The Role of Domestic Value Added (DVA) and Foreign Value Added (FVA) in the Business Performance of Vietnam's Key Export Industries

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Abstract: This study investigates the effects of domestic value added (DVA) and foreign value added (FVA) on firm performance in four of Vietnam's major export industries: logistics, food processing, electronics, and textiles. Using an unbalanced panel dataset of 639 firm-year observations from 2016 to 2024, firm performance is measured by return on assets (ROA), while Ridge Regression is employed to address multicollinearity between DVA and FVA. The results show that both DVA and FVA negatively affect firm performance, with DVA having a stronger negative impact. These findings indicate that Vietnamese firms remain concentrated in low-value-added segments of global value chains, limiting their ability to capture higher profits. Lagged ROA, firm size, and financial leverage are identified as the primary determinants of firm performance. The study provides policy implications for promoting technological upgrading, strengthening domestic value creation, and enhancing firms' positions in global value chains.

Keywords: Firm performance; Domestic value added (DVA), Foreign value added (FVA), four key export industries (Vietnam and Southeast Region)

Introduction

The rapid expansion of global value chains (GVCs) has fundamentally transformed international production and trade by fragmenting production processes across multiple countries. As a result, gross export statistics no longer accurately reflect the actual value created within an exporting economy because intermediate goods and services often cross national borders multiple times before reaching final consumers. Consequently, the concept of trade in value added has become increasingly important for evaluating countries' positions and gains from global production networks (Johnson & Noguera, 2012; Koopman, Wang, & Wei, 2014). Within the GVC framework, domestic value added (DVA) represents the value generated by domestic factors of production that is embodied in exports, whereas foreign value added (FVA) refers to imported intermediate inputs incorporated into exported products. These two indicators provide complementary perspectives on export quality and production structure. A higher DVA indicates stronger domestic production capability and greater value retention within the economy, while FVA reflects the degree of integration into international production networks through imported technology, components, materials, and business services (OECD, 2025). Although imported inputs can improve productivity, product quality, and export competitiveness, excessive dependence on FVA may reduce domestic value capture and increase firms' vulnerability to external supply chain disruptions.

Vietnam has emerged as one of the world's most export-oriented economies through deep integration into global production networks. In recent years, exports have become a major driver of economic growth, with electronics, textiles, food products, and logistics playing particularly important roles in supporting export expansion. However, despite the remarkable growth in export value, many Vietnamese firms continue to participate primarily in low value-added stages of GVCs, especially assembly and processing activities. Therefore, improving domestic value creation while efficiently utilizing foreign intermediate inputs has become a key policy objective for enhancing national competitiveness and sustainable economic growth (World Bank, 2020; World Bank, 2024). Among Vietnam's major export industries, electronics, textiles, food, and logistics exhibit distinct value-added structures. The electronics industry relies heavily on imported components and advanced technologies, resulting in relatively high FVA. The textile industry combines abundant domestic labor with imported raw materials and international production networks. In contrast, the food processing industry generates relatively high domestic value added through the utilization of domestic agricultural resources while still benefiting from imported processing technologies and equipment. Meanwhile, logistics functions as a strategic service industry that supports production and export activities by reducing transaction costs, improving supply chain efficiency, and enhancing firms' competitiveness. These structural differences suggest that the impacts of DVA and FVA on firm performance may vary considerably across industries.

Previous studies have extensively examined GVC participation, export upgrading, and productivity at the country or industry level (Johnson & Noguera, 2012; Koopman et al., 2014; World Bank, 2020). However, empirical evidence on how DVA and FVA individually affect firm performance, particularly in developing economies such as Vietnam, remains limited. Existing research has paid relatively little attention to industry specific heterogeneity in the relationship between value-added composition and firm profitability. To address this research gap, this study investigates the effects of DVA and FVA on the performance of firms operating in four major export industries in Vietnam: logistics, food, electronics, and textiles. Firm performance is measured by return on assets (ROA), while firm characteristics such as size, leverage, technology, and supply chain management are incorporated as control variables. By comparing industries with different levels of import dependence and domestic value creation, this study provides new evidence on how the composition of value added influences firm performance. This study contributes to the literature in three ways. First, it extends existing GVC research by linking trade in value added with firm-level financial performance rather than focusing solely on export or productivity indicators. Second, it separately examines the roles of DVA and FVA, providing a more comprehensive understanding of how domestic capability and imported intermediate inputs jointly influence firm competitiveness. Third, by comparing four key export industries with different production characteristics (textile, logistic, food, electronics), the study offers policy implications for promoting domestic value creation while maintaining the benefits of global production integration in Vietnam.

Literature Review

The fragmentation of production across countries has fundamentally reshaped international trade. Rather than producing complete goods within a single country, firms increasingly specialize in particular stages of production, resulting in complex global value chains (GVCs) (Gereffi, Humphrey, & Sturgeon, 2005). Under this production model, intermediate goods and services frequently cross national borders before final assembly, making gross export statistics unable to accurately measure the economic value generated by each country. To overcome this limitation, the concept of trade in value added (TiVA) was developed to distinguish the domestic value created within an exporting country from the foreign value embodied in exported products. Johnson and Noguera (2012) demonstrate that value-added trade provides a more accurate measure of countries' contributions to international production than conventional trade statistics. Similarly, Koopman, Wang, and Wei (2014) developed a comprehensive accounting framework separating gross exports into domestic value added (DVA), foreign value added (FVA), and double-counted intermediate trade, providing a theoretical foundation for empirical studies using TiVA databases. Participation in GVCs enables firms to access international markets, advanced technologies, specialized inputs, and global distribution networks, thereby improving productivity and competitiveness. However, the benefits of GVC participation depend not only on the degree of integration but also on firms' positions within the value chain and their capability to capture value from production activities (World Bank, 2020). Consequently, increasing export volume alone is insufficient; improving domestic value creation has become a major objective for sustainable economic development.

The literature on trade in value added generally suggests that increasing domestic value added (DVA) enables countries and firms to retain a larger proportion of export earnings, thereby promoting productivity, employment, industrial upgrading, and long-term economic growth (Johnson & Noguera, 2012; Koopman, Wang, & Wei, 2014). From this perspective, a higher DVA reflects stronger domestic production capability and greater local content embodied in exports, which should theoretically improve firm performance. However, the positive effect of DVA is not universal and depends critically on a country's position within global value chains (GVCs). According to Gereffi, Humphrey, and

Sturgeon (2005), value creation is unevenly distributed along GVCs, with research and development, product design, branding, marketing, and after-sales services capturing substantially higher value than manufacturing and assembly activities. Firms operating mainly in downstream production stages generally retain only a small share of total value despite accounting for a large proportion of production activities. Although Vietnam has become one of the world's leading export-oriented economies, domestic firms continue to participate in GVCs predominantly through labor-intensive processing, assembly, and contract manufacturing, particularly in electronics, textiles, and food processing (World Bank, 2020; World Bank, 2024). Most knowledge-intensive activities remain under the control of multinational enterprises, while Vietnamese firms primarily undertake standardized production with relatively limited technological content and weak innovation capability. Consequently, increases in domestic value added frequently arise from expanding labor-intensive processing or increasing the use of domestic intermediate inputs rather than from technological upgrading or functional upgrading within GVCs. The concept of functional upgrading suggests that firms improve value capture only when they move from low-value production activities toward higher value-added functions such as product development, engineering, branding, logistics management, and innovation (Humphrey & Schmitz, 2002). However, many Vietnamese firms have not yet successfully achieved such upgrading. Instead, domestic value creation remains concentrated in production stages characterized by relatively low profit margins and intense price competition. Under these conditions, increasing DVA may not generate proportional improvements in productivity or profitability because firms continue to compete primarily through low labor costs rather than technological advantages. Furthermore, Vietnam's supporting industries remain underdeveloped compared with those of advanced manufacturing economies. Domestic suppliers often experience limitations in technology, product quality, production scale, and innovation capacity, reducing their ability to provide competitive intermediate inputs for export-oriented manufacturers (OECD, 2025). Consequently, increasing the share of domestic inputs without corresponding improvements in productivity and technological capability may increase production costs while failing to enhance firms' competitive advantages. Therefore, although DVA is generally considered beneficial in the literature, the structural characteristics of Vietnam's export industries suggest that greater domestic value added does not necessarily reflect successful industrial upgrading. Instead, it may simply indicate continued specialization in relatively low-value production stages, leading to lower operational efficiency and financial performance.

Although Domestic Value Added (DVA) and Foreign Value Added (FVA) are measured at the industry level, they reflect the production structure and value capture capability of firms operating within global value chains (Koopman et al., 2014). According to Global Value Chain (GVC) theory, industry level value-added structures shape firms' access to technology, production costs, supplier relationships, and bargaining power, thereby influencing firm performance (Gereffi et al., 2005; Baldwin, 2016). Firms operating in industries with greater dependence on foreign intermediate inputs (high FVA) are generally more exposed to external supply disruptions and imported input costs, whereas industries generating domestic value added through low-value assembly activities may still capture only a limited share of total value created. Consequently, industry-level DVA and FVA constitute important structural factors affecting firms' operating efficiency and accounting profitability, measured by return on assets (ROA). This study therefore treats DVA and FVA as industry specific characteristics that influence firm level financial performance through value capture, production efficiency, and resource utilization, providing a theoretical linkage between macro-level GVC indicators and firm-level profitability.

Hypothesis 1 (H1): in the Context of Vietnam's Major Export Industries, Domestic Value Added (DVA) is Expected to Negatively Affect Firm Performance.

Foreign value added (FVA) measures the proportion of imported intermediate goods and services embodied in exports, including raw materials, components, machinery, advanced technologies, and specialized business services (Koopman et al., 2014). The conventional literature argues that imported intermediate inputs improve productivity by providing firms with access to superior technologies, higher-quality materials, and international production knowledge (Amiti & Konings, 2007; Goldberg et al., 2010). Accordingly, FVA may enhance firms' competitiveness when domestic firms possess sufficient absorptive capacity to internalize these technological spillovers. Nevertheless, the benefits derived from foreign inputs are conditional upon firms' technological capability and their position within GVCs. Humphrey and Schmitz (2002) emphasize that participation in global value chains does not automatically generate industrial upgrading because firms may become locked into low value-added activities while relying heavily on imported technologies and intermediate inputs. In such cases, foreign value added primarily supports production continuity rather than strengthening firms' own innovation capabilities. This argument is particularly relevant for Vietnam. Although export-oriented industries have become deeply integrated into international production networks, domestic firms remain heavily dependent on imported components, machinery, and production materials, especially in the electronics and textile industries. Meanwhile, strategic activities such as technology development, product design, intellectual property creation, branding, and global marketing continue to be controlled largely by multinational corporations (World Bank, 2020). Consequently, a substantial proportion of export value ultimately accrues to foreign suppliers and lead firms, while Vietnamese firms capture only a relatively small share of total value added. Moreover, excessive dependence on imported intermediate inputs exposes firms to exchange-rate fluctuations, rising logistics costs, geopolitical uncertainty, and disruptions in global supply chains. Recent shocks including the COVID-19 pandemic and global logistics disruptions demonstrated that firms relying heavily on foreign suppliers experienced greater production interruptions and cost increases than firms supported by stronger domestic supply networks (World Bank, 2020).

From the perspective of GVC upgrading theory, reliance on foreign value added without simultaneous development of domestic technological capability may create a low-value-added trap, in which firms remain permanently specialized in assembly and processing activities despite increasing export volumes (Gereffi et al., 2005; UNCTAD, 2013). Therefore, under Vietnam's current stage of industrial development, a higher proportion of FVA may indicate stronger dependence on foreign production networks rather than greater technological competitiveness. Accordingly, this study argues that the structural characteristics of Vietnam's export industries make it more likely that greater dependence on foreign value added reduces firms' financial performance.

Hypothesis 2 (H2): In the Context of Vietnam's Major Export Industries, Foreign Value Added (FVA) is Expected to Negatively Affect Firm Performance.

Model, Methodology and Data

To examine the impacts of domestic value added (DVA) and foreign value added (FVA) on firm performance, this study estimates the following panel regression model, with the logistics industry serving as the reference category, the empirical model is specified as follows:

$$\begin{aligned} ROA_{it} = \quad & \alpha + \rho ROA_{i,t-1} + \beta_1 DVA_{it} + \beta_2 FVA_{it} + \beta_3 SIZE_{it} + \beta_4 LEV_{it} \\ & + \beta_5 TECH_{it} + \beta_6 SCM_{it} + \gamma_1 FOOD_i + \gamma_2 ELECTRONICS_i + \gamma_3 TEXTILES_i \\ & + \lambda_t + \mu_i + \varepsilon_{it} \end{aligned}$$

where:

- ROA_{it} denotes the return on assets of firm i in year t, representing firm performance. It is calculated as net income divided by total assets.
- $ROA_{i,t-1}$ is the one-period lagged value of return on assets. It captures the persistence of firm performance over time.
- DVA_{it} represents domestic value added embodied in exports. It reflects the value generated by domestic labor, capital, technology, services, and intermediate inputs.
- FVA_{it} represents foreign value added embodied in exports. It measures the value of imported intermediate goods and services incorporated into exported products.
- $SIZE_{it}$ denotes firm size, generally measured as the natural logarithm of total assets.
- LEV_{it} represents financial leverage, measured as the ratio of total liabilities to total assets.
- $TECH_{it}$ is a proxy for the technological capability of the firm.

- SCM_{it} measures supply chain management efficiency. Depending on the available data, it may be proxied by inventory turnover, supply chain turnover, or another relevant operational indicator.
- $FOOD_i$ is a dummy variable equal to 1 if firm $i$operates in the food industry and 0 otherwise.
- $ELECTRONICS_i$ is a dummy variable equal to 1 if firm $i$operates in the electronics industry and 0 otherwise.
- $TEXTILES_i$ is a dummy variable equal to 1 if firm $i$operates in the textile industry and 0 otherwise.
- The logistics industry is omitted from the model and therefore serves as the reference category.
- α is the intercept term.
- ρ measures the degree of persistence in firm performance.
- β_1 to β_6 are the coefficients of the explanatory and control variables.
- γ_1, γ_2, and γ_3 capture the differences in firm performance between the food, electronics, and textile industries and the logistics industry.
- λ_t represents year-specific effects that control for macroeconomic and time-related shocks common to all firms.
- μ_i captures unobserved firm-specific effects that remain constant over time.
- ε_{it} is the idiosyncratic error term.

Table 1. Variable definitions

Variable	Definition	Measurement	Expected Sign	Key References
ROA	Firm performance	Net income / Total assets (%)	Dependent	Lee (2009); Dincă & Akomeah (2026)
FVA	Foreign value added	Share of foreign value added embodied in exports (%)	-	Koopman et al. (2014); OECD TiVA Database (2025); OECD (2025)
DVA	Domestic value added	Share of domestic value added embodied in exports (%)	-	Johnson & Noguera (2012); OECD TiVA Database (2025); OECD (2025)
Size	Firm size	Natural logarithm of total assets	+	Dang et al. (2018); Nguyen et al. (2025)
Lev	Financial leverage	Total debt / Total assets (%)	-	Rajan & Zingales (1995); Nguyen Le Hoa Tuyet et al. (2024)
Tech	Technological capability	Intangible assets / Total assets (%)	+	Lev (2001); Corrado et al. (2009)
SCM	Inventory management efficiency	Inventory turnover ratio	+	Christopher (2016); Nguyen Van Bay et al. (2025)
Textile	Industry dummy (Textiles & Garments)	1 if the firm belongs to the textile industry, 0 otherwise	+/-	Gereffi et al. (2005); OECD Economic Surveys: Viet Nam (2025)

Food	Industry dummy (Food Processing)	1 if the firm belongs to the food industry, 0 otherwise	+/-	World Bank (2024); OECD TiVA Database (2025)
Electronics	Industry dummy (Electronics & Software)	1 if the firm belongs to the electronics industry, 0 otherwise	+/-	Sturgeon & Kawakami (2011); OECD Economic Surveys: Viet Nam (2025)

Note: The food processing industry is used as the reference category

This study employs an unbalanced panel dataset of Vietnamese listed firms operating in four export-oriented industries: Logistics, Food Processing, Electronics, and Textiles, covering the period from 2016 to 2024. These industries were selected because they have consistently made substantial contributions to Vietnam's export performance while exhibiting different degrees of participation in global value chains (GVCs) and distinct domestic and foreign value-added structures. Firm-level financial data, including return on assets (ROA), total assets, total liabilities, intangible assets, and inventory turnover, were collected from audited annual financial statements and publicly available corporate reports. These data were used to construct the dependent variable and firm-specific control variables, including firm size, financial leverage, technological intensity, and inventory management efficiency.

The key explanatory variables, Domestic Value Added (DVA) and Foreign Value Added (FVA), were constructed following the OECD Trade in Value Added (TiVA) framework based on the OECD Inter-Country Input-Output (ICIO) database. TiVA indicators distinguish the proportion of export value generated by domestic production factors from that embodied in imported intermediate inputs, thereby providing a more accurate measure of countries' participation in global value chains than conventional gross trade statistics. The OECD ICIO database provides annual inter-country input-output tables covering the period 1995-2022, which serve as the basis for calculating TiVA indicators. The 2025 edition includes observations through 2022 for 80 economies and 50 industries. Because official ICIO tables for 2023 and 2024 are not yet available, this study estimates DVA and FVA for these two years using a controlled interpolation and extrapolation approach. Specifically, the estimation preserves the industry production structure observed in the latest available ICIO tables while incorporating updated information from Vietnam's national accounts, international trade statistics, and industry export performance. This approach is consistent with the methodology adopted by the OECD when extending recent-year TiVA estimates in the absence of finalized Supply and Use Tables (SUTs) and Input-Output Tables (IOTs). To improve the reliability of the empirical analysis, all continuous variables were winsorized at the 1st and 99th percentiles to mitigate the influence of extreme observations. The final sample consists of firm-year observations from the four selected industries over the 2016-2024 period, providing a comprehensive dataset for examining how domestic and foreign value added influence firm performance across industries with different positions in global value chains.

To estimate the relationship between domestic value added (DVA), foreign value added (FVA), and firm performance, this study employs Ridge Regression, a penalized regression technique designed to address multicollinearity among explanatory variables. Unlike ordinary least squares (OLS), which may produce unstable coefficient estimates when explanatory variables are highly correlated, Ridge Regression introduces an L2 regularization penalty into the least squares objective function, shrinking regression coefficients toward zero without eliminating any explanatory variables (Hoerl & Kennard, 1970). The Ridge estimator minimizes the following objective function:

$$\min_{\beta} \left\{ \sum_{i=1}^{n} (y_i - \mathbf{x}_i'\beta)^2 + \lambda \sum_{j=1}^{p} \beta_j^2 \right\}$$

$$\hat{\beta}_{Ridge} = (X'X + \lambda I)^{-1} X'Y$$

where:

- y_i denotes the dependent variable;
- $\mathbf{x}_i$ is the vector of explanatory variables;
- β_j represents the regression coefficients;

- λ is the regularization parameter controlling the degree of coefficient shrinkage.
- X is the matrix of explanatory variables;
- Y is the dependent variable vector;
- I is the identity matrix;

When $\lambda = 0$, Ridge Regression is equivalent to the conventional OLS estimator. As λ increases, the estimated coefficients become increasingly shrunk toward zero, reducing their variance while introducing a relatively small amount of bias. According to Hoerl and Kennard (1970), this bias-variance trade-off often results in lower prediction error and more reliable coefficient estimates than OLS when multicollinearity exists. Before estimating the Ridge model, all continuous explanatory variables are standardized to have zero mean and unit variance because Ridge Regression is sensitive to differences in variable scales (James et al., 2021). Multicollinearity is initially evaluated using the Variance Inflation Factor (VIF). The presence of relatively high VIF values indicates substantial linear dependence among the explanatory variables, particularly between DVA and FVA, which are derived from the same value-added accounting framework and therefore exhibit inherent correlation. The optimal penalty parameter (λ) is determined through k-fold cross-validation, which identifies the value of λthat minimizes the mean squared prediction error. This procedure balances model complexity and predictive accuracy while avoiding overfitting (Hastie, Tibshirani, & Friedman, 2009; James et al., 2021). Compared with OLS estimation, Ridge Regression offers several advantages in the context of this study. First, it substantially reduces the instability of coefficient estimates caused by multicollinearity between DVA, FVA, and other firm-level characteristics. Second, unlike variable-selection methods such as LASSO, Ridge Regression retains all explanatory variables in the model, which is particularly important because both DVA and FVA are central theoretical constructs of this study. Finally, Ridge Regression generally produces more robust parameter estimates and stronger out-of-sample predictive performance when explanatory variables exhibit high correlation. Accordingly, Ridge Regression is adopted as the primary estimation method to obtain stable and reliable estimates of the effects of domestic and foreign value added on firm performance.

Empirical Results

Table 2. Descriptive Statistics

Variable	Observations	Mean	Standard Deviation	Minimum	25th Percentile	Median	75th Percentile	Maximum
ROA	639	5,855	7,034	-20,837	1,876	4,183	7,931	52,206
ROA_1	639	4,655	6,773	-17,471	0,000	2,763	6,665	52,206
FVA	639	16,185	7,833	5,511	9,941	10,964	25,689	26,753
DVA	639	16,687	7,852	8,116	10,649	11,043	26,213	27,104
Size	639	6,698	1,613	2,185	5,626	6,540	7,663	11,902
Lev	639	38,108	22,773	0,003	20,746	38,188	54,283	134,453
SCM	639	13,177	31,592	0,000	3,251	5,104	8,874	288,305
Tech	639	2,500	8,060	0,000	0,005	0,174	1,728	79,186

Source: Author's calculations

The descriptive statistics are based on 639 firm year observations. The mean ROA is 5.855%, indicating that firms generated an average return of approximately 5.9% on total assets, although the wide range from -20.837% to 52.206% suggests substantial differences in financial performance across firms. The mean values of FVA and DVA are relatively similar, at 16.185% and 16.687%, respectively, implying a broadly balanced contribution of foreign and domestic value added. Firm size exhibits moderate variation, while leverage averages 38.108%, with several highly leveraged observations. SCM and Tech show large standard deviations relative to their means and substantial differences between the median and maximum values, indicating right-skewed distributions and the presence of extreme observations. Therefore, appropriate treatment of outliers and variable standardization is necessary before estimating the Ridge regression model.

Figure 1. Pearson Correlation Matrix

Source: Author's calculations

Figure 1 shows that most explanatory variables exhibit relatively weak pairwise correlations, suggesting that multicollinearity is not a serious concern among the control variables. The strongest positive correlation is observed between DVA and FVA (r = 0.99), reflecting their inherent relationship within the OECD Trade in Value Added (TiVA) accounting framework. Since DVA and FVA jointly describe the composition of value added embodied in exports, their high correlation is structural rather than resulting from data quality problems. Consequently, estimating the model using conventional OLS may produce unstable coefficient estimates and inflated standard errors. To address this issue while retaining both theoretically important variables, this study employs Ridge Regression, which applies L2 regularization to mitigate the adverse effects of multicollinearity and improve the stability and reliability of the estimated coefficients (Hoerl & Kennard, 1970; James et al., 2021).

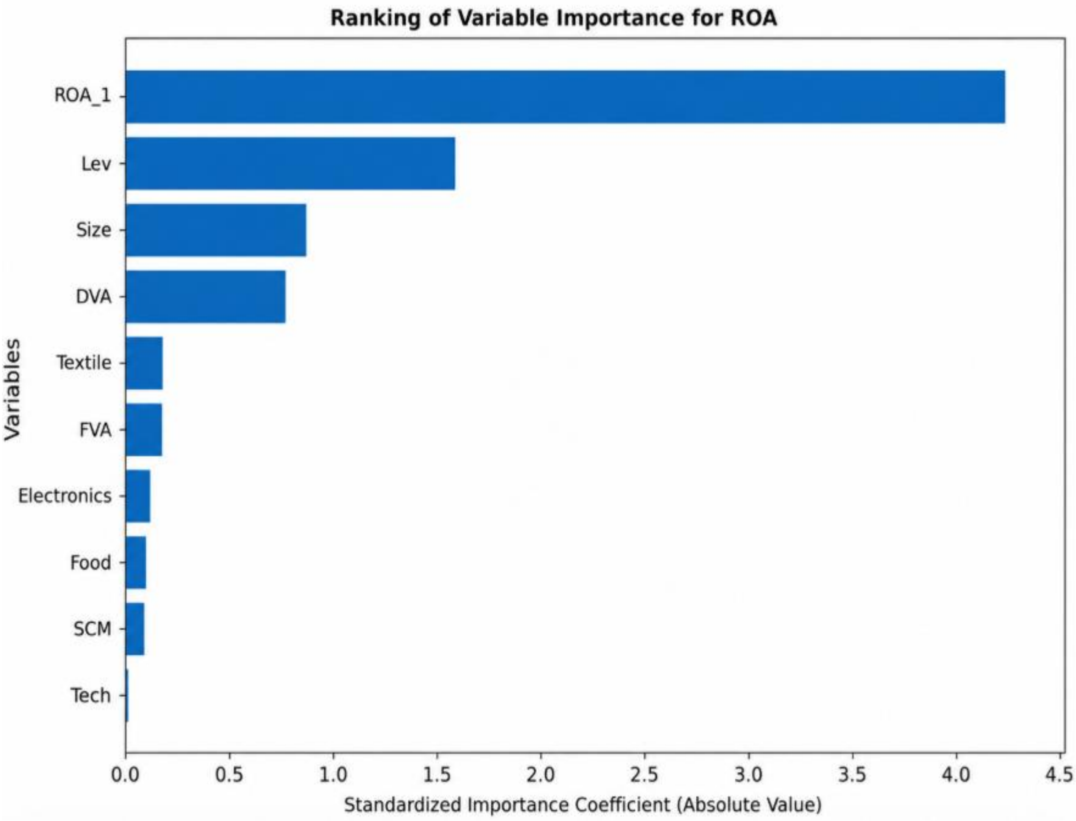

Figure 2. Variables inportance for ROA

Source: Author's calculations

Figure 2 ranks the relative importance of the explanatory variables in predicting firm performance (ROA). The lagged ROA (ROA_{t-1}) is the most influential variable, indicating strong persistence in firm profitability over time. Financial leverage (Lev), firm size (Size), and domestic value added (DVA) are the next most important predictors, whereas FVA and the industry dummy variables (Food, Electronics, and Textile) have relatively smaller contributions. Technological intensity (Tech) exhibits the lowest importance, suggesting a limited contribution to explaining variations in ROA within the sample

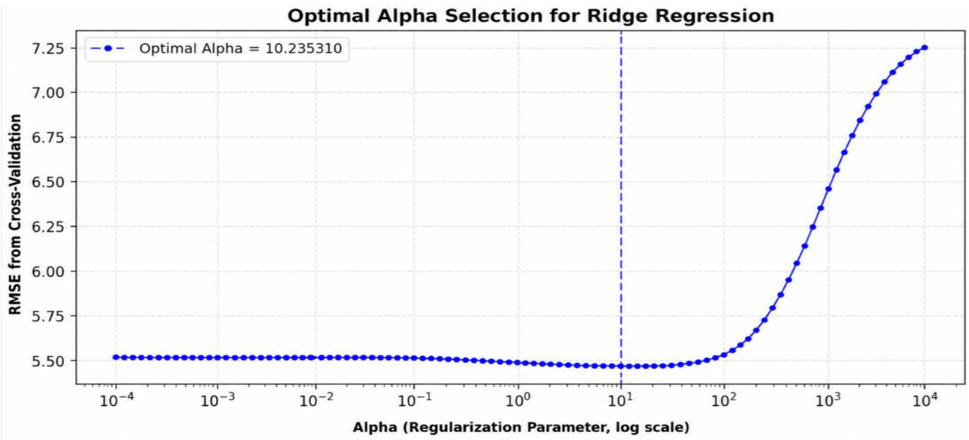

Figure 3. Optimal Alpha for Ridge Regression

Source: Author's calculations

Figure 3 illustrates the relationship between the Ridge regularization parameter (alpha) and the cross-validation RMSE. As the alpha value increases from a very small level to approximately 10.24, the RMSE gradually decreases and reaches its minimum, indicating the optimal level of regularization. Beyond this point, the RMSE increases sharply, suggesting that excessive regularization leads to underfitting and deteriorates the model's predictive performance. Therefore, selecting an optimal alpha of approximately 10.24 provides the best balance between model complexity and prediction accuracy.

Table 3. Machine Learning-Based Ridge Regression Results

Variable	Standardized Ridge Coefficient	Absolute Effect	Direction of Effect
ROA_1	4,1475	4,1475	Positive
Lev	-1,5427	1,5427	Negative
Size	0,8398	0,8398	Positive
DVA	-0,7609	0,7609	Negative
FVA	-0,1695	0,1695	Negative
SCM	-0,0858	0,0858	Negative
Tech	0,0074	0,0074	Positive
Textile	-0,1732	0,1732	Negative
Electronics	0,1092	0,1092	Positive
Food	0,0889	0,0889	Positive

Source: Author's calculations

Table 3 presents the Ridge regression results based on standardized coefficients. The lagged ROA (ROA_{t-1}) is the most influential determinant of current firm performance, indicating strong persistence in profitability over time, which is consistent with the dynamic nature of firm performance documented by Lee (2009). Among the control variables, firm size exhibits a positive effect on ROA, suggesting that larger firms benefit from economies of scale and greater access to financial and technological resources, consistent with the findings of Dang et al. (2018). In contrast, financial leverage negatively affects firm performance, implying that excessive debt financing increases financial risk and interest burdens, thereby reducing profitability, in line with Rajan and Zingales (1995), Nguyen Le Hoa Tuyet et al. (2024). Although technological capability has a positive coefficient, its effect is relatively small, while supply chain management, measured by inventory turnover, exhibits a slightly negative contribution to firm performance.

Regarding the core research hypotheses, the estimated coefficients of both DVA (-0.7609) and FVA (-0.1695) are negative, thereby supporting both Hypothesis H1 and Hypothesis H2. Specifically, H1 proposed that domestic value added negatively affects firm performance, while H2 predicted a negative relationship between foreign value added and firm performance in Vietnam's major export industries. The empirical results confirm these expectations, with DVA exerting a substantially stronger negative effect than FVA. The negative relationship between DVA and firm performance suggests that higher domestic value-added content has not yet translated into greater profitability for Vietnamese firms. Although DVA reflects domestic production activities, these industries remain concentrated in labor intensive manufacturing, processing, and assembly stages characterized by limited technological sophistication and low value capture. Consequently, increasing domestic value added alone does not necessarily improve firm profitability. This finding is consistent with the value-added trade framework proposed by Johnson and Noguera (2012) and the OECD TiVA methodology (OECD TiVA, 2025; OECD, 2026), which emphasizes that the amount of domestic value added is less important than firms' ability to participate in higher-value segments of global value chains. Similarly, the negative coefficient of FVA supports H2 and indicates that greater reliance on imported intermediate inputs does not enhance firm profitability. Although foreign inputs may improve production efficiency and export competitiveness, excessive dependence on imported components increases production costs and limits domestic value capture. This result is also consistent with the OECD TiVA framework (OECD TiVA, 2025; OECD, 2026) and Koopman et al. (2014), who argue that firms positioned in downstream assembly activities generally capture only a limited share of total value added despite participating actively in international production networks.

The industry dummy variables further reveal structural differences across Vietnam's major export sectors. Textile firms exhibit lower performance than firms in the logistics industry, whereas food and electronics firms display slightly positive effects. These findings are consistent with previous studies showing that the textile industry remains concentrated in buyer-driven, labor-intensive global value chains (Gereffi et al., 2005), while the electronics industry has gradually upgraded through participation in technology-intensive production networks (Sturgeon & Kawakami, 2011). Overall, the results suggest that firm-specific characteristics and firms' positions within global value chains are more important determinants of profitability than industry affiliation alone.

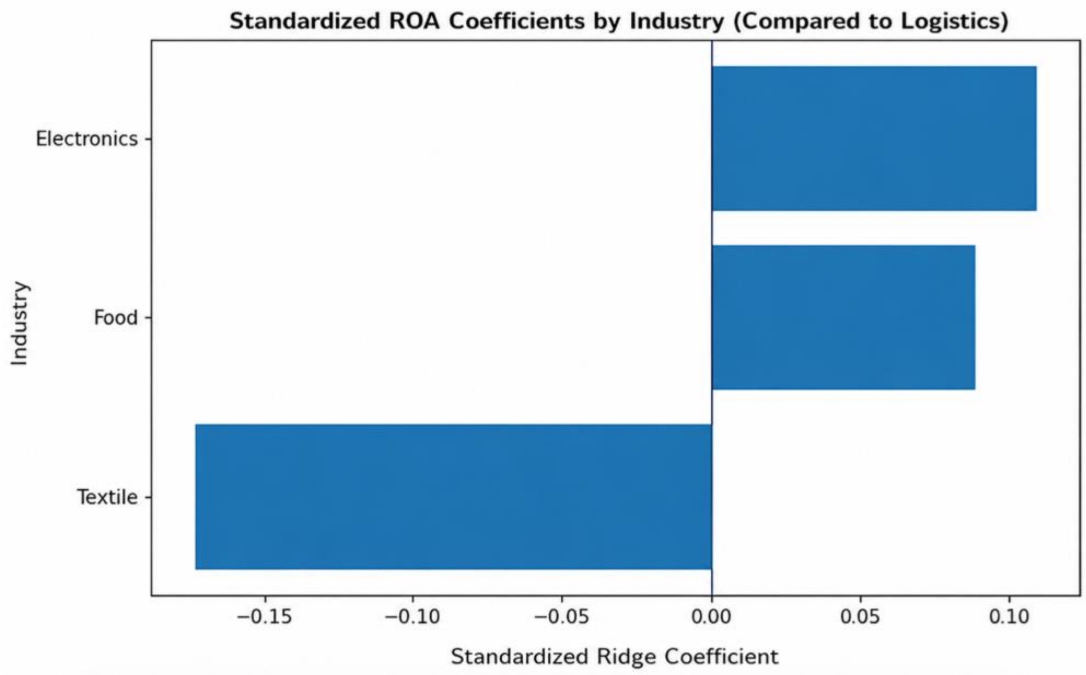

Figure 4. ROA coefficients compared to Logistics Industry

Source: Author’s calculations

Figure 4 illustrates the differences in firm performance across industries relative to the logistics sector, which serves as the reference category. The results show that the electronics and food industries have positive standardized Ridge coefficients, indicating that firms in these sectors achieve higher ROA than those in the logistics industry after controlling for other factors. In contrast, the textile industry exhibits a negative coefficient and the largest absolute difference, suggesting significantly lower profitability compared with the logistics sector. These findings imply that industry characteristics influence firm performance; however, the relatively small coefficients compared with key firm-level variables indicate that profitability is driven more by firm-specific factors, particularly lagged ROA, leverage, firm size, and value-added composition (DVA and FVA), than by industry affiliation alone.

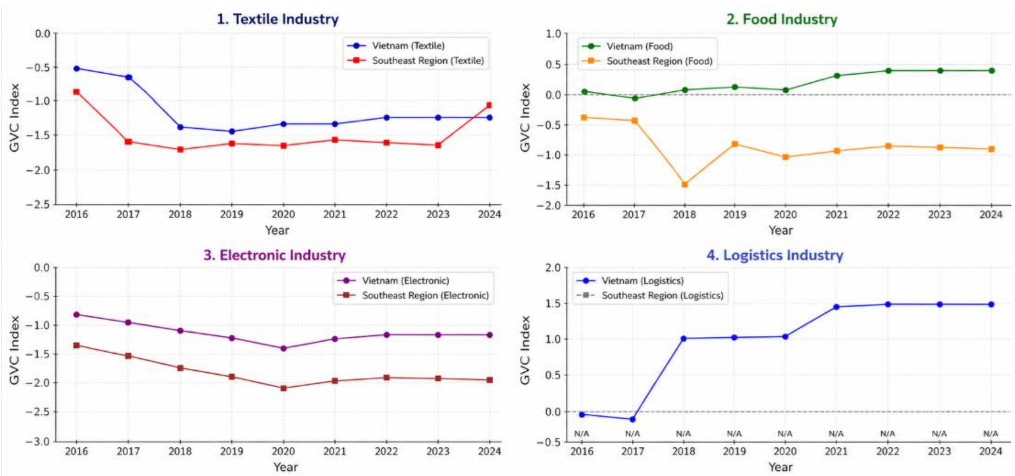

Figure 5. Comparison of GVC-position for Selected Industries in Vietnam and the Southeast Region

Source: Author’s calculations

The Southeast Region is Vietnam's largest industrial and export-oriented economic region, accounting for a substantial share of the country's manufacturing output, FDI inflows, and international trade. Comparing the GVC position of the Southeast Region with the national average helps determine whether the country's leading economic region occupies a more advanced position in global value chains or continues to face similar structural constraints. Figure 5 shows that the GVC positions of the textile and electronics industries remain negative for both Vietnam and the Southeast Region throughout 2016-2024, indicating that these industries are largely positioned in downstream, assembly-oriented stages of global value chains. The Southeast Region consistently records lower GVC indices than the national average, especially in the electronics industry, suggesting greater dependence on imported intermediate inputs. In contrast, the food industry exhibits a gradual improvement in Vietnam, with the GVC index becoming positive after 2020, whereas the Southeast Region remains negative. The logistics industry shows a marked improvement in Vietnam, reflecting an increasingly upstream role in supporting production and trade, although a regional comparison is not presented due to unavailable data. Overall, despite being Vietnam's economic powerhouse, the Southeast Region has not yet achieved a higher GVC position than the national average in the major manufacturing industries.

Conclusions and Implications

This study examines the effects of domestic value added (DVA) and foreign value added (FVA) on firm performance in four major export-oriented industries in Vietnam, namely logistics, food processing, electronics, and textiles, over the period 2016-2024. To address the severe multicollinearity between DVA and FVA, Ridge Regression was employed to obtain stable and reliable coefficient estimates. The empirical results show that both DVA and FVA negatively affect firm performance, with DVA exhibiting a stronger negative impact. These findings suggest that Vietnam's export industries remain concentrated in low-value-added segments of global value chains, where increased participation has not yet translated into higher profitability. In addition, lagged ROA, firm size, and financial leverage are identified as the most important determinants of firm performance. The findings provide several policy implications. First, policymakers should encourage firms to move beyond processing and assembly activities by promoting innovation, technological upgrading, and participation in higher-value stages such as product design, branding, and research and development. Second, policies should strengthen domestic supplier networks to increase the quality rather than merely the quantity of domestic value added. Third, firms should improve financial management and optimize capital structures to enhance profitability while reducing excessive dependence on debt financing. Finally, greater investment in technology, digital transformation, and supply chain resilience will help Vietnamese firms improve their competitiveness and capture more value from global production networks. Despite these contributions, this study is limited to four export-oriented industries and the 2016-2024 period. Future research may extend the analysis to other industries and countries or employ dynamic panel estimators and machine learning techniques to further examine the relationship between global value chain participation and firm performance.

The findings suggest that both Vietnam and the Southeast Region remain concentrated in downstream segments of global value chains, particularly in the textile and electronics industries. To enhance GVC positions, policymakers should prioritize increasing domestic value creation by strengthening supporting industries, promoting technological innovation, and encouraging greater R&D investment. Policies should also foster stronger linkages between domestic firms and multinational enterprises to facilitate technology transfer and knowledge spillovers. Furthermore, improving workforce skills, accelerating digital transformation, and expanding logistics infrastructure would enhance firms' productivity and value capture. These measures would enable Vietnamese industries to move toward higher value-added activities such as product design, advanced manufacturing, branding, and after-sales services, thereby improving both GVC upgrading and firm level profitability.

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