



Impact of foreign direct investment on employment: A case study of Vietnam

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Abstract

Vietnam is an attractive destination for foreign direct investment (FDI), with job creation a significant benefit. This study utilizes data from the 2007 and 2011 Vietnam Enterprise Survey (VES) to explore the empirical relationship between FDI and employment in Vietnam. The findings reveal diverse impacts of FDI on employment. Specifically, the horizontal spillover effect of FDI positively influences employment, whereas the forward and backward vertical spillover effects show a negative impact. These results underscore the heterogeneous nature of FDI's impact on employment dynamics. Drawing from these insights, the study proposes several policy recommendations to optimize the benefits of FDI for Vietnam.

Keywords: FDI, spillover effects, employment, Vietnam.

JEL classification: F21, J21, J24.

1. Introduction

Theoretically, foreign direct investment (FDI) introduces both opportunities and risks to employment in developed countries, primarily due to the redistribution of production activities to nations with competitive advantages. Conversely, FDI is pivotal in fostering job creation and capital infusion within developing economies (Jenkins, 2004, 2006; Rong et al., 2020; Lama and Kumar, 2022). These positive impacts manifest through several channels. Firstly, FDI directly expands the production base, thereby amplifying the demand for labor. Secondly, its concentration in labor-intensive industries heightens the requirement for unskilled labor. Lastly, FDI stimulates spillover effects via technology transfer, trade integration, and skill enhancement, consequently boosting the demand for high-skilled labor.

However, FDI is not without its drawbacks in the labor market. The prevalence of mergers and acquisitions within FDI can diminish net employment gains. Moreover, weak linkages between FDI enterprises and domestic counterparts may isolate local businesses from production chains, resulting in labor market instability in response to fluctuations in FDI flows.

On a global scale, the impact of FDI on employment varies significantly across different contexts. Wu (2001) noted that early FDI inflows into China, which primarily targeted labor- and resource-intensive sectors, did not significantly bolster demand for high-tech labor. Similarly, studies in Italy and Finland by Piva and Vivarelli (2004) and Crino (2005) underscored sector-specific limitations in employment generation from FDI. In contrast, Waldkirch et al. (2009) confirmed a positive correlation between FDI and both skilled and unskilled labor demand in Mexico. Conversely, researchers such as Feenstra and Hanson (1997), as well as Jenkins (2004, 2006), documented instances where FDI has been associated with reduced employment levels.

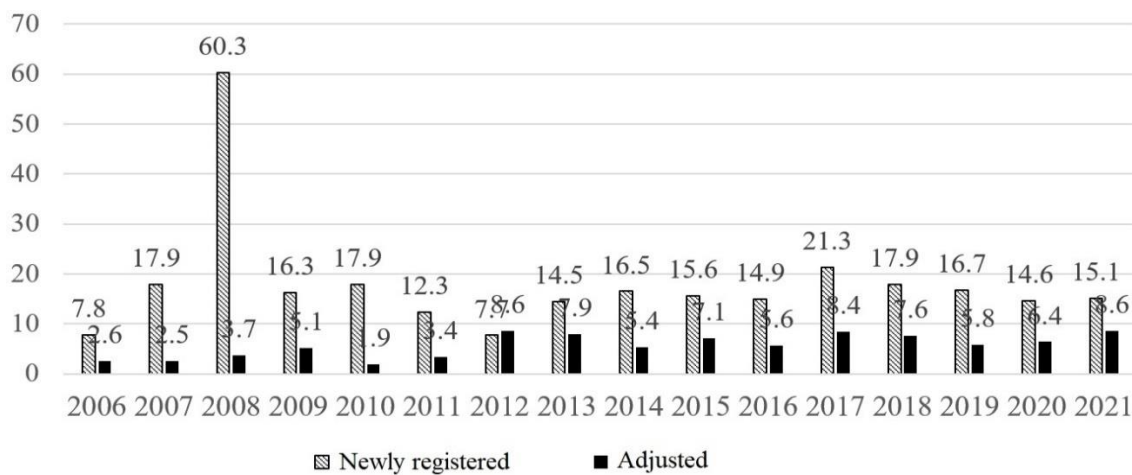
In the Vietnamese context, existing studies exploring the relationship between FDI and employment present diverse perspectives but often lack consistency in spatial and temporal scope, as well as methodological rigor. For example, Truong and Dong (2023) scrutinized the impact of FDI on skilled and unskilled labor in small and medium-sized enterprises yet omitted an analysis of FDI's broader impact on total labor demand. Similarly, Nguyen et al. (2020) examined the direct impacts of FDI on employment, while Do and Dang (2023) explored spillover effects without extensive analysis of their implications for overall employment levels.

Thus, the heterogeneous nature of FDI's impact on employment underscores the need for robust empirical research at the enterprise level in Vietnam. Such investigations are crucial not only for elucidating the multifaceted dynamics of FDI but also for formulating targeted policies that optimize its benefits while mitigating potential adverse effects on employment stability.

2. Foreign direct investment and employment in Vietnam

To incentivize investment, Vietnam introduced the Foreign Investment Law in 1987. According to the Foreign Investment Department, registered foreign direct investment (FDI) surged to 17.92 billion USD in 2007, marking a threefold increase from 7.84 billion USD in 2006. Despite the adverse impacts of COVID-19, Vietnam has remained a beacon of resilience amidst a globally challenging investment landscape. Specifically, registered FDI surpassed 15.6 billion USD in 2021, reflecting a 4 percent uptick from the previous year. As of the end of 2021, Vietnam has attracted nearly 407 billion USD across more than 34,430 projects (see Figure 1).

FIGURE 1: FDI inflow into Vietnam, 2006-2021 (billions of USD)



Source: Compiled from the Foreign Investment Agency, 2023.

In the ASEAN region, Vietnam has consistently ranked among the top five countries in attracting the highest foreign direct investment (FDI) since 2010. Particularly noteworthy is its ascent since 2015, surpassing Thailand and Malaysia to claim the top position as the region's most attractive destination for FDI. As of the latest rankings, Vietnam holds third in the ASEAN region, trailing behind only Singapore and Indonesia regarding FDI inflows (see Table 1).

TABLE 1: FDI into ASEAN, 2010-2021 (millions of USD)

Nation	2010	2015	2016	2017	2018	2019	2020	2021
Brunei	625	171	-150	460	517	375	577	205
Cambodia	783	1,701	2,476	2,788	3,213	3,663	3,625	3,483
Indonesia	13,770	16,642	3,921	20,579	20,563	23,883	18,591	20,081
Lao PDR	333	1,079	1,076	1,695	1,358	756	968	1,072
Malaysia	9,156	10,180	11,290	9,296	7,611	7,860	3,185	11,594
Myanmar	2,249	2,824	2,989	4,002	1,610	1,730	2,206	1,005
Philippines	1,298	5,639	8,280	10,256	9,949	8,671	6,822	12,413
Singapore	57,461	59,702	67,505	82,496	73,918	106,320	75,466	99,062
Thailand	14,747	8,928	3,486	8,285	13,752	5,519	-4,951	14,641
Vietnam	8,000	11,800	12,600	14,100	15,500	16,120	15,800	15,660

Source: Compiled from ASEANstats, 2023.

FDI plays a pivotal role in economic development by significantly enhancing labor productivity, increasing incomes, and addressing employment challenges. According to data from the General Statistics Office, the number of employees in FDI enterprises has seen remarkable growth over the years. In 1995, FDI enterprises employed approximately 33,000 individuals. By 2010, this figure had surged to 1.73 million and escalated to over 4.77 million workers by 2019 (see Table 2). Furthermore, FDI enterprises stimulate demand for labor across various sectors, contributing to broader employment opportunities. Notably, the labor force within the FDI sector has exhibited an average annual growth rate exceeding 7.7 percent, significantly outpacing the overall economic sector average (GSO, 2021). These statistics underscore the substantial impact of FDI on Vietnam's economy, particularly in bolstering employment and fostering economic growth.

TABLE 2: Labor in FDI enterprises

Year	Labor (million people)	Percentage of total employees (%)	Change (%)
2010	1.73	3.5	13.4
2015	3.20	6.0	11.5
2016	3.60	6.7	12.3
2017	4.21	7.8	17.2
2018	4.54	8.4	7.9
2019	4.77	8.7	5.0

Source: GSO (2021).

Vietnam has experienced moderate growth in labor productivity, averaging 5.2 percent per year between 2002 and 2007 and slightly slower at 5 percent per year from 2010 to 2020 (GSO, 2021). This growth rate, while positive, remains relatively modest compared to overall economic expansion. In the FDI sector, however, there has been notable improvement in worker qualifications and capabilities. By 2019, labor productivity in the FDI sector had risen to over 257 million VND per year per worker, 2.5 times higher than the national average (GSO, 2021).

According to the Central Institute for Economic Management (CIEM), Vietnam's labor productivity from 2011 to 2020 grew on average by 6 percent per year, exceeding the targeted rate of 5 percent. Despite this progress, Vietnam's absolute labor productivity remains comparatively low. Reports indicate that Vietnam's absolute labor productivity value is marginally higher than Myanmar's, lower than Laos', and significantly lags behind Malaysia's and Singapore's levels (Nguyen, 2015). These observations highlight both the advancements and ongoing challenges in enhancing labor productivity within Vietnam's economy (see Table 3).

TABLE 3: Labor productivity of Vietnam and ASEAN (USD)

Nation	2017	2018	2019
Indonesia	23,303	24,013	24,425
Lao PDR	13,920	14,507	14,887
Malaysia	56,625	57,841	59,364
Myanmar	10,584	11,036	11,548
Philippines	20,379	21,202	21,832
Singapore	156,376	160,348	159,680
Thailand	31,586	32,523	33,502
Vietnam	12,216	12,859	13,817

Source: Compiled from Kim and Woon (2020).

In summary, Vietnam stands out globally and within the ASEAN region as a significant destination for FDI, bolstering economic growth and employment. The undeniable contributions of FDI are evident in its role in stimulating employment and enhancing economic development. However, FDI also presents challenges and hurdles at the broader economic level. There is a compelling need for more empirical research focusing on the specific impacts of FDI on employment within Vietnam, particularly at the enterprise level. Such studies hold substantial theoretical significance and can yield crucial policy implications for optimizing the benefits and mitigating the drawbacks of FDI. This approach is essential for Vietnam to sustain its economic momentum and effectively harness the potential of foreign investment for long-term sustainable development.

3. Model and data

UNCTAD (1994) highlighted the dual impact of FDI on employment in terms of both quantity and quality through direct and indirect channels, which often yield contrasting outcomes. Directly, FDI inflows inject capital into host countries, expanding production and generating more jobs, though a focus on mergers and acquisitions may concurrently lead to job losses. Indirectly, FDI fosters employment growth via inter-industry and intra-industry linkages, yet reliance on imported inputs may limit gains in domestic employment. Regarding job quality, FDI directly enhances workers' income and productivity but may also destabilize labor markets by inflating demand for skilled labor and income differentials. Indirectly, FDI can improve labor quality through technology and knowledge spillovers to domestic firms, although increased competition from FDI may depress wages. In quantitative studies, indirect effects (spillovers) are often emphasized as they are more readily identifiable, contrasting with the direct effects, which are more straightforwardly observed. This framework underscores the nuanced impacts of FDI on employment dynamics and underscores the need for comprehensive analysis to optimize the benefits and mitigate potential drawbacks of FDI inflows, particularly concerning job creation and quality in host economies.

To measure the spillover effect of FDI enterprises, we use the method developed and introduced by Javorcik (2004). Accordingly, the spillover effects of FDI are determined through three indicators, including horizontal spillover effects, reverse vertical spillover effects, and forward vertical spillover effects. Specifically, the formula for calculating the horizontal spillover effect is presented as follows:

$$horizontal_{jt} = \frac{\sum_{i,j \in j} FS_{it} * RE_{it}}{\sum_{i,j \in j} Y_{it}}, \quad (1)$$

In which, horizontal is the horizontal spillover effect of the industry; FS is the percentage of foreign investment capital in the total capital of the enterprise; and RE is the enterprise's total revenue; finally, i and j are the enterprise and industry, respectively. The horizontal variable is a variable that represents the spillover effect from the level of penetration of foreign investors on businesses operating in the same industry.

The formula for vertical reverse spillover effects and forward vertical spillover effects are calculated respectively as follows:

$$backward_{jt} = \sum_{k, k \neq j} a_{jk} * horizontal_{kt}, \quad (2)$$

and

$$forward_{jt} = \sum_{m, m \neq j} b_{jm} \frac{\sum_{i, i \in m} FS_{it} * (RE_{it} - EX)}{\sum_{i, i \in m} (RE_{it} - EX_{it})}, \quad (3)$$

where *backward* and *forward* are the vertical and backward spillover effects, respectively; *EX* is the export value of the enterprise; and *a* and *b* are the share of industry *j*'s output supplied to industry *k* and the share of industry *j*'s input from the consumption of industry *m*. Note that vertical spillovers (or inter-industry spillovers) measure the extent to which positive externalities to supplier firms or domestic customers come from the presence of firms with foreign investment capital. In this study, we use the 2012 Input-Output Table (IO-2012) to calculate the backward and forward vertical spillover indices. Emphasizing that, IO-2012 does not differentiate businesses by ownership type, therefore, we use the same coefficient to calculate vertical forward and backward spillover effects.

In fact, most empirical studies looking for spillover effects of FDI are conducted on individual countries. Results from studies also show that the spillover effect of FDI is not fixed; it depends on many factors, from the way to calculate spillover effects and econometric models to estimation methods (Hanousek et al., 2011; Do and Dang, 2023).

To determine the impact of FDI on employment demand in Vietnam, we develop an estimation model from the popular method proposed by Berman et al. (1994). The quantitative model is presented specifically as follows:

$$employment_{ijt} = \Phi_1 + \Phi_2 F_{ijt} + \Phi_3 X_{ijt} + \eta_t + \tau_j + \epsilon_{ijt}, \quad (4)$$

in which, *employment* is the variable representing employment; *F* is a vector representing the spillover effect of FDI (including *horizontal*, *backward*, and *forward*); *X* is a vector of variables controlling for firm characteristics, including firm age, firm ownership type, and firm export activities; η , τ , and ϵ are time fixed effects, industry fixed effects, and estimation error, respectively.

Equation (4) estimates the impact of FDI on aggregate labor demand. However, previous studies have shown that the impact of FDI on labor demand by level differs. Therefore, we will test the impact of FDI on labor demand by level. According to UNESCO, a person's educational level is determined by the diploma/certificate he or she has completed at the highest level. According to the Education Law 2019, the training level of Vietnam's education system includes four levels: preschool education, general education, vocational education, and university education. Based on the goals of each educational level and training level prescribed by the Vietnam Education Law and the status of universalization of middle and high school education in Vietnam based on defining educational levels consulting with UNESCO, we divide labor qualifications into three groups: (1) unskilled workers, (2) vocational workers, (3) highly skilled workers, respectively corresponding to the levels from education high school and below, vocational education, and higher education. From the above theoretical and practical basis, and comparing with the Vietnam Enterprise Survey, labor qualifications are classified into corresponding categories as:

- Unskilled workers: Workers who have been trained with general education or less and through other types of training (not professionally trained).

- Professional workers: Workers who have undergone vocational education training, including colleges, professional secondary schools, long-term vocational training, and short-term vocational training.

- Highly qualified workers: Workers with higher education training, including university, master's, doctorate and post-doctoral degrees.

This study uses enterprise-level data from the Vietnam Enterprise Survey (VES) conducted annually by the General Statistics Office. VES is an enterprise-level data set surveyed nationwide, so the database is considered comprehensive and reliable. Regarding labor, VES provides the total number of workers surveyed for the entire time series; however, only VES for 2001, 2007 and 2011 has questions related to workers' qualifications. Information on the labor database for VES 2001 is missing, so we only conduct estimates for 2007 and 2011 to ensure compatibility of the estimation results. To ensure the suitability and correctness of the data, all businesses with incorrect and contradictory data, such as negative revenue and negative total number of employees, will be removed from the estimated data. Descriptive statistics are presented in Table 4.

TABLE 4: Descriptive statistics

Variable	Number of observations	Median	Standard error	Minimum	Maximum	Skewness		Kurtosis	
						Value	Error	Value	Error
Employment	457,669	29,8653	250.4879	first	79,909	1.22	0.58	2.23	0.91
Female employment	457,669	28,5475	244.3602	first	50,660	2.21	0.99	2.56	0.85
Male employment	457,669	11,7242	171.9978	first	33,693	2.14	0.57	0.65	0.76
Unskilled worker	457,669	0.9097	5,6140	0	65,539	2.12	0.84	1.59	0.96
Professional worker	457,669	1,1723	5,7903	0	24,453	0.95	0.64	0.87	0.83
Highly qualified worker	457,669	3.6785	17.9580	0	2,247	1.25	0.97	1.29	0.77
Horizontal	457,669	0.0046	0.0026	0	0.9800	2.84	0.92	2.87	0.94
Backward	457,669	0.0337	0.0003	0	0.0992	2.33	0.58	0.54	0.82
Forward	457,669	0.0435	0.0003	0	0.0982	2.55	0.67	1.57	0.68
Ownership (type of ownership)	457,669	0.5623	0.2456	0	first	2.25	0.55	2.36	0.59
Firmage (business age)	457,669	1.6216	2,4393	first	62	1.55	0.75	2.11	0.76
Export (enterprise with export)	457,669	0.6625	0.3443	0	first	2.66	0.83	0.58	0.81

Source: Author's calculations.

Thus, after cleaning the data, the total number of businesses (2007 and 2011) is 457,669. Regarding employment, the enterprise with the most significant number of employees has 79,909 employees, while the largest number of female and male employees reports 50,660 and 33,693 employees, respectively. The skewness and kurtosis test shows the significance level of the statistical distribution of the data.

4. Estimated results

First, we estimate the spillover effect of FDI on total labor demand for all enterprises (equation 4). The estimation results are presented in Table 5.

TABLE 5: Estimated results with aggregate employment demand

Variable	(1)	(2)	(3)
Horizontal	4,5207*** (0,5345)		4,7805*** (0,9149)
Backward		7,3020*** (-2,1674)	6,1327*** (-7,0664)
Forward		-5,4120*** (5,5630)	-4,3545*** (6,1180)
Ownership	0,0358*** (0,0113)	0,2710*** (0,0147)	0,2711*** (0,0147)
Firmage	0,6160*** (0,0038)	0,5793*** (0,0042)	0,5789*** (0,0042)
Export	-2.0224*** (0.0065)	-2.0352*** (0.0071)	-2.0354*** (0.0071)
coefficient	2,3173*** (0.0060)	2,3128*** (0.0065)	2,3129*** (0.0065)
Industry fixed effects	Have	Have	Have
Year fixed effects	Have	Have	Have
Observe	457,669	457,669	457,669
R-squared coefficient	0.6829	0., 6871	0.6871
In brackets: Standard error			
***p<0.01, **p<0.05, *p<0.1.			

Source: Author’s estimation.

The estimation results from Table 5 show that the spillover effect of FDI on Vietnam's total labor demand is not uniform. This result is quite similar to previous studies showing that the impact of FDI on employment can be positive or negative, or there is no statistical evidence to indicate an impact. Specifically, horizontal spillover effects contribute positively to job demand in Vietnam. This can be explained by the positive impact of knowledge and technology spillovers from FDI enterprises to domestic enterprises in the same industry, thereby indirectly increasing labor demand (Do and Dang, 2023). Meanwhile, the backward and vertical spillover effects of FDI on labor demand are opposite. The positive impact of reverse spillovers on employment shows that FDI firms require greater techniques, skills and complexity from domestic firms, which is a positive spillover to labor demand for domestic companies providing inputs to FDI enterprises (Truong and Dong, 2023). However, vertical spillovers have a negative impact on labor demand. This further proves that FDI enterprises in Vietnam mainly focus on exporting but pay little attention to supplying goods to the domestic market. This also reaffirms Vietnam's export-oriented policy since the implementation of the open-door policy. The model estimation results are also similar to the case of the early stage of China's FDI attraction (Chen et al., 2014). Theoretically, Jenkins (2006) points out that increasing the presence of FDI tends to reduce labor demand. Explaining this, the author believes that the participation of FDI enterprises has increased competition for domestic enterprises, leading to the promotion of the process of improving the labor productivity of enterprises, thereby correspondingly narrowing labor demand. Besides, the presence of FDI enterprises directly/indirectly narrows the market share of domestic enterprises. As a result, domestic enterprises' demand for labor for real estate activities tends to decrease in correlation with the increase of FDI enterprises. Although labor demand tends to increase with the increase of FDI enterprises because of the rise in labor demand to serve the production and business activities of FDI enterprises, overall, the negative impact of FDI on labor demand dominates. Thus, the study's estimation results provide additional empirical evidence that the impact of FDI on labor demand is relatively different and depends on many different factors (Hanousek et al., 2011; Truong and Dong, 2023).

The estimation results with variables related to the enterprise's age, ownership type and participation in export activities are relatively standard. State-owned enterprises and enterprises with experience operating in the market positively impact total employment

demand. On the other hand, businesses that participate in export activities reduce labor demand. This stems from the fact that export businesses often require workers with relatively stricter standards, while the Vietnamese labor market is positioned at a low level regarding qualifications and skills.

Next, we estimate the impact of FDI on employment by level. The estimation results are presented in Table 6.

TABLE 6: Results of employment estimates by level

Variable	Unskilled worker	Occupational worker	High-qualified worker
Horizontal	3,3828*** (1.0437)	2,3285 (1.0214)	1,1466* (1,1680)
Backwards	8,6972* (5.6984)	7,8033*** (5.7266)	6,3791*** (5,4006)
Forward	-6.5468*** (9.5574)	-6.4721*** (9.8055)	-5.0222*** (4.4597)
Ownership	0.2824*** (0.0231)	0.2157*** (0.0182)	0.1743*** (0.0205)
Firmage	0.1340*** (0.0065)	0.1149*** (0.0057)	0.0860*** (0.0063)
Export	-0.0397** (0.0160)	0.0238* (0.0135)	-0.0232 (0.0152)
coefficient	1.2501*** (0.0095)	1.4676*** (0.0084)	2.4313*** (0.0096)
industry fixed effects	Have	Have	Have
year fixed effects	Have	Have	Have
observe	457,669	457,669	457,669
R-squared coefficient	0.0186	0.0159	0.0076
In brackets: Standard error.			
***p<0.01, **p<0.05, *p<0.1.			

Source: Author's estimation.

The estimated results for jobs divided by level are similar to the total employment demand results. However, a highlight is that the level of spillover effects of FDI on job demand has the highest absolute value for unskilled workers and the lowest for high-skilled workers. The estimated results show that, in reality, Vietnamese workers are mainly unskilled workers with certain limitations in qualifications. Meanwhile, the spillover effect on high-skilled labor has a relatively low absolute value. This shows two problems in attracting FDI and Vietnam's training system: (1) FDI enterprises are limited in transferring science and technology to Vietnam, (2) at the same time, the qualifications Vietnam's skilled labor is lacking, at least in quantity. From there, it shows that Vietnam needs to make strategic adjustments in its FDI attraction strategy, which emphasizes the requirement for FDI enterprises to transfer technology and knowledge or selectively focus on FDI projects in human capital-intensive industries. In addition, Vietnam's education and training programs also need to be innovated and updated, focusing on in-depth vocational training for the workforce.

5. Test of heterogeneity

Previous studies have shown that the impact of FDI on labor demand across firms of different sizes and labor demand by gender is heterogeneous (Berman et al., 1994; Piva and Vivarelli, 2004; Rong et al., 2020; Truong and Dong, 2023). Therefore, we test for heterogeneity by estimating the spillover effects of FDI on employment in large and small (small and medium) firms and on firm labor demand and occupation by gender. The estimation results are presented in Table 7.

TABLE 7: Estimated results by firm size and by gender

Variable	Large business	Small business	Female employment	Male employment
Horizontal	4.0425*** (0.9625)	2.0251 (3.8166)	3,2498*** (0.8189)	1.0113 (0.8728)
Backward	6,5403*** (7,4049)	-4.0145 (5.3142)	6,3896*** (3,3167)	7,4804*** (4.8503)
Forward	-4.5144*** (6,1088)	-6,0903 (5,5645)	-4,6325*** (4,2140)	-5,4513*** (3,6750)

Ownership	0,2689*** (0,0147)	-0,0390 (0,1018)	0,2794*** (0,0125)	0,1507*** (0,0133)
Firmage	0,5787*** (0,0042)	0,0013 (0,0438)	0,3037*** (0,0036)	0,2230*** (0,0038)
Export	-2,0347*** (0,0071)	-0,1838* (0,1047)	-0,6619*** (0,0060)	-0,4708*** (0,0064)
coefficient	2,3118*** (0,0065)	5,3675*** (0,0727)	2,3075*** (0,0055)	1,1524*** (0,0059)
industry fixed effects	Have	Have	Have	Have
year fixed effects	Have	Have	Have	Have
observe	41,751	415,918	457,669	457,669
R-squared coefficient	0.6875	0.1110	0.3210	0.1759
In brackets: Standard error				
***p<0.01, **p<0.05, *p<0.1				

Source: Author's estimation.

Overall, the estimation results show certain similarities in the spillover effects of FDI on job demand in Vietnam. This further strengthens the assertion of previous studies that the presence of FDI has different impacts on the labor demand of businesses. However, one point must also be emphasized from the above estimation results. That is, the spillover effect of FDI has a greater impact on large businesses and female workers than on small businesses and male workers. This stems from the labor needs of large enterprises and the female labor-intensive characteristics in Vietnam, so the impact of FDI on labor demand for large enterprises and female workers is relatively higher than with small and medium enterprises and male workers.

We also estimate the impact of FDI on employment by level for both large and small and medium enterprises. The estimation results also show the heterogeneity among businesses of different sizes. Estimated results are available upon request.

6. Conclusion

Since the opening of its economy, Vietnam has undergone significant integration into the global economy, becoming an increasingly attractive destination for foreign direct investment capital. One of the most important contributions of FDI is solving the employment problem in Vietnam. However, the impact of FDI on employment remains controversial. To provide further empirical evidence, we use the 2007 and 2011 enterprise survey data sets to explore the impact of FDI on employment in Vietnam. The estimation results reveal that the horizontal spillover effect of FDI positively impacts employment, while the vertical spillover effect of FDI exhibits a contrary impact. The estimation results also indicate heterogeneity in the impact of FDI on employment. From there, it shows that the impact of FDI on employment is not universal for all economies but is contingent upon specific factors of each country and each industry.

From the estimation results, the study believes that Vietnam needs to make strategic adjustments in its FDI attraction strategy, which emphasizes the requirement for FDI enterprises to transfer technology and knowledge or focus selectively on FDI projects in human capital-intensive industries. At the same time, there is a need for innovation and updates in Vietnam's education and training programs, with a particular emphasis on in-depth vocational training for the workforce.

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