FDI, exports and labor productivity of Vietnamese enterprises with different levels of capital and labor-intensity

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ABSTRACT

Purpose: This study aims to examine the differential impact of two channels of international technology transfer, namely foreign direct investment (FDI) and exports on the labor productivity of firms in Vietnam with varying levels of capital-intensity and labor-intensity. This study aims to provide empirical evidence for policies that enhance Vietnamese firms' labor productivity.

Design/Methodology/Approach: This study uses panel data and employs a fixed effects model (FEM) and a random effects model (REM) to examine the impact of FDI and the exports on labor productivity of both large firms, small and medium-sized enterprises (SMEs) using firm-level data from Vietnam in 2015 and 2016.

Findings: This study finds evidence that FDI has a positive impact on firm-level labor productivity while exports do not significantly affect labor productivity for labor-intensive industries (represented by the garment industry). Conversely, for capital intensive industries and firms operating in these industries (represented by the metal casting industry), FDI appears ineffective in improving labor productivity. Still, exports are an important factor influencing labor productivity for these firms.

Conclusion: Firms operating in industries with different labor and capital intensity require different strategies to enhance labor productivity. Appropriate policies need to be implemented to achieve the desired outcomes depending on the characteristics of each firm.

Research Limitations and Implications: This study only focuses on studying the relationship between FDI, exports and labor productivity with different capital levels and labor-intensity not mentioning the business field of the enterprise.

Practical Implications: The new findings of the study make a great contribution to promulgating policies to attract FDI, promote exports and increase labor productivity at enterprises in Vietnam.

Contribution to the Literature: The relationship between FDI, exports and labor productivity with different levels of capital and labor-intensity according to different business fields of the enterprise was examined.

Keywords: *Capital-intensive, Export, FDI, Labor productivity, Labor-intensive, Vietnam enterprise.*

1. INTRODUCTION

Productivity is an important concept in economic growth and social welfare specifically labor productivity. Some researchers believe that labor productivity and competitiveness are two main issues of an integrated economy (Dong, Diem, Chinh, & Hien, 2020; Huynh & Le, 2016). It is considered one of the countries with the best labor productivity growth rate in the region. According to the Vietnam General Statistics Office (GSO) (2021), the labor productivity of the whole economy has improved markedly with an average increase of 5.78% per year in 2016-2020. However, when compared internationally according to the report of the International Labor Organization (ILO, 2015) and the Asian Development Bank (ADB) on labor productivity of the Association of Southeast Asian Nations (ASEAN) 2014 in On August 19, 2014, Vietnam's labor productivity was only 1/4 of Thailand, 1/5 of Malaysia, 1/10 of South Korea and 1/15 of Singapore. When comparing the labor productivity of 9 industry groups, Vietnam's labor productivity is all close to or lowest compared to Northeast Asian countries (Japan, Korea and China) and even ASEAN countries such as Singapore and Thailand or even Indonesia, the Philippines, Cambodia and Malaysia (Thanh & Kenichi, 2018). Figure 1 shows the per-worker labor productivity of ASEAN member states in 2018 (Kim & Woon,

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2020). Singapore presents the highest level of labor productivity at 149.05 (thousands of USD) closely followed by Brunei Darussalam at 142.01 (thousands of USD). Vietnam is one of the three countries with the lowest labor productivity per worker in the ASEAN region. In particular, there is a large variation among labor productivity between Vietnam (12.74 thousands of USD) and leading countries such as Singapore or Brunei.

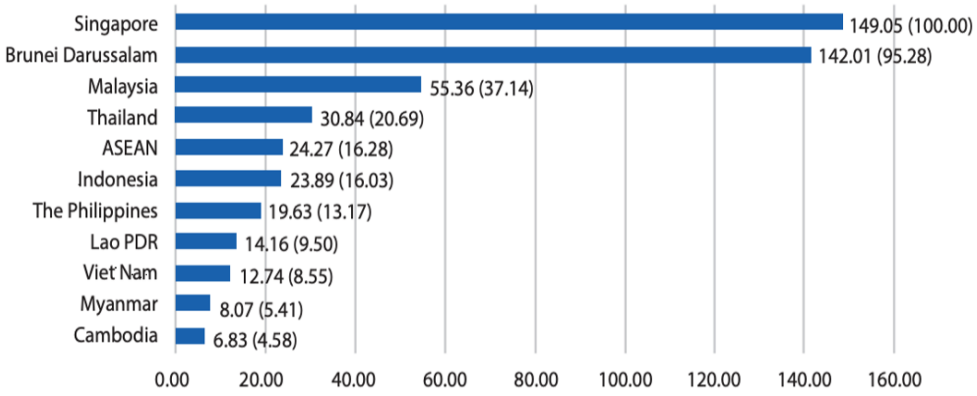

Figure 1. The per-worker labor productivity of ASEAN member states as of 2018.

Note: The output per worker is expressed in thousands of USD with a constant 2017 PPP. The numbers in the parentheses indicate the relative labor productivity (%) against that of Singapore.

Source: Asian productivity organization (APO), Asian economy and productivity map accessed on Nov. 10th, 2020.

In the 1990s, Vietnam's economy experienced substantial growth primarily driven by increased labor productivity in the agricultural sector. Over the next decade, the rise of private enterprises fueled the country's economic expansion. The shift towards export-oriented services, manufacturing and processing industries facilitated by trade liberalization created millions of jobs (Bodewig & Badiani-Magnusson, 2014). Vietnam attracted substantial and stable FDI inflows leveraging its competitive advantage in production particularly in labor intensive sectors. Vietnam now faces new challenges despite making clear and steady progress compared to some other countries. Economic growth and job mobility from the agricultural sector to other sectors have begun to slow down. Productivity growth which was the main driver of Vietnam's economic expansion during the early years of the Doi Moi reforms has decelerated over the past decade and labor productivity growth has also declined (Thanh & Kenichi, 2018; Vu, 2016). Most industries especially labor-intensive industries such as agriculture, forestry, fisheries, mining, construction, transportation and processing have witnessed a decrease in labor scale. This decline in labor-intensive industries poses a significant issue for Vietnam's ability to rely on labor scale to sustain economic development (Bodewig & Badiani-Magnusson, 2014; ILO, 2015).

In addition, the trade war between the US and China that took place in 2019 has created new opportunities for Vietnam to attract FDI especially the shift of FDI capital from China to Vietnam. This is not only an opportunity but also a new challenge that Vietnam has to face. The question is whether Vietnam can attract most of the FDI capital withdrawn from China to Vietnam so that it can take advantage of the benefits (IPC-South Vietnam quoted from Foreign Investment Agency).

At the same time, the prolonged economic recession caused by the COVID-19 pandemic may obscure the achievements in FDI attraction that Vietnam has garnered in recent years but also create an opportunity to establish a new FDI attraction strategy. Increasing exports for labor-intensive industries is inherently one of the key policies for developing the economy. However, the COVID-19 pandemic has made Vietnam's exports lose their advantage and may be a new challenge that Vietnam needs to solve when the economies of other countries are stagnant. Therefore, enterprises in Vietnam must determine a strategy suitable to their characteristics to join globalization to take the best advantage of new opportunities in a period of many changes in the world economy.

When researching the source of growth of Vietnam's labor productivity according to the method of accounting labor productivity growth into capital density growth and total factor productivity (TFP) growth, Thanh and Kenichi (2018) believe that TFP plays a significant role in Vietnam's average labor productivity growth. The decrease in the TFP growth rate led to a decrease in labor productivity growth rate in 2008-2009. The contribution of TFP to Vietnam's average labor productivity increased from 37.05% in 2006-2012 to 58.59% per year in 2012-2017 causing the average labor productivity of this period to increase sharply.

Methods to help increase labor productivity commonly used in Vietnam include increasing technology through opening the economy specifically increasing the attraction of foreign direct investment and encouraging domestic company exports. However, the lack of growth in labour productivity as previously noted indicates that the achievements are still below expectations.

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This reflects the increasingly important role of TFP in Vietnam's average labor productivity growth. In other words, if you want to increase Vietnam's productive capacity, you need to pay attention to the factors that contribute to TFP. Therefore, this study focuses on studying the impact of two channels of entry into the global regime, namely FDI and export on the labor productivity of Vietnamese enterprises with different capital and labor-intensive characteristics. These are also the two channels for applying and spreading technology from abroad. Using FDI or exports to enter a globalized regime can bring different benefits to capital-intensive enterprises. However, at present, in Vietnam, there has been no research to examine and compare them separately. Current studies often simply consider the impact of either FDI or exports on enterprises in general without considering and comparing the separate impact of the two channels of technology application based on globalization for enterprises. This paper consists of five parts. The next part provides an overview of the data and research methods. The third part explains the variables and research hypotheses. The fourth part involves the research findings and discussion. The fifth part is about the conclusion and policy implications of the study.

2. DATA AND RESEARCH METHODOLOGY

2.1. Data

This study employed a dataset extracted from the 2015 and 2016 Vietnam Enterprise Survey (VES) and selected only two representative sub-sectors for analysis, namely the garment industry (representing the group of enterprises in the labor-intensive industry) and the manufacturing of prefabricated metal products (representing the group of enterprises in the capital-intensive industry).

2.2. Research Methodology

The Cobb-Douglas production function model is used with impact variables to estimate labor productivity at the firm level. Rogers and Tseng (2000) and Arshad and Ab Malik (2015) found this model suitable for firm-level data. Ngo and Thao (2017) argue that it simplifies estimation and avoids multicollinearity issues compared to the Translog function based on Murthy (2002). Rogers and Tseng (2000) state that the common empirical method for analyzing labor productivity begins with the production function generally represented as Y (output) and X (input variables). Griliches (1985) suggested that measuring Y should be the value added of the firm. Thus, the Cobb-Douglas function can be written as follows:

$$Y_{it} = A.K_{it}^{\alpha} L_{it}^{\beta} \quad (1)$$

Y is the added value of enterprise i at the point of time t.

K_{it} is a capital input that can include intellectual capital or physical capital.

L_{it} is labor and A_{it} l is a set of variables representing the efficiency of firm i at the point of time t.

α and β are the elasticity coefficients indicating the output responsiveness of capital and labor respectively.

Many studies including Griliches (1985) view knowledge capital as accumulated research capital that remains productive. This encompasses previous investments in innovation, organizational techniques and the human capital of managers and workers (education, training and experience). These factors can impact a firm's added value with R&D investments. Applied research typically focuses on a simplified model with relevant explanatory variables as data on such capital is not readily available (Rogers & Tseng, 2000). Dividing both sides of Equation 1 by the number of workers to obtain labor productivity, we have

$$\frac{Y_{it}}{L_{it}} = A\frac{K^{\alpha}}{L} L^{\beta}$$

$$A \left(\frac{K}{L}\right)^{\alpha} .L^{(\alpha+\beta-1)} \quad (2)$$

Taking the log base e of Equation 2, we have

$$\ln\left(\frac{Y_{it}}{L_{it}}\right) = \ln A_{it} + \alpha \ln\left(\frac{K_{it}}{L_{it}}\right) + (\alpha + \beta - 1) \ln L \quad (3)$$

Set $y_{it}=\frac{Y_{it}}{L_{it}}$ và $k_{it} = \frac{K_{it}}{L_{it}}$. Now y is the labor productivity of enterprise i at period t and k_{it} capital intensity of enterprise i at the point of time t. L is the size of enterprise I at the point of time t.

Equation 3 can be presented in a linear form as follows:

$$\ln y_{it} = \beta_0 + \beta_k K_{it} + + \beta_L L_{it} + \beta_i \sum X_i + \varepsilon_{it} \quad (4)$$

$\ln y_{it}$ is the log base e of the labor productivity of enterprise i at period t. $\ln A_{it} = \beta_0 + \varepsilon_{it}$; and $\sum X_i$ represents the control variables representing the characteristics of the enterprise.

Equation 4 examines the effects of FDI and exports on labor productivity.

$$\ln y_{it} = \beta_0 + \beta_1 FDI_{it} + \beta_2 X_{it} + \beta_i \sum X_i + \varepsilon_{it} \quad (5)$$

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To estimate Equation 5, there are different estimation methods. Each of which has its own advantages and disadvantages for analyzing a given data set. However, estimation by the pooled Ordinary Least Squares (OLS) method will face problems related to not controlling for unobserved variables and not taking into account the unique characteristics of enterprises and their changes over time which leads to concerns about correlation and estimates being inconsistently biased (Konings, 2001). Alternative models namely the fixed-effects model FEM and the random-effects model REM are employed in this study to overcome some shortcomings of the pooled OLS estimate and avoid biased estimates. In particular, the FEM model can control for a potential selection problem or an endogenous problem that might arise if foreign investment or exports occur in the most productive domestic firms and industries (Hale & Long, 2011; Konings, 2001).

Although using panel data with the FEM fixed-effects and the REM random-effects regression models gives us some control over the model's endogenous problems when some of the enterprise's characteristics are not observed (Gorg & Strobl, 2001; Meyer & Sinani, 2009), the model also faces an endogenous problem that may occur when FDI can affect labor productivity but high labor productivity can stimulate FDI inflows (Liu, Siler, Wang, & Wei, 2000; Zajc, 2011). Normally, in these cases, the most common instrumental variable, the lag time variable of the previous year's value of FDI inflows is used to help escape this endogeneity (Girma & Wakelin, 2007; Wooldridge, 2002; Zajc, 2011). However, these arguments are viewed from the perspective of the whole economy over a very long period. This study examines the impact of FDI from the perspective of enterprises. The data set of the study does not show that no enterprise in 2015 was a non-FDI enterprise but relies on higher labor productivity to attract FDI and become FDI enterprise in 2016.

Similarly, many studies suggest that instead of enterprises having higher productivity after exporting due to the learn by exporting hypothesis with the relationship between exports and labor productivity. There are also other studies arguing that highly productive enterprises are exporters (Alvarez & López, 2005; Haidar, 2012; Harris & Li, 2008; Masso & Vahter, 2011). However, in the view of this study, labor productivity is the result of the export intention or performance of the enterprise and not vice versa. This is because even the studies supporting the fact that highly productive enterprises will be exporters argue that to prepare for exports, enterprises must improve their productivity to compete with foreign markets (Wagner, 2007). According to Harris and Li (2008), enterprises need to improve production efficiency, increase the quality of technology for products and services to export goods and lead to higher productivity. According to Blalock and Gertler (2004) and Haidar (2012), the fierce competition in the international market only allows high productivity enterprises to survive. Therefore, enterprises must equip themselves to become competitive and productive to remain in business when they participate in the export market. At the same time, a synthesis of previous studies also shows that entering international markets creates higher marginal benefits for enterprises in markets with lower technology and productivity when comparing the results of exports on labor productivity in different markets or even the same market but at different stages (Aw, Chung, & Roberts, 2000; Clerides, Lach, & Tybout, 1998; Rhee, Ross-Larson, & Pursell, 1984; Van Biesebroeck, 2005).

Vietnam is a developing country and the US and European markets are among the major export markets it is targeting. The aforementioned considerations indicate that one of the factors contributing to an increase in an organization's labour productivity is export. In other words, “learning by exporting” is the appropriate hypothesis for the context of this study.

3. EXPLANATION OF RESEARCH VARIABLES AND HYPOTHESES

3.1. Dependent Variable: Labor Productivity

Labor productivity should be determined by the value-added index (VA) per worker rather than using the turnover ratio per worker (Tomiura, 2007). If the enterprise outsources, the enterprise's labor productivity will be affected by these factors if the revenue target is used. Thus, if we depend on total output (sales) per worker, labor productivity does not accurately reflect the value created by the workers of that enterprise.

$$\text{Ln}\,(y_{it}) = \text{Ln}\,(\text{labor productivity of the enterprise}) = \text{Ln}\,\left(\frac{Value\ added_{it}}{Number\ of\ employees_{\ it}}\right)$$

Value added of enterprise i at the point of time t.

The number of employees of enterprise i at the point of time t is calculated.

Meanwhile, VA = revenue – the cost of goods sold + revenue from financial activities – financial expenses – production and business allowance.

3.2. Independent Variables

3.2.1. Foreign Direct Investment Capital and Its Impact on Enterprise Labor Productivity

The analysis of the impact of FDI and the technological spillover from FDI is considered to be more relevant when consideration is taken at the enterprise level than at the sectoral or national level (Aitken & Harrison, 1999). This

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group of theories suggests that FDI can increase the productivity of the host country by bringing more advanced management techniques and technologies from foreign enterprises to the local ones. At the same time, it is expected that the technology in the multi-national companies' factories will spread among the enterprises' factories located in different countries and then to other factories in the host country. If foreign enterprises introduce new products or processes to the domestic market, domestic enterprises can benefit from the rapid diffusion of new technology (Bach, Ly Dai, Nguyen, & Le, 2022; De Gregorio, 1992; Djankov & Hoekman, 2000; Le, Nguyen, & Ngo, 2019; Ngo & Thao, 2017; Piscitello & Rabbiosi, 2005; Zakaria, 2014).

Most theoretical groups suggest that FDI has a positive effect on enterprise productivity but not all empirical studies give the same results. Some cases provide evidence of a negative effect of this relationship (Aitken & Harrison, 1999; de Mello Jr, 1999; Djankov & Hoekman, 2000). These studies argue that the reason for this negative outcome could be the host country's inability to adapt to technological advancements handled by foreign companies or that the host country is already developed to take on these technological advances. Foreign direct investment can have a negative impact on domestic enterprises in that direction because the introduction of foreign enterprises into the domestic market will force domestic enterprises to downsize and subdivide the market with FDI enterprises (Aitken & Harrison, 1999). In addition, FDI enterprises can also hire foreigners in important high-tech positions while domestic workers are assigned to positions that do not require high professional qualifications. In some cases, FDI widens the wage gap causing wage inequality in the economy. This may have a negative effect on or may not alter the net productivity of domestic enterprises.

In this study, the variable representing the presence of FDI capital is the dummy FDI_i which takes the value =1 if the enterprise is an FDI enterprise and =0 if the enterprise does not receive FDI.

3.2.2. The Impact of Exports

According to Wagner (2007) the following two hypotheses have been proposed to explain why exporting enterprises have higher labor productivity than non-exporting ones. (i) Due to the problem of self-selection, enterprises with better productivity will export goods. (ii) Learning by exporting theory: Knowledge from international purchasers or even international competitors improves the productivity of enterprises as they enter international markets. Furthermore, when expanding globally, enterprises must face fierce competition from companies worldwide, thus necessitating the need to improve labor productivity more rapidly to meet the higher demands of the global market compared to enterprises operating solely domestically. Therefore, exporting helps increase the labor productivity of the enterprise.

For empirical research, research results on the impact of exports on labor productivity have been varied. Some studies support self-selection and others support learning by exporting. Most empirical studies suggest that enterprises with higher productivity will choose to join and become commodity exporters. This means that the self-selection mechanism is more common than the learning mechanism as verified by many studies (Adika, 2022; Amjed & Shah, 2021; Baumann & Kritikos, 2016; Harris & Li, 2008; Wagner, 2007). Some researchers have studied the hypothesis of learning by exporting which shows that trading with foreign countries makes domestic enterprises improve their productivity. The author provided data to support this hypothesis (Martins & Yang, 2009; Sharma & Mishra, 2012; Trofimenko, 2008). Studies on learning-based efficiency improvements are few because accessing export markets mostly helps less technologically advanced and low-productivity companies.

Most studies are consistent that exporting will increase the productivity of enterprises regardless of the hypothesis. Others argue that free trade can hinder the productivity of enterprises in developing countries due to a lack of comparative advantage, poor competition and a failure to keep pace with the trends in the world (Young, 1991). Some studies find no evidence between exports and enterprise productivity in both mechanisms (Greenaway, Sousa, & Wakelin, 2004; Sharma & Mishra, 2015; Wernerfelt, 1984). Therefore, the effect of exports may have different results for low-tech and low-productivity developing countries such as Vietnam.

In this study, the occurrence of exports is measured by a dummy variable with X_{it} = 1 if the enterprise i at the point of time t exports and X=0 if the enterprise i at the point of time t does not export.

3.2.3. Size and Capital Intensity of the Industry and Enterprise

Several studies have put forward two hypotheses about the effect of enterprise size on labor productivity: (i) Some theoretical models such as the equilibrium model of the size distribution predict that enterprises that were more productive are usually larger (Lucas Jr, 1988; Melitz, 2003). (ii) Enterprises with a smaller, leaner organizational structure allow for strategic activities to be carried out to exploit markets especially emerging markets and create a suitable niche for themselves, thus the productivity of these smaller enterprises is higher (Dhawan, 2001).

Some authors such as Tornatzky, Fleischer, and Chakrabarti (1990), Acs and Audretsch (1991) and Dhawan (2001) argue that smaller enterprises are more productive partly because of greater organizational flexibility, higher risk-

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taking and organizational responsiveness as well as flexibility in the pace of innovation. Nevertheless, the majority of authors argue that larger enterprises are more productive due to greater efficiency and higher capital intensity of intermediate inputs. Numerous studies support this positive outcome (Baldwin, Jarmin, & Tang, 2004; Baldwin & Sabourin, 1998; Chowhan, 2009; Crespo & Fontoura, 2007; Oi & Idson, 1999; Yakubu, Abokor, & Gedik Balay, 2021; Yean, Kam, & Bin Noh, 2018).

In this study, the size of the enterprise is expressed in terms of the size of the enterprise's assets with $Size_{it} = Ln(TS_{it})$. Specifically, TS_{it} is (total assets at the beginning of the year t + total assets at the end of the year t)/2 of the enterprise i.

At the same time, capital and labor are the two most important inputs for enterprises. According to Hsu and Chen (2000), the most important thing for labor productivity is capital intensity (capital per worker K/L ratio). Capital intensity represents the financial potential that each enterprise has (Eatwell, Milgate, & Newman, 1990). Capital and labor are two complementary inputs. Therefore, enterprises with high capital intensity are expected to be more productive on the condition that all other things are equal. In addition, capital-intensive enterprises have a higher probability of paying higher wages to employees with which they can invest in facilities as well as R&D activities to facilitate production and therefore be more productive.

In this study, the level of capitalization of enterprises is calculated as follows: $Capitalization_{it} = Ln(\frac{K_{it}}{L_{it}})$. Specifically, $capitalization_{it}$ is the level of enterprise i at the point of time t. K_{it}: Asset value of enterprise i at the point of time t. L_{it}: total number of employees of enterprise i at the point of time t.

3.2.4. The Characteristic Variables of the Enterprise

Besides FDI, exports, the capital intensity of the industry, size and labor productivity are also affected by the characteristics of enterprises. Based on studies of Hsu and Chen (2000), Rogers and Tseng (2000), Vahter (2004), Greenaway et al. (2004), Doraszelski and Jaumandreu (2013) and Arshad and Ab Malik (2015) figures in the data set of this study categorize into groups of control variables including a group of variables of human capital, a group of variables of industry characteristics and a group of variables of location and enterprise characteristics.

3.2.4.1. Group of Variables in Human Capital

Besides physical capital, human capital is also an important input factor contributing to the production results of enterprises through technological change by promoting innovation and imitation (Mincer, 1974) (Becker, 1975). According to Cörvers (1998), human capital can affect labor productivity in four aspects: (i) Employee effects (Welch, 1970). (ii) Increasing productivity through allocative effects (Welch, 1970). (iii) Diffusion effects (Nelson & Phelps, 1966). (iv) Research effects (Kaimbo, 2015; Romer, 1990). Therefore, enterprises with a higher quality of human resources are expected to have higher labor productivity.

In this study, employee quality (Cl_{it}) is measured by the average labor cost (including wages, bonuses and allowances) per employee (Sinani & Meyer, 2004). This follows the assumption that the higher the quality of the employee, the higher the wages, bonuses and allowances. In other words, wages, bonuses and allowances reflect labor productivity. Labor $quality_{it} = ln\frac{\text{Cost of labor}_{it}}{\text{Number of laborers}_{it}}$; $\text{Cost of labor}_{it}$ is the total amount of money that enterprise i at the point of time t spends on employees (in million VND) and $\text{Number of laborers}_{it}$ is the total number of employees of enterprise i at the point of time t.

3.2.4.2. Group of Variables of Enterprise Characteristics

Each business has its characteristics that create differences in labor productivity between enterprises. Therefore, in addition to the main factors of FDI and exports, other factors explain the impact on labor productivity of enterprises. Some factors explaining the impact on labor productivity of enterprises have been included in regression models by some studies such as the ownership form of the enterprise Bartelsman and Doms (2000) and Sinani and Meyer (2004) and enterprise size (Aitken & Harrison, 1999; Crespo & Fontoura, 2007; Criscuolo, 2005) which also affect the labor productivity of enterprises. According to Criscuolo (2005), different forms of enterprise ownership have different labor productivity. Buckley, Clegg, and Wang (2002) also suggest that there is a difference between the impact of foreign presence on the productivity of enterprises with different forms of ownership.

In this study, the variable of enterprise ownership is a dummy variable representing different types of ownership of enterprises in the manufacturing industry. Here, the research focuses on the types of state ownership and private ownership. Therefore, the dummy variable only takes 2 values: $state_{it} = 1$ if it is a state-owned enterprise, and $state_{it} = 0$ if it is a private enterprise.

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4. RESEARCH RESULTS

Hausman test results show that both industry groups have p_value = 0.0001 < 0.05. Therefore, for both industry groups using the FEM model for analysis is more appropriate.

Table 1. FEM and REM estimation model results.

Labor productivity of the enterprise	**The model of labor intensive enterprises**		**The model of capital intensive enterprises**	
Variables name	**(1) (FEM model)**	**(2) (REM model)**	**(3) (FEM model)**	**(4) (REM model)**
FDI	-14.424***	-0.158	-1.411	-1.532
Export (X_{it})	1.311	0.307	8.245***	3.297***
Enterprise size ($Size_{it}$)	0.028	-0.042	0.194	0.082***
FDI*size	2.849***	0.072	0.092	0.115
X*size	-0.147	-0.037	-0.557**	-0.267***
Capitalization (Cap_{it})	0.538***	0.536**	0.812***	0.604***
FDI*cap	-2.871***	-0.161	0.037	0.019
X*cap	0.096	0.065	-0.283*	-0.042
Labor quality (Qua)	0.001***	0.003**	0.009***	0.006***
Central	-	0.045	-	-0.068
South	-	0.171***	-	0.049
Iindustrial zone	0.477	-0.073	0.523	0.095
Constant	-0.734	0.559	-3.565***	-0.945***
Number of enterprises	3,717	3,717	6,103	6,103

Note: ***, ** and * indicate significance levels of 1%, 5% and 10%.

The model results presented in Table 1 suggest the following problems:

Firstly, for the garment industry (model number 1), export causes the labor productivity of enterprises to change by a level of X *($\beta_2 + \beta_5 Size_{it} + \beta_8 Cap_{it}$) while other factors remain unchanged. However, all three coefficients, $\hat{\beta}_2$, $\hat{\beta}_5$, and $\hat{\beta}_8$ are not statistically significant at 1%, 5% and 10%. This result shows that there is no difference in labor productivity between enterprises that export goods to foreign countries compared to the enterprises that only supply goods to the domestic market regardless of the size of the enterprise or the different levels of enterprise capitalization.

However, export causes the labor productivity of enterprises in the prefabricated metal product processing industry to change by a level of export*($\hat{\beta}_2 + \hat{\beta}_5 Size + \hat{\beta}_8 Cap$) = export*(8.245-0.557*Size – 0.283*Cap) for the manufacturing industry of prefabricated metal products (model 3). The impact of exports on enterprises in the prefabricated metal processing industry depends on the size and level of capitalization of the enterprise. Specifically, for an enterprise with a labor size at the quartiles in the data set, their respective levels of capitalization are given in Table 2.

Table 2. Size and capitalization at 3 quartiles of the enterprises in the prefabricated metal products processing industry.

Quartile levels	**Q1 (25%)**	**Q2 (50%)**	**Q3 (75%)**
Size	8.246	9.008	9.727
Capitalization	6.86	6.523	6.636
$\hat{\beta}_1 + \hat{\beta}_4 Size_{it} + \widehat{\beta}_7 Cap_{it}$	1.705	1.376	0.944

According to Table 2, exports have a positive impact on the labor productivity of enterprises in the prefabricated metal product processing industry despite the change in the size of labor and the level of capitalization in the sample. The average productivity of enterprises exporting to foreign markets of the industry is higher compared with non-exporting enterprises.

Secondly, FDI causes the labor productivity of enterprises to change by one level which is FDI *($\hat{\beta}_1 + \hat{\beta}_4 Size_{it} + \hat{\beta}_7 Cap_{it}$).

For enterprises in the garment industry (model 1), the impact is equivalent to FDI *($\hat{\beta}_1 + \hat{\beta}_4 Size_{it} + \hat{\beta}_7 Cap_{it}$) = -14.424 + 2.849* $Size_{it}$ -2.871*Cap_{it}, when other factors are unchanged. For enterprises with sizes at 3 different quartiles, respectively at 25%, 50% and 75% of their size and capitalization, the effects of FDI are as follows:

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Table 3. Size and capitalization at 3 quartiles of garment enterprises.

Quartile levels	Q1 (25%)	Q2 (50%)	Q3 (75%)
Size	8.206	9.065	10.102
Capitalization	3.958	5.199	4.366
$\hat{\beta}_1+\hat{\beta}_4 Size_{it}+\hat{\beta}_7 Cap_{it}$	-2.407	-3.524	1.823

The result in Table 3 presents that FDI-receiving enterprises have higher average labor productivity than non-FDI enterprises only when the size is very large. This also suggests that foreign investors when investing in enterprises in the garment industry can only promote efficiency when the enterprise scale is large.

In contrast to the manufacturing industry of prefabricated metal products, other things being equal, FDI enterprises in the manufacturing industry of prefabricated metal products (model 3) have a productivity level not different from the enterprises not receiving FDI when all the impact coefficients of the FDI variable and the variables interacting with FDI are not statistically significant at 10%.

Third, the impact of enterprise size on the labor productivity of enterprises in the garment industry (model 1) is determined by Size*($\hat{\beta}_3+\hat{\beta}_4 FDI+\hat{\beta}_5 X$) = Size*(0.028 + 2.849 FDI -0.147X). Thus, the influence of the size of the enterprise on the labor productivity of the enterprise depends on whether the enterprise is an FDI enterprise or not and whether it exports or not.

Table 4. Impact of enterprise size on labor productivity.

With/ Without FDI	Exports	
	With exports	Without exports
With FDI	2.737	---
Without FDI	-0.119	0.028

Note: It implies no data for FDI and non-exporting enterprises (because they account for a very small number in the sample and have been excluded from the model).

According to Table 4, it can be seen that for enterprises in the garment industry that are both FDI enterprises and export enterprises, when the size increases by 1%, the labor productivity will increase by 2.737%. As for enterprises that are not FDI enterprises and only serve the domestic market, a 1% increase in size will increase labor productivity by 0.028%. However, for enterprises not receiving FDI but still exporting, the larger the size of the enterprise, the lower the labor productivity.

Similarly, for the prefabricated metal product processing industry, the impact of size also depends on whether the enterprise is an FDI or whether it is an exporter. The effect of size is calculated as follows:

Table 5. Impact of enterprise size on labor productivity.

With/ Without FDI	Exports	
	With exports	Without exports
With FDI	-0.270	---
Without FDI	-0.363	0.194

Note: Implies no data for FDI and non-exporting enterprises (Because they account for a very small number in the sample and have been excluded from the model).

Table 5 presents that the prefabricated metal product processing industry, FDI enterprises and exporters should not increase their sizes by 1% which will lead to a decrease in the labor productivity of the enterprise by 0.2709%. Similarly, enterprises that are not FDI enterprises and exporting enterprises should not increase the scale of production as the larger the scale, the lower the labor productivity of the enterprise. However, for non-FDI and non-exporting enterprises, increasing the size of enterprises helps to increase labor productivity. For this type of enterprise in the industry, a 1% increase in the size of an enterprise leads to an increase in labor productivity by 0.1941% because exporting enterprises in the current industry are too large in scale.

Fourth, the impact of capitalization on labor productivity will be determined by Cap*($\hat{\beta}_5+\hat{\beta}_6 FDI+\hat{\beta}_7 X$). The impact of capitalization on the labor productivity of an enterprise also depends on whether the enterprise is an FDI enterprise and whether it exports.

For garment enterprises, the impact of scale is calculated as follows:

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Table 6. Possible circumstances of the impact of enterprise capitalization on labor productivity.

With/ Without FDI	Exports	
	With exports	Without exports
With FDI	-2.237	---
Without FDI	0.634	0.538

Note: Implies no data for FDI and non-exporting enterprises (Because they account for a very small number in the sample and have been excluded from the model).

Table 6 suggests that for non-FDI and non-exporting enterprises, the level of capitalization has a positive impact on labor productivity. All other things being equal, a 1% increase in capitalization increases labor productivity by 0.538%. For enterprises that are not FDI and exporting enterprises, the level of capitalization also has a positive effect on labor productivity. However, for enterprises that are both FDI enterprises and exporting enterprises, the level of capitalization of enterprises negatively affects labor productivity.

As for enterprises in the prefabricated metal processing industry, the impact of capitalization on labor productivity is shown in Table 7.

Table 7. The impact of capitalization on labor productivity.

With/Without FDI	Exports	
	With exports	Without exports
With FDI	0.565	---
Without FDI	0.528	0.811

Note: The case of enterprises being FDI enterprises and non-exporting enterprises accounts for a very small number in the sample and has been excluded from the model.

Table 7 presents the capital intensity per labor in the prefabricated metal processing industry has a positive impact on labor productivity. In particular, the level of capitalization has the strongest impact on enterprises in the industry that do not receive FDI and only supply the domestic market. At the same time, to increase labor productivity, exporting enterprises (whether with FDI or not) in the industry need to reduce the size of enterprises or increase the level of capitalization.

5. CONCLUSION AND IMPLICATIONS

The positive effects that FDI and exports bring to businesses in general and labor productivity in particular are something no one can deny. However, this impact is not effective for all types of businesses. Businesses with different characteristics need different development strategies suitable to their own characteristics under conditions of limited resources.

In this study, we rely on two major characteristics of businesses: capital-intensive businesses and labor-intensive businesses to consider which internationalization strategy will be suitable for businesses to achieve efficiency.

Research results show that the policy of improving productivity by exporting is ineffective for labor-intensive enterprises. Instead, enterprises in labor intensive industries can consider increasing productivity by attracting and calling for FDI from foreign enterprises which will bring better efficiency. On the contrary, businesses in capital-intensive industries should aim to export instead of trying to attract FDI which will help increase labor productivity.

FDI enterprises in labor-intensive industries need to take into account increasing the size of enterprises to improve labor productivity or foreign enterprises planning to invest in labor-intensive industries should pay attention to choosing enterprises with a really large scale to get the expected effect. The level of capitalization per employee of FDI enterprises in the industry should be reduced. This makes sense since these are labor-intensive enterprises. However, FDI enterprises in the capital-intensive industry seem to be too large in scale and they must reduce their production scale to increase productivity or increase their capitalization per worker to be able to compete in both domestic and foreign markets.

Exporting enterprises in Vietnam in labor-intensive or capital-intensive industries are almost too large in scale (3 out of 4 cases except for FDI and exporting enterprises in labor-intensive industries). They must downsize to increase productivity. Perhaps these enterprises have had too large expansion to serve foreign markets but have not used them entirely. Moreover, there should be further increases in the level of capitalization per employee of exporting enterprises.

Enterprises that cannot attract FDI and only produce for the domestic market regardless of industry should increase the level of capitalization per employee or expand the size of enterprises to increase labor productivity under the conditions that other factors are constant.

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The Ethical Committee of the Al-Ahliyya Amman University, Amman, Jordan has granted approval for this study on 25 October 2023 (Ref. No. FES-18G-272).

TRANSPARENCY
The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

COMPETING INTERESTS
The authors declare that they have no competing interests.

AUTHORS' CONTRIBUTIONS
Conceptualization and design, design of research methodology and instrument, D.V.P.L. and N.T.L.H.; data acquisition, data analysis and interpretation, D.V.P.L. and N.N.T.; drafting manuscript, critical revision of manuscript and editing, D.V.P.L., N.T.L.H. and N.N.T. All authors have read and agreed to the published version of the manuscript.

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REFERENCES

Acs, Z. J., & Audretsch, D. B. (1991). R&D, firm size and innovative activity. *Innovation and Technological Change: An International Comparison, 98*(2), 451-456.

Adika, G. (2022). Regional economic integration, natural resources and foreign direct investment in SADC. *Journal of Economics and Development, 24*(1), 33-46. https://doi.org/10.1108/-JED-02-2021-0021

Aitken, B. J., & Harrison, A. E. (1999). Do domestic firms benefit from direct foreign investment? Evidence from Venezuela. *American Economic Review, 89*(3), 605-618. https://doi.org/10.1257/aer.89.3.605

Alvarez, R., & López, R. A. (2005). Exporting and performance: Evidence from Chilean plants. *Canadian Journal of Economics, 38*(4), 1384-1400. https://doi.org/10.1111/j.0008-4085.2005.00329.x

Amjed, S., & Shah, I. A. (2021). Does financial system development, capital formation and economic growth induces trade diversification? *Journal of Economics and Development, 23*(3), 222-237. https://doi.org/10.1108/JED-06-2020-0073

Arshad, M. N. M., & Ab Malik, Z. (2015). Quality of human capital and labor productivity: A case of Malaysia. *International Journal of Economics, Management and Accounting, 23*(1), 1-19. https://doi.org/10.31436/ijema.v23i1.289

Aw, B. Y., Chung, S., & Roberts, M. J. (2000). Productivity and turnover in the export market: Micro-level evidence from the Republic of Korea and Taiwan (China). *The World Bank Economic Review, 14*(1), 65-90. https://doi.org/10.1093/wber/14.1.65

Bach, T. N., Ly Dai, H., Nguyen, V. H., & Le, T. (2022). Sub-national union coverage and the youth's labor market outcomes: Evidence from a national survey in Vietnam. *Journal of Economics and Development, 24*(2), 112-126. https://doi.org/10.1108/JED-02-2021-0025

Baldwin, J. R., Jarmin, R. S., & Tang, J. (2004). Small North American producers give ground in the 1990s. *Small Business Economics, 23*(4), 349-361. https://doi.org/10.1023/b:sbej.0000032037.34584.a7

Baldwin, J. R., & Sabourin, D. (1998). *Technology adoption: A comparison between Canada and the United States*. Statistics Canada Working Paper No. 119.

Bartelsman, E. J., & Doms, M. (2000). Understanding productivity: Lessons from longitudinal microdata. *Journal of Economic Literature, 38*(3), 569-594. https://doi.org/10.1257/jel.38.3.569

Baumann, J., & Kritikos, A. S. (2016). The link between R&D, innovation and productivity: Are micro firms different? *Research Policy, 45*(6), 1263-1274. https://doi.org/10.1016/j.respol.2016.03.008

Becker, G. S. (1975). Investment in human capital: effects on earnings. In Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education. In (2nd ed., pp. 13-44): NBER.

Blalock, G., & Gertler, P. J. (2004). Learning from exporting revisited in a less developed setting. *Journal of Development Economics, 75*(2), 397-416. https://doi.org/10.1016/j.jdeveco.2004.06.004

Bodewig, C., & Badiani-Magnusson, R. (2014). *Skilling up Vietnam: Preparing the workforce for a modern market economy*. Washington, D.C: The World Bank.

Buckley, P. J., Clegg, J., & Wang, C. (2002). The impact of inward FDI on the performance of Chinese manufacturing firms. *Journal of International Business Studies, 33*(4), 637-655. https://doi.org/10.1057/palgrave.jibs.8491037

Chowhan, J. (2009). Who trains' high-tech industries or high-tech workplaces'. *Available at SSRN 1404725*. https://doi.org/10.2139/ssrn.1404725

Clerides, S. K., Lach, S., & Tybout, J. R. (1998). Is learning by exporting important? Micro-dynamic evidence from Colombia, Mexico, and Morocco. *The Quarterly Journal of Economics, 113*(3), 903-947. https://doi.org/10.1162/003355398555784

Cörvers, F. (1998). Sector-specific, intermediate and high skills and their impact on productivity and growth in manufacturing sectors of the European union. *Vocational Education and Training-the European Research Field*, 245-269. https://doi.org/10.26481/umaror.199602e

Crespo, N., & Fontoura, M. P. (2007). Determinant factors of FDI spillovers–what do we really know? *World Development, 35*(3), 410-425. https://doi.org/10.1016/j.worlddev.2006.04.001

Criscuolo, P. (2005). On the road again: Researcher mobility inside the R&D network. *Research Policy, 34*(9), 1350-1365. https://doi.org/10.1016/j.respol.2005.05.018

De Gregorio, J. (1992). Economic growth in Latin America. *Journal of Development Economics, 39*(1), 59-84.

de Mello Jr, L. R. (1999). Foreign direct investment-led growth: Evidence from time series and panel data. *Oxford Economic Papers, 51*(1), 133-151. https://doi.org/10.1093/oep/51.1.133

Dhawan, R. (2001). Firm size and productivity differential: Theory and evidence from a panel of US firms. *Journal of Economic Behavior & Organization, 44*(3), 269-293. https://doi.org/10.1016/s0167-2681(00)00139-6

Djankov, S., & Hoekman, B. (2000). Foreign investment and productivity growth in Czech enterprises. *The World Bank Economic Review, 14*(1), 49-64. https://doi.org/10.1093/wber/14.1.49

Dong, N. T., Diem, T. T. A., Chinh, B. T. H., & Hien, N. T. D. (2020). The Interaction between labor productivity and competitiveness in Vietnam. *The Journal of Asian Finance Economics and Business, 7*(11), 619-627. https://doi.org/10.13106/jafeb.2020.vol7.no11.619

Doraszelski, U., & Jaumandreu, J. (2013). R&D and productivity: Estimating endogenous productivity. *Review of Economic Studies, 80*(4), 1338-1383. https://doi.org/10.1093/restud/rdt011

Eatwell, J., Milgate, M., & Newman, P. (1990). *Marxian economics*. New York: Springer.

Girma, S., & Wakelin, K. (2007). Local productivity spillovers from foreign direct investment in the UK electronics industry. *Regional Science and Urban Economics, 37*(3), 399-412. https://doi.org/10.1016/j.regsciurbeco.2006.11.006

Gorg, H., & Strobl, E. (2001). Multinational companies and productivity spillovers: A meta-analysis. *The Economic Journal, 111*(475), F723-F739. https://doi.org/10.1111/1468-0297.00669

Greenaway, D., Sousa, N., & Wakelin, K. (2004). Do domestic firms learn to export from multinationals? *European Journal of Political Economy, 20*(4), 1027-1043. https://doi.org/10.1016/j.ejpoleco.2003.12.006

Griliches, Z. (1985). *Productivity, R&D, and basic research at the firm level in the 1970s* (0898-2937). National Bureau of Economic Research. No. w1547.

GSO. (2021). *Vietnam's labor productivity in the period 2011-2020: Current situation and solutions the general statistics office of Vietnam' s report*. Retrieved from https://www.gso.gov.vn/wp-content/uploads/2023/02/Nang-suat-lao-dong-2011-2020.pdf

Haidar, J. I. (2012). Trade and productivity: Self-selection or learning-by-exporting in India. *Economic Modelling, 29*(5), 1766-1773. https://doi.org/10.1016/j.econmod.2012.05.005

Hale, G., & Long, C. (2011). Are there productivity spillovers from foreign direct investment in China? *Pacific Economic Review, 16*(2), 135-153.

Harris, R., & Li, Q. C. (2008). Evaluating the contribution of exporting to UK productivity growth: Some microeconomic evidence. *World Economy, 31*(2), 212-235. https://doi.org/10.1111/j.1467-9701.2007.01087.x

Hsu, M., & Chen, B. L. (2000). Labor productivity of small and large manufacturing firms: The case of Taiwan. *Contemporary Economic Policy, 18*(3), 270-283. https://doi.org/10.1093/cep/18.3.270

Huynh, C., & Le, M. (2016). Growth of labor productivity in Vietnam: Approach by shift-share analysis. *Science and Technology Development Journal, 19*(3), 18-27. https://doi.org/10.32508/stdj.v19i3.494

ILO. (2015). *World employment and social outlook: Trends 2015 unspecified*. Retrieved from https://webapps.ilo.org/wcmsp5/groups/public/

Kaimbo, N. (2015). *Determinants of labour productivity in Zambia's manufacturing firms.* Doctoral Dissertation, The University of Zambia.

Kim, D., & Woon, K. (2020). Regional study on labor productivity in ASEAN. *Endorsed ad-Referendum by SLOM on, 31*.

Konings, J. (2001). The effects of foreign direct investment on domestic firms: Evidence from firm-level panel data in emerging economies. *Economics of Transition, 9*(3), 619-633. https://doi.org/10.1111/1468-0351.00091

Le, H. A., C., Nguyen, T. M. H., & Ngo, S. N. (2019). Capital flows to Vietnam: The role of push and pull factors. *Journal of Economics and Development, 265*, 2-13.

Liu, X., Siler, P., Wang, C., & Wei, Y. (2000). Productivity spillovers from foreign direct investment: Evidence from UK industry-level panel data. *Journal of International Business Studies, 31*(3), 407-425. https://doi.org/10.1057/palgrave.jibs.8490914

Lucas Jr, R. E. (1988). On the mechanics of economic development. *Journal of Monetary Economics, 22*(1), 3-42.

Martins, P. S., & Yang, Y. (2009). The impact of exporting on firm productivity: A meta-analysis of the learning-by-exporting hypothesis. *Review of World Economics, 145*(3), 431-445. https://doi.org/10.1007/s10290-009-0021-6

Masso, J., & Vahter, P. (2011). *Exporting and productivity: The effects of multi-market and multi-product export entry*. The University of Tartu Faculty of Economics and Business Administration Working Paper. No. 83-2011.

Nurture**: Volume 18, Issue 4, 773-784, **2024
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Melitz, M. J. (2003). The impact of trade on intra-industry reallocations and aggregate industry productivity. *Econometrica, 71*(6), 1695-1725. https://doi.org/10.1111/1468-0262.00467
Meyer, K. E., & Sinani, E. (2009). When and where does foreign direct investment generate positive spillovers? A meta-analysis. *Journal of International Business Studies, 40*, 1075-1094. https://doi.org/10.1057/jibs.2008.111
Mincer, J. (1974). *Schooling, experience, and earnings*. Human Behavior & Social Institutions. No. 2.
Murthy, K. V. (2002). Arguing a case for cobb-douglas production function. *Review of Commerce Studies, 20*, 21.
Nelson, R. R., & Phelps, E. S. (1966). Investment in humans, technological diffusion, and economic growth. *The American Economic Review, 56*(1/2), 69-75.
Ngo, H., & Thao, T. (2017). Small and medium enterprise productivity in Vietnam: The role of innovation. *Scientific Journal of the Open University of Ho Chi Minh City, 54*(3), 80-92.
Oi, W. Y., & Idson, T. L. (1999). Firm size and wages. *Handbook of Labor Economics, 3*, 2165-2214.
Piscitello, L., & Rabbiosi, L. A. R. I. S. S. A. (2005). The impact of inward FDI on local companies' labour productivity: Evidence from the Italian case. *International Journal of the Economics of Business, 12*(1), 35-51.
Rhee, Y. W., Ross-Larson, B., & Pursell, G. (1984). *Korea's competitive edge*. Baltimore and London: Johns Hopkins University Press.
Rogers, M., & Tseng, Y. P. (2000). *Analysing firm-level labour productivity using survey data*. Melbourne Institute of Applied Economic and Social Research Working Paper. No.1-24.
Romer, P. M. (1990). Capital, labor, and productivity. *Brookings Papers on Economic Activity Microeconomics, 1990*, 337-367.
Sharma, C., & Mishra, R. K. (2012). Export participation and productivity performance of firms in the Indian transport manufacturing. *Journal of Manufacturing Technology Management, 23*(3), 351-369. https://doi.org/10.1108/17410381211217416
Sharma, C., & Mishra, R. K. (2015). International trade and performance of firms: Unraveling export, import and productivity puzzle. *The Quarterly Review of Economics and Finance, 57*, 61-74. https://doi.org/10.1016/j.qref.2015.02.001
Sinani, E., & Meyer, K. E. (2004). Spillovers of technology transfer from FDI: The case of Estonia. *Journal of Comparative Economics, 32*(3), 445-466. https://doi.org/10.1016/j.jce.2004.03.002
Thanh, N. D., & Kenichi, O. (2018). *Vietnam annual economic report 2018: Understanding the labor market for productivity enhancement*. Report, VEPR.
Tomiura, E. (2007). Foreign outsourcing, exporting, and FDI: A productivity comparison at the firm level. *Journal of International Economics, 72*(1), 113-127. https://doi.org/10.1016/j.jinteco.2006.11.003
Tornatzky, L. G., Fleischer, M., & Chakrabarti, A. K. (1990). *Processes of technological innovation lexington books the processes of technological innovation*. Massachusetts, MA: Lexington Books.
Trofimenko, N. (2008). Learning by exporting: Does it matter where one learns? Evidence from Colombian manufacturing firms. *Economic Development and Cultural Change, 56*(4), 871-894. https://doi.org/10.1086/588156
Vahter, P. (2004). *The effect of foreign direct investment on labour productivity: Evidence from Estonia and Slovenia*. U. of Tartu Economics and Business Administration Working Paper. No. 32-2004.
Van Biesebroeck, J. (2005). Exporting raises productivity in Sub-Saharan African manufacturing firms. *Journal of International Economics, 67*(2), 373-391. https://doi.org/10.1016/j.jinteco.2004.12.002
Vu, M. K. (2016). Vietnam and the problem of capacity in efforts to promote economic development. *Journal of Science*, 0866-8612.
Wagner, J. (2007). Exports and productivity: A survey of the evidence from firm-level data. *World Economy, 30*(1), 60-82. https://doi.org/10.1111/j.1467-9701.2007.00872.x
Welch, F. (1970). Education in production. *Journal of Political Economy, 78*(1), 35-59.
Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal, 5*(2), 171-180.
Wooldridge, J. M. (2002). Econometric analysis of cross section and panel data MIT press. *Cambridge, MA, 108*(2), 245-254.
Yakubu, I. N., Abokor, A. H., & Gedik Balay, I. (2021). Re-examining the impact of financial intermediation on economic growth: Evidence from Turkey. *Journal of Economics and Development, 23*(2), 116-127. https://doi.org/10.1108/JED-09-2020-0139
Yean, T. S., Kam, A. J., & Bin Noh, N. (2018). The determinants of inward FDI in selected serviceS industries in MalaysiA. *Prague Economic Papers, 27*(2), 215-231. https://doi.org/10.18267/j.pep.652
Young, A. (1991). Learning by doing and the dynamic effects of international trade. *The Quarterly Journal of Economics, 106*(2), 369-405. https://doi.org/10.2307/2937942
Zajc, K., K. (2011). Does foreign direct investment induce domestic mergers? *Open Economies Review, 22*(2), 271-291. https://doi.org/10.1007/s11079-009-9123-y
Zakaria, M. (2014). Effects of trade liberalization on exports, imports and trade balance in Pakistan: A time series analysis. *Prague Economic Papers, 23*(1), 121-139. https://doi.org/10.18267/j.pep.476

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