of best practice within the firm. *Strategic Management Journal, 17*(S2), 27-43. https://doi.org/10.1002/smj.4250171105

Tu, Q., Vonderembse, M. A., Ragu-Nathan, T., & Sharkey, T. W. (2006). Absorptive capacity: Enhancing the assimilation of time-based manufacturing practices. *Journal of Operations Management, 24*(5), 692-710. https://doi.org/10.1016/j.jom.2005.05.004

Vu, H. D. (2018). Firm's absorptive capacity: The case of Vietnamese manufacturing firms. *Review of Economic Perspectives, 18*(3), 301-325. https://doi.org/10.2478/revecp-2018-0015

Vu, H. D., & Le, V. H. (2017). FDI spill-overs, absorptive capacity and domestic firms' technical efficiency in Vietnamese wearing apparel industry. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis, 65*(3), 1075-1084. https://doi.org/10.11118/actaun201765031075

Wang, Y. (2010). FDI and productivity growth: The role of inter-industry linkages. *The Canadian Journal of Economics / Revue Canadienne d'Economique, 43*(4), 1243–1272. https://doi.org/10.1111/j.1540-5982.2010.01613.x

World Bank. (2020). *A literature review on the effects of FDI on local firm productivity.* Retrieved from https://documents1.worldbank.org/curated/en/247211591942545444/pdf/Foreign-Direct-Investment-and-Productivity-A-Literature-Review-on-the-Effects-of-FDI-on-Local-Firm-Productivity.pdf

Zahra, S. A., & George, G. (2002). Absorptive capacity: A review, reconceptualization, and extension. *Academy of Management Review, 27*(2), 185-203. https://doi.org/10.5465/amr.2002.6587995