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Article

Firm specifics, trade liberalization outcomes, and export intensity with the moderating role of location advantages—Empirical evidence from Vietnam

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Abstract: Vietnam has experienced an impressive period of economic growth since implementing an export-oriented economic policy. Vietnam's international economic integration is deepening, and the output of the export sector has been continuously improved with a double-digit growth rate in recent years, especially in Ho Chi Minh City. Hence, the purpose of this paper is to study the impact of trade liberalization on export intensity of Vietnamese exporters as well as the moderating role of the location. In this study, data was collected from 80 exporters listing in Vietnam stock markets from 2007 to 2022. Further, regression test was carried out by applying GMM model. The results show that trade liberalization outcomes have a positive impact on export intensity. We, however, do not find enough evidence of the moderating effect of the location factor. These findings support Resource-based View theory, and trade liberalization policy. The findings imply that Vietnam government should continue to implement trade liberalization policy to support export sector growth.

Keywords: trade liberalization; location advantages; export intensity; Ho Chi Minh City; Vietnam

1. Introduction

The "Doi moi" policy introduced in 1986 and especially the market-oriented reform policy introduced in 1989 by Vietnamese government marked an important milestone in the history of Vietnam's economic development. The results of the reform have brought about remarkable achievements in terms of GDP growth, macroeconomic stability, export expansion, foreign direct investment (FDI) attraction and poverty reduction. In the context of the global economy being heavily impacted by the trade war between the US and China, and the Covid-19 pandemic, international economic integration has helped Vietnam maintain a high level of economic growth. In 2019, export growth in markets of countries signed free trade agreements with Vietnam continued to reach a high performance such as export revenue to Japan reached US$20.4 billion, up 8.4%; export revenue to Korea reached 19.7 billion USD, up 8.1%; export revenue to Russia reached 2.67 billion USD, up 9%. In particular, the partner markets in the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) achieved high export growth. In which, the Canadian market increased by 19.8% (reaching 3.91 billion USD), Mexico by 26.3% (reaching 2.83 billion USD), Chile by 20.3% (reaching 940.7 million USD). In 2020, exports reached 281 billion USD, up 6.5% compared to 2019. Fifteen implemented FTAs, as shown in **Table 1** below, allow Vietnamese exporters access the markets of more than 50

countries, including most of the largest trading partners, accounting for over 70% of total export turnover.

Table 1. The number of FTAs signed and in effect.

No.	FTA's name	Year	Member
1	ASEAN Free Trade Area	1993	10 ASEAN countries
2	ASEAN-People's Republic of China Comprehensive Economic Cooperation Agreement	2005	ASEAN-10 + China
3	ASEAN-Republic of Korea Comprehensive Economic Cooperation Agreement	2007	ASEAN-10 + South Korea
4	ASEAN-Japan Comprehensive Economic Partnership	2008	ASEAN-10 + Japan
5	Japan-Viet Nam Economic Partnership Agreement	2009	Japan + Vietnam
6	ASEAN-Australia and New Zealand Free Trade Agreement	2010	ASEAN-10 + Australia + New Zealand
7	ASEAN-India Comprehensive Economic Cooperation Agreement	2010	ASEAN-10 + India
8	Viet Nam-Chile Free Trade Agreement	2012	Vietnam + Chile
9	Republic of Korea-Viet Nam Free Trade Agreement	2015	Vietnam + South Korea
10	Viet Nam-Eurasian Economic Union Free Trade Agreement	2016	Vietnam + Armenia + Belarus + Kazakhstan + Kyrgyzstan + Russia
11	Comprehensive and Progressive Agreement for Trans-Pacific Partnership	2018	Australia + Brunei + Chile + Japan + Malaysia + Mexico + New Zealand + Peru + Singapore + Vietnam
12	ASEAN-Hong Kong, China Free Trade Agreement	2019	ASEAN-10 + Hong Kong + China
13	EU-Vietnam Free Trade Agreement	2020	Vietnam + EU (27 countries)
14	UK-Vietnam Free Trade Agreement	2021	Vietnam + UK
15	Regional Comprehensive Economic Partnership	2022	ASEAN-10 + China + South Korea + Japan + Australia + New Zealand

Source: Synthesized by the authors. Note: ASEAN-10 includes Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam.

Vietnam is a country with a coastline of more than 3260 km, with several important large seaports in import, export, and transportation of goods. These seaports are a powerful arm, promoting Vietnam's economy to develop and integrate with the world economy. Vietnam has become an important destination for foreign investment flows with many signed bilateral and multilateral Free Trade Agreements. In addition, Vietnam has a lot of seaports with large scale those can receive large ships, including container ships and bulk cargo ships, provide services for import and export goods, including industries such as garments, electronics, machinery, consumer goods and many other types of goods.

Statistical data shows that Vietnam's economic growth is very impressive, especially in the export sector and foreign direct investment inflows after joining many free trade agreements and amending the 1996 Foreign Investment Law in 2020 and 2023, and Ho Chi Minh City are superior to other provinces in the nation. Whether this is the result of trade liberalization and location advantage. Firm characteristics being the determinants of Vietnamese firms' export performance were confirmed by the research of Ngo et al. (2016); however, the effect of trade liberalization and location has not been considered in their research. Vietnam's economic development policy has been an export-oriented policy. To realize the policy, the government promotes trade liberalization by participating in many free trade agreements. In

addition, the government has increased investment in logistics infrastructure for exports and supported trade promotion with foreign partners to exporters. Regional linkage creating export advantages is also a solution to increase the export capacity of Vietnamese firms. Until now, few studies have focused on firm location and trade liberalization as the drivers of firms' export performance, especially in Vietnam (Forte and Sá, 2021). Motivated by the situation, this research was conducted to examine the effects of trade liberalization and firm specifics simultaneously on export intensity of Vietnamese exporters with firms' location as a moderating variable. The results of the study will help expand our knowledge of the factors explaining export performance and provide empirical evidence supporting international business theory.

The paper is structured into 5 sections. After the first section of introduction, the second section briefly presents the literature review (i.e., theoretical motivations and hypotheses development) and the current research gaps. The third part shows the methodologies and data sources used in the study. The fourth section presents data processing and the results of hypothesis testing. The last section is the discussion of research findings with implications for theory and practice, limitations. and recommendation for further research.

2. Literature review

2.1. Theoretical background

Export intensity (EI) is commonly used as an export performance indicator, and defined as the percentage of a company's revenue that comes from outside markets (Fernández-Mesa and Alegre, 2015). There are two dominant perspectives on export in the international business literature—the resource-based view (RBV), which focuses on the internal assets and firm-specific attributes of the exporting firms, and the institutionally based view, often known as the IBV, which considers the institutional environments to be obstacles or hurdles for exporting (Wang and Ma, 2018).

Even though the RBV theory states that firm resources and capabilities incline firms to establish competitive advantage, which, in turn, improves export performance (Morgan et al., 2004), and RBV is a common theory to understand the antecedents of export performance (İpek, 2018). However, the RBV theory does not represent how the firms achieve a sustainable competitive advantage, hence, the resource advantage theory extends and represents resources exhibiting rarity relative to those of competitors who possess the capacity to engender a superior market proposition in terms of value and/or cost, thereby conferring a comparative advantage within the marketplace. This comparative advantage in resources may facilitate the attainment of a competitive edge in market positioning, thereby fostering favorable financial performance outcomes (Hunt and Morgan, 1996). From this perspective, this research considers firm-specific characteristics, such as firm size, firm age, and firm experience, can support firms assessing in exporting and accumulating resources and capabilities. Also, business experience, considered one of the key elements in explaining export performance, has been less concentrated on by scholars in the context of exporting. Firms with distinctive resources and capabilities may have a comparative advantage in international markets, allowing them to achieve higher export intensity by

effectively serving the needs of foreign customers and gaining market share. Even though, several research proved that firm-specific characteristics play significant roles in export intensity and export performance (İpek, 2018); however, additional concerns arise regarding the ramifications of firm resources and capabilities within the realm of export operations. Further research should reveal that the extant export literature presents a limited array of outcomes purportedly influenced by firm resources and capabilities. Given scholars' predominant focus on scrutinizing the impact of firm resources and capabilities on export performance, the empirical nexus between these resources and capabilities and other outcomes, specifically export behavior, export strategy, and competitive advantage, remains unresolved (İpek, 2018).

In the general export literature review, the IBV theory proposed that countries exhibit variation in their institutional frameworks, and these disparities can significantly influence the extent to which a firm can leverage its resource-based advantages to generate value (He et al., 2012). Research from Wang and Ma (2018) showed that firms with high EI focused on exporting to escape from the inadequate institutional framework in their home country regarding the expenses of doing business. In this research context, trade liberalization is an important aspect to consider refers to the institutional factors to reduce tariffs and promote economic development.

The competitive strategies adopted by firms in response to industry changes reflect their competitive standing within the sector. Porter's diamond model, designed to assess competitiveness, which highlights key factors such as "factor conditions"—refers to the nation's endowment of factors of production; "demand conditions"—refers to the characteristics of domestic demand; "related and supporting industries"—refers to the presence of upstream and downstream industries that support and contribute to the competitiveness of local industries and firm strategy, structure, and competition, which characterize the intensity of competition within an industry and the strategies adopted by firms to gain competitive advantage; alongside external influences like "government" and "chance" (Porter, 1986). It is a dynamic and versatile framework that helps analyze why certain countries and firms outperform others in terms of competitiveness and success within specific sectors (Bakan and Doğan, 2012).

This research uses international business theory, specifically Porter's diamond model to illustrate the FDI, location, liberalization, trade openness, macro factors and firm specifics contributed to export intensity. Combined with RBV and IBV theory, this research will explain firms' competitive differentials by their idiosyncratic internal organizational resources in export industry.

2.2. Export performance and trade liberalization

Economic theory postulates that trade liberalization influences the location patterns of manufacturing activities across regions (Ratnaike, 2012; Udeagha and Ngepah, 2020). Developing countries have experienced substantial changes in their trade landscape due to trade liberalization efforts. As part of the Association of Southeast Asian Nations (ASEAN) and the World Trade Organization (WTO), South East Asia has implemented numerous trade liberalization initiatives aimed at fostering economic growth and promoting export-driven development. Related to trade

liberalization theory, trade liberalization had several advantages because it could lead to export-oriented development and increased competition (Balassa, 1980; Krueger, 1980). Moreover, trade liberalization leads to the reallocation of resources in favor of more efficient production in-line with international opportunity costs and prices (Siddiqui, 2015). Trade liberalization leads to differential impacts across sectors, affecting entry into export markets, the fraction of exporting firms, and the share of export revenue. For instance, the study by Fan et al. (2019) showed the differences in the effects of trade reforms in final goods versus intermediate goods markets. It emphasized that trade liberalization in intermediate goods markets has a more significant impact on firms' productivity compared to final goods markets. Also, firms in different sectors respond differently to imported-input trade liberalization. Sectors with a stronger initial comparative advantage experience a higher probability of entry into export markets for previously non-exporting firms, an increase in the fraction of exporting firms, and a higher share of export revenue (Fan et al., 2019). Of specific interest is whether openness to the international goods market increases the relative strength of industrial concentration or leads to internal dispersion of economic activities, thereby altering the internal economic geography of a country and the underlying factors determining this connection. The study from Udeagha and Ngepah (2020) shed light on the ongoing debate about the impact of trade policy reform on the location patterns of industries by using an innovative measure of trade openness. The findings indicate that trade openness significantly affects industrial patterns across South Africa's provinces, with industries facing trade liberalization more likely to settle near metropolitan cities. It is suggested that trade policy reforms can be used to complement spatial development policies, promoting fair inter-provincial distribution of industries and reducing spatial inequalities. However, that research highlights conflicting findings from previous studies, with some supporting that trade openness fosters internal agglomeration of economic activities, while others suggest it leads to internal dispersion of manufacturing activities. Contrary to the traditional belief that industries settle in countries with a comparative advantage, the study suggests that competitive factors like proximity to suppliers or customers can influence industry location patterns even if the country lacks a desirable comparative advantage. According to Lu and Yu (2015), the distribution of firm markups became relatively less dispersed in response to trade liberalization than when competition was fiercer before liberalization, which made the distribution of firm markups flattened after trade liberalization. Research from Ali and Munir (2022) implied that countries that embrace open trade policies tend to cultivate stronger international trade connections and generate more revenue from the sale of advanced products compared to nations with more restrictive trade practices. Through the lens of endogenous growth theories, trade openness fosters knowledge spillovers, facilitates technological diffusion, and engenders positive externalities for the manufacturing sector within a nation. Based on these literature reviews, this research suggests that trade openness significantly affects export intensity. Despite the advantages of trade liberalization, Thanh (2005) argued that trade liberalization policies can evoke controversy due to concerns that granting market access to foreign competitors may disadvantage domestic firms. Despite potential drawbacks experienced by certain firms, this study reveals trade

policies as pivotal instruments for enhancing a country's export quality, thereby bolstering industry competitiveness.

Furthermore, the export literature demonstrates various functions of FDI inflows in connection with export intensity and export performance. The presence of foreign enterprises in the host nation as a consequence of FDI may produce spillovers, through horizontal and vertical connections, that may increase the productivity of local firms, hence boosting exports. In addition, GDP and exports accelerate FDI inflows, and FDI in turn enhances the competitiveness of exports in the near term. In contrast, research conducted by (Tran and Dinh, 2014) in the context of Vietnam confirms the existence of a statistically significant and positive association between FDI inflows and Vietnam exports, which impacts the trade balance. It suggested that the trade balance reacts with a lag to FDI inflows since FDI inflows strengthen the trade balance position in the present period. Nonetheless, that study also found that FDI promoted the expansion of exports from host nations, but also sparked robust import dynamics. According to the complementarity theory between FDI and trade, the attraction of FDI has negative effects, which are manifested in decreasing macroeconomic stability and external balances. Moreover, based on changes in international trade patterns, Tran and Dinh (2014) indicated that FDI hosted by emerging and transition nations are likely to boost exports and imports over time, with the largest benefits expected in the manufacturing industry. However, Vietnam's exports rely heavily on imported inputs, enabling foreign direct investment in the export sector to raise import demand and possibly produce trade imbalances (Hanh et al., 2017).

Therefore, we hypothesize that trade liberalization outcomes, measured by the level of trade openness and FDI, supports the export intensity of Vietnamese exporters (H_1).

2.3. Export performance and location factors

Boehe and Jiménez (2016) recommended that a study on export intensity at the firm level should be conducted within the scope and destinations of export. According to the research of Freeman and Styles (2014) and Freeman et al. (2012), geographical advantages contribute significantly to human capital and organizational planning and boost export success by offering products or services outside their region, especially in overseas markets (Forte and Sá, 2021; Lages, 2000; Meccheri and Pelloni, 2006; Vaessen and Keeble, 1995). In addition, geographical concentration enables enterprises to reap the benefits of knowledge spillovers and agglomeration economies, which may favorably influence export decisions (Fujita and Krugman, 2004). Hence, location choices are influenced by cost savings and risk, the proportional relevance of which depends on the kind of activity (highly skilled vs. lowly skilled) and the geographic location of the nondomestic site (Brouthers et al., 2008; Hahn et al., 2011). Some studies have recognized two types of company locations: distance exporters and urban exporters (Katsikeas et al., 2000; Mittelstaedt et al., 2006; Zahra et al., 1997).

On the one hand, urban exporters are more likely to form partnerships and contact networks with other businesses than their rural counterparts (Chevassus-Lozza and Galliano, 2003; Westhead et al., 2004; Zhao and Zou, 2002). Further, exporters situated in metropolitan regions have benefits that decrease the cost of doing business,

such as cheaper transportation expenses, a greater variety of business services, and a better-educated labor force, thereby improving their export likelihood (Mittelstaedt et al., 2006; van Beers and van der Panne, 2011). If exporting enterprises in competitive regions can easily regulate exporting operations, reduce opportunistic behavior from stakeholders, and increase firm efficiency in terms of productivity, this indicates exporting firms' competitiveness (Rodríguez-Pose, 2013). On the other hand, distant exporters lacks adequate chances for inter-firm networking and export-related services, implying that they are lack access to intangible and physical resources. For instance, regional firms may struggle with the challenges of obtaining capital and financing, hiring and retaining competent staff, dealing with state policies, and creating and preserving convenient infrastructure to support the area (Campi et al., 2004; Fuller-Love, 2006; Smallbone et al., 2003).

Ports are intricately intertwined within not only the expansive networks of global value chains but also within the intricate spatial configurations of urban and regional locales. These spatial configurations serve to both establish and confine the developmental trajectory of ports, thereby exerting a significant influence on their evolution (Ducruet et al., 2009). Initially, the strategic positioning of ports affords firms efficient access to global markets, facilitating the movement of goods and mitigating transportation expenses. Ports located near major trade routes or densely populated regions confer logistical advantages upon exporters, enabling expedited and cost-effective international customer reach. Consequently, firms situated close to strategically positioned ports exhibit a heightened propensity for engaging in export endeavors and leveraging overseas market prospects. Furthermore, the pivotal role of port infrastructure in augmenting export intensity is underscored by its facilitation of seamless and punctual cargo handling (Selvaduray et al., 2022). Consequently, enterprises situated near contemporary and well-equipped ports are better positioned to satisfy export demand and capitalize on international trade opportunities. Antonio Belso-Martínez (2006) investigated the impact of industrial district location on the export performance and intensity of Spanish SMEs, focusing on 285 manufacturing firms in the Valencian community. The research revealed that factors such as industrial district positioning, marketing differentiation, institutional networks, clients' networks, competitors' networks, and the global orientation of both the sector and individual companies significantly influence firms' export outcomes. These findings corroborate existing literature underscoring the pivotal role of industrial districts in enhancing firms' internationalization strategies. That study highlighted how geographical clustering within industrial districts can shape SMEs' export activities, emphasizing the importance of networks and location in driving export performance and intensity. Moreover, proximity to suppliers of intermediate inputs was found to have a substantial impact on industry location choices. Industries tend to cluster in areas with access to a robust industrial base, enabling efficient utilization of intermediate inputs, cost savings, economies of scale, and expanded market reach. Infrastructure quality emerged as a critical factor influencing industry location decisions by reducing trade costs, stimulating local market growth, attracting more businesses to a region, and fostering trade and industry concentration. Industries heavily reliant on intermediate inputs are inclined to locate in regions with proximity to a large industrial base, underscoring the significance of supplier proximity in shaping industry location

strategies. Additionally, trade liberalization was identified as a benefit from trade through changes in markup dispersion (Udeagha and Ngepah, 2020).

Up to now, there are, however, contrasting conclusions about the association between business location and export intensity (Forte and Sá, 2021; Tinashe Kahiya and L. Dean, 2014). Inherited by the previous studies, we hypothesize that the exporter' headquarter located near the biggest seaports will be likely to diversify their exports, hence, increasing their export performance (H_2) (Ducruet et al., 2010).

2.4. Export performance and firm-specific factors

Inherited from previous studies, this research is to examine the impact of firm characteristics on export intensity which already confirmed by many researchers such as Ahmad et al. (2018), Bashiri Behmiri et al. (2019), Deutscher et al. (2016), Fletcher and Harris (2012), Hanh et al. (2017), Hwang et al. (2015), D'Angelo et al. (2013), Oliveira et al. (2020), Sousa et al. (2008), and Radicic and Djalilov (2019).

First, the firm's size is taken into consideration in this research since it indicates the managerial and financial resources that are available inside the company. It is often cited as a primary factor in deciding whether or not it will engage in exporting (Radicic and Djalilov, 2019). The reason is that larger companies are more likely to engage in scale economies and specialization and possess more technological resources and better access to financial resources than smaller companies, allowing them to successfully enter and compete in foreign markets (Hwang et al., 2015; Krugman, 1979; Radicic and Pinto, 2019). For instance, larger companies have simpler access to financial markets, pay lower loan rates, and have more opportunities to engage in internationalization activities. Adversely, firms with small sizes are directly associated with several export restrictions (Piercy et al., 1998). Because of their lack of resources, inability to take advantage of economies of scale, and perception of higher levels of risk, smaller businesses export a smaller percentage of their total revenue.

Second, according to the study of Love et al. (2016), SME internationalization is primarily driven by geographical spread and exporting intensity to be correlated with the firm's international experience. However, the empirical literature reveals equivocal findings, perhaps because data issues restrict certain research and confuse experience with firm age and firm experience (Fletcher and Harris, 2012). Some studies, for example, use firm age as a proxy for the duration of firms' internationalization experience (D'Angelo et al., 2013), assuming implicitly that both age and internationalization experience is positively associated with the extent or intensity of firms' international engagement. International experience is likely to be positively connected to a business's learning ability (Johanson and Vahlne, 1977). However, firm age is likely associated with inflexible thinking and a refusal to modify approach and conduct. In addition, firm age is a crucial factor in expanding a company's access to global markets (Bashiri Behmiri et al., 2019). Age boosts a company's experience-based skills, honed routines, adaptability, market credibility, and dependability (Deutscher et al., 2016). Moreover, older and bigger businesses are more used to routines, bureaucratized, and knowledgeable, allowing them to modify a conventional procedure.

Third, a company's appraisal of its efficiency and competitiveness is crucial to surviving in the face of perceived heavy international competition. Efficiency is a major factor in determining export intensity. Efficiency gains may enable businesses to increase the quality and distinctiveness of their goods and services. Increased efficiency often results in improved manufacturing procedures, enhanced quality control, and innovation, which results in higher-quality products or services. High-efficiency firms may also be more likely to export, which can be explained by the fact that firms considering entry into foreign markets must conduct market research, establish new distribution networks, negotiate with potential new partners, and possibly modify their product line, all of which incur costs (Ganotakis and Love, 2012). A positive cost-to-income ratio suggests that a company has cost-control procedures in place that are successful. This ratio might give the company better adaptability to changing market circumstances, currency rates, and trade rules. By managing costs effectively, businesses can better adjust to market uncertainty, maintain competitive pricing, and overcome obstacles, enhancing export success.

Finally, based on research from a developing context, leverage and liquidity are not viable gauges of financial restrictions; they are more appropriate for gauging financial health (Qasim et al., 2021). A high level of leverage may indicate that a company has easy access to external financing. Also, companies with access to external financing (debt) are less financially restrained and more inclined to export (Qasim et al., 2021). In summary, our third hypothesis is firms' specific have a significant impact on export intensity (H_3).

2.5. Export performance and macro factors

It appears that some countries expand faster than others when it comes to exporting a significant portion of their output (Thornton, 1996). Grossman and Helpman (1991) and Rivera-Batiz and Romer (1991) assert that when economies open up to more commerce, there will be a greater supply of specialized inputs, which will accelerate growth rates. Further, Bhagwati (1988) indicate a causal relationship that is two-way between trade and growth. For example, more commerce leads to more revenue, and more income encourages more trade; these outcomes resemble a positive feedback loop. In addition, many Comparative Political Economy academics additionally underscore the significance of labor-cost competitiveness as a primary catalyst for growth and exports (Carlin and Soskice, 2014; Johnston and Regan, 2016). In short, we hypothesis that macro factors have a significant impact on export intensity (H_4). All in all, our research framework is visualized as **Figure 1** below.

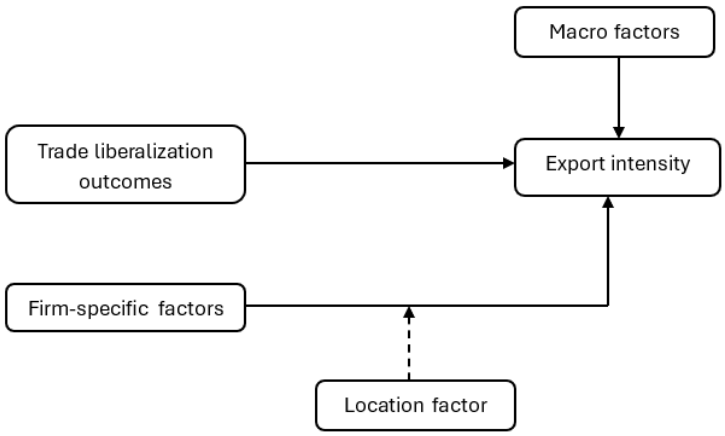

Figure 1. The research framework.

Source: Synthesized by the authors.

3. Data and methodology

3.1. Empirical models

The literature section suggests that firms' export performance is affected by its specifics (i.e., firm efficiency, export revenue, export experience, and other firm's characteristics), and the trade liberalization outcomes (trade openness and FDI). Also, we control macro factors (i.e., GDP and the number of labors). Consequently, our baseline model is formed as follows:

$$EI_{i,t} = \alpha_0 + \alpha_1 EI_{i,t-1} + \alpha_2 OE_{i,t} + \alpha_3 CIR_{i,t} + \alpha_4 REV_{i,t} + \alpha_5 EXP_{i,t} + \alpha_6 SIZE_{i,t} + \alpha_7 LEV_{i,t} + \alpha_8 LIQ_{i,t} + \alpha_9 AGE_{i,t} + \alpha_{10} OPEN_{j,t} + \alpha_{11} FDI_{j,t} + \alpha_{12} GDP_{j,t} + \alpha_{13} LABOR_{j,t} + \varepsilon_{i,t} \quad (1)$$

In addition, to investigate the moderating role of location (i.e., distance from the firm's headquarters to the nearest seaport), we interact this variable with export revenue. The second equation is presented as:

$$EI_{i,t} = \alpha_0 + \alpha_1 EI_{i,t-1} + \alpha_2 OE_{i,t} + \alpha_3 CIR_{i,t} + \alpha_4 REV_{i,t} + \alpha_5 REV_{i,t} \times DISTANCE_{i,t} + \alpha_6 EXP_{i,t} + \alpha_7 SIZE_{i,t} + \alpha_8 LEV_{i,t} + \alpha_9 LIQ_{i,t} + \alpha_{10} AGE_{i,t} + \alpha_{11} OPEN_{j,t} + \alpha_{12} FDI_{j,t} + \alpha_{13} GDP_{j,t} + \alpha_{14} LABOR_{j,t} + \varepsilon_{i,t} \quad (2)$$

where $EI_{i,t}$ (Export intensity) is measured by the ratio of export revenue to total revenue. The main independent variables include: (1) Firms' characteristics: $OE_{i,t}$ (Operating efficiency = Total revenue/Total assets) and $CIR_{i,t}$ (Cost-to-Income ratio = Operating expenses/EBIT). $REV_{i,t}$ (Export revenue) is calculated by taking the logarithm of revenue of exporting, while $EXP_{i,t}$ (Export experience) is calculated by taking the logarithm of years of exporting. $SIZE_{i,t}$ (Firm size = Ln (Total assets)). $LEV_{i,t}$ (Leverage = Total liabilities/Total assets). $LIQ_{i,t}$ (Liquidity = Current assets/Current liabilities). $AGE_{i,t}$ (Firm age = Ln (years of establishment)); (2) trade liberalization outcomes include two proxies: $OPEN_{j,t}$ is the level of trade openness by industries, measured by the ratio of total export and import values to GDP; $FDI_{j,t}$ is the ratio of total FDI inflows and outflows to GDP by industry. $DISTANCE_{i,t}$ is a proxy that measures the distance of the firm's headquarter to the nearest biggest seaport (in km and

taking logarithm of its value) (please see more in the Appendix). The location variable is also treated as a moderating variable. In terms of control variables, we consider $GDP_{j,t}$ the values GDP by industry in percentage of total GDP, and the number of labors of each industry measured by $LABOR_{j,t}$. Lastly, the subscriptions *i, j, t* refer firm *i*, industry *j*, and year *t*, respectively; $\varepsilon_{i,t}$ is the error term. The used variables are described in **Table 2** below.

Table 2. Variable description.

No.	Variable	Definition	Data source	Expected sign
Dependent variable				
1	EI	Export intensity = Exports revenue/Total revenue	Refinitiv Eikon	
Independent variables				
2	OE	Operating efficiency = Total revenue/Total assets	Refinitiv Eikon	+
3	CIR	Cost-to-Income ratio = Operating expenses/EBIT	Refinitiv Eikon	+
4	REV	Export revenue = ln (export revenue)	Refinitiv Eikon	+
5	EXP	Exporting experience = Ln (years of exporting)	Annual reports	+
6	SIZE	Firm size = Ln (Total assets)	Refinitiv Eikon	+
7	LEV	Leverage = Total liabilities/Total assets	Refinitiv Eikon	+
8	LIQ	Liquidity = Current assets/Current liabilities	Refinitiv Eikon	+
9	AGE	Firm age = Ln (years of establishment)	Annual reports	+
10	OPEN	Trade openness = (Export + Import)/GDP	Statistical Year Book	+
11	FDI	(FDI inflows + outflows)/GDP	Statistical Year Book	+
Moderating variables				
12	DISTANCE	Ln (the distance from the firm's headquarter to the nearest seaport)	Google Maps	−
Control variables				
13	GDP	GDP by industry/Total GDP	Statistical Year Book	+/−
14	LABOR	Ln (the number of labors by industry)	Statistical Year Book	+

Source: Synthesized by the authors.

3.2. Data

Our data was collected at both firm level and industry level. First, for firm level data, the main source was exacted from audited financial statements or Refinitiv Eikon database (i.e., $EI_{i,t}$, $OE_{i,t}$, $CIR_{i,t}$, $REV_{i,t}$, $SIZE_{i,t}$, $LEV_{i,t}$, $LIQ_{i,t}$) and annual reports (i.e., $EXP_{i,t}$, $AGE_{i,t}$) which included 80 listed exporting companies from 2007 to 2022. On the other hand, for the industry level data, we mainly collected from the Statistical Year Book of Vietnam[2](i.e., $OPEN_{j,t}$, $FDI_{j,t}$, $GDP_{j,t}$, $LABOR_{j,t}$). It is also noted that few authors have examined the connection between industry features and export intensity, despite the fact that many authors have already explored the factors that affect a firm's export performance. The empirical findings demonstrate that some

industry characteristics (i.e., labor productivity, export orientation, concentration), as well as firm characteristics (i.e., labor productivity, size, and age of the firm), are significant determinants of a firm's export intensity. The study of Reis and Forte (2016) concluded that a firm's export intensity is positively influenced by the industry's export orientation, supporting the notion that businesses and governments should focus their policies on industries with the highest export focus. Finally, we manually calculated the distance of the firm' headquarter to the nearest seaport by using Google Maps. The full dataset is available upon request, and its descriptive statistics are presented in the next section.

3.3. Methodology

The panel regression analysis model was employed for the data analysis. Hence, firstly based on the collected data, the study will report the descriptive statistics of variables to have a deep understanding of the data set. Next, the authors conduct a wide of diagnostics to test correlations among the variables. Then, the appropriate model will be developed and analyzed to reflect the hypothesized relationships.

For endogeneity issues, "New trade" theories assert that efficiency may leads to greater exports by pointing out that technological disparities are significant trade-motivating factors. However, under models of imperfect competition and rising returns to scale, the impact of trade on efficiency growth is inherently equivocal and inconclusive (Grossman and Helpman, 1991, 1994; Madsen, 2008). Thus, the reverse of this relationship may also be true. In smaller economies and those where fewer new businesses are entering the market, exports are thought to boost technical efficiency to a larger extent. Further, it is more likely that an increase in exports will lead to productivity gains if (1) new firms enter the market and generate stronger competition, which forces existing firms to become more efficient and effective, or (2) incentives are established to engage in R&D. Increased international rivalry brought on by trade openness may stifle domestic investment prospects, consequently reducing efficiency (Hatemi-J and Irandoust, 2001). Finally, endogeneity can be resulted from unobserved fixed country, industry, and/or other firm-specific characteristics of the explanatory variables (Bottega and Romero, 2021).

To address the endogenous problems and unobserved heterogeneity between variables, we used a system generalized method of moments (GMM), proposed by Arellano and Bover (1995), according to previous studies employing aggregate panel data to evaluate the factors that affect export performance (Bekele and Mersha, 2019; Elhiraika and Mbate, 2014; Ghimire et al., 2016). Additionally, this approach considers the persistence of export performance, allowing the system GMM to produce reliable parameter estimates (Arawomo et al., 2014; Bottega and Romero, 2021; Santos-Paulino, 2002).

To be specific, Ang et al. (2015) used an instrumental variable estimator. But doing so requires locating numerous reliable outside tools, which is a difficult task. Therefore, our study uses the system GMM of (Blundell and Bond, 1998) as an estimator to maximize the validity of both the model and instruments. By estimating a system made up of an equation in levels and another in differences while instrumenting both differently, this method uses lagged values of the dependent and

endogenous variables as instruments to compensate for endogeneity, except for exogeneous regressors (Bond, 2002). It is assumed that endogenous variables are predetermined while exogeneous variables are tightly linked to individual effects (Le et al., 2022). Given that the system GMM is relatively sensitive to the number of lags, this study follows previous studies (mentioned above) by employing the one-year lagged values of all potentially endogenous regressors as instruments. This is because using additional lags would result in weak instruments. The findings of the Hansen and Arellano-Bond tests, as well as the Arellano-Bond autocorrelation (AR), further support the use of the number of lags (Hansen, 1982). For instance, if the Hansen test's null hypothesis is rejected, the instruments do not meet the conditions for needed orthogonality. Further, the moment conditions are only true if the idiosyncratic errors do not serially correlate. Lastly, if the null hypothesis at second-order autocorrelation (AR2) cannot be rejected, the moment conditions are still valid. In short, the system GMM estimator also has the benefit of allowing the dynamic impacts of both dependent and independent variables to be taken into consideration.

4. Empirical findings

First, the descriptive statistics for all used variables in our study are shown in **Table 3**. For ease of explanation, we only focus on interpreting the main and significant variables. Accordingly, the average export intensity is 0.61, implying that the exports revenue makes up a largest proportion of the total revenue of most exporting companies. Further, all exporting firms in this study are operating efficiently when OE and CIR are 2.17 and 0.94, respectively. With respect to trade liberalization outcomes, trade openness of most sectors in Vietnam is quite high with the value of 0.55, while FDI (of both inflows and outflows in percentage of GDP) is modest at 0.11. However, they indicate that trade liberalization outcomes might facilitate import and export activities of the researched firms that are operating in that sector.

Table 3. Descriptive statistics of variables used.

Variable	Obs	Mean	Std. dev.	Min	Max
EI	1073	0.609747	2.031513	−58.8398	14.85033
OE	1075	2.172497	3.328053	−8.77435	64.07
CIR	1083	0.944027	1.294692	−27.1058	27.31856
REV	1081	26.94327	1.520945	21.99071	32.2434
EXP	1079	26.97625	1.332937	23.51822	32.04579
SIZE	1079	0.709424	3.173032	0.041593	79.28045
LEV	1077	2.18145	2.111822	0.001497	23.23607
LIQ	1257	7.603303	0.001854	7.597396	7.608374
AGE	1257	7.595078	0.007063	7.579679	7.608374
DISTANCE	752	4.898763	0.40741	3.988984	6.003887
OPEN	552	0.549673	0.661021	5.70E-07	1.689132
FDI	1018	0.106175	0.200396	6.17E-05	0.682377
GDP	1257	0.360657	0.101182	0.12942	0.472028
LABOR	1257	7561.182	7912.265	51.5	24,606

Source: Authors' estimation.

Next, **Tables 4** and **5** shows the correlation matrix and VIF test of all variables used in our study, respectively. At first glance, among firms' characteristics, only the efficient variables (OE and CIR), firm size (SIZE), and leverage (LEV) appear to have a negative relationship with export intensity. Further, DISTANCE seems to have a negative correlation with the export performance, while the opposite is true for the rest of variables. However, as was said previously, endogenous issues could occur. The results of correlation matrix and VIF Test prove that there is insignificant multicollinearity among these variables. The value of correlation among independent and control variables in our study is small and less than 0.8—the correlation level at which researchers often use to examine the possibility of multicollinearity in the research model. Also, the VIF Test of all variables in **Table 5** are less than 10, confirming our conclusion. Therefore, multicollinearity is not a concern in our model. The use of the system GMM will be covered in the following section.

Table 4. Correlation matrix of variables used.

	EI	**OE**	**CIR**	**REV**	**EXP**	**SIZE**	**LEV**
EI	1						
OE	−0.0078	1					
CIR	−0.1792	−0.0576	1				
REV	0.0094	0.2393	−0.0192	1			
EXP	0.1666	0.0742	0.1195	−0.1763	1		
SIZE	−0.0908	0.0484	−0.0129	0.749	−0.1376	1	
LEV	−0.1242	−0.1969	0.1457	−0.1924	0.0297	−0.2448	1
LIQ	0.1702	−0.027	−0.3693	−0.3421	−0.0431	−0.2544	−0.1556
AGE	0.0271	−0.1338	−0.0004	−0.3018	0.2295	−0.1273	0.1173
DISTANCE	−0.1429	−0.1758	0.1146	−0.0172	−0.1184	0.0274	0.1866
OPEN	0.1232	0.0077	−0.0402	−0.1682	0.0526	−0.1335	−0.083
FDI	0.0826	−0.0187	−0.0302	−0.1397	−0.0585	−0.1416	−0.0507
GDP	0.1963	0.0216	−0.0555	−0.1007	0.1211	−0.0765	−0.1522
LABOUR	−0.1594	0.0008	0.0901	0.0369	−0.1036	−0.0014	0.0701
	LIQ	**AGE**	**DISTANCE**	**OPEN**	**FDI**	**GDP**	**LABOR**
LIQ	1						
AGE	0.1519	1					
DISTANCE	−0.0287	0.0861	1				
OPEN	0.1911	−0.0815	−0.2325	1			
FDI	0.0013	0.0134	−0.092	0.3984	1		
GDP	0.201	0.084	−0.0978	0.4083	0.1865	1	
LABOUR	−0.1165	−0.1472	−0.0328	−0.0556	−0.1333	−0.759	1

Source: Authors' estimation.

Table 5. VIF test.

Variable	**VIF**	**1/VIF**
GDP	8.82	0.113399
LABOUR	7.43	0.13452

Table 5. (*Continued*).

Variable	VIF	1/VIF
REV	5.32	0.187925
SIZE	4.64	0.215347
OPEN	2.6	0.384674
LIQ	1.52	0.658967
FDI	1.34	0.744952
AGE	1.31	0.766002
LEV	1.3	0.771963
OE	1.27	0.787648
CIR	1.26	0.790725
EXP	1.17	0.851237
DISTANCE	1.17	0.855738
Mean VIF	3.01	

Source: Authors' estimation.

Table 6 shows our baseline results of the impact of trade liberalization outcomes and the moderating role of location factor on export intensity of Vietnamese exporters from 2007 to 2022 using the system GMM. The Sargan/Hansen Test and the Arellano-Bond Test for second-order autocorrelation have p-values for diagnostic tests that are statistically insignificant. When the moment conditions are met and the instruments are justified, this means that there are no overly restrictive constraints (Arellano and Bond, 1991). Further evidence that the system GMM is appropriate for use in our study comes from the fact that the coefficients of lagged measures of export intensity (L1.EI) are notably positive and significant, suggesting that export intensity is persistent over time.

In terms of our new concerns, the results in **Table 6** claim that trade liberalization outcomes have positive and significant impacts on export intensity of Vietnamese listed firms. For instance, the coefficients of OPEN indicates that export intensity of Vietnamese exporters has increased since Vietnam established foreign trade relations with countries around the world. The result is also confirmed again the findings related to trade openness of previous studies, such as (1) trade openness causes internal industrial dispersion or increased exports (Lu and Yu, 2015; Udeagha and Ngepah, 2020); (2) compared to countries with more restrictive trade policies, those with open trade policies typically foster greater international trade links and create higher revenue from sale of advanced products (Ali and Munir, 2022). Further, in terms of FDI, our findings suggest that FDI hosted by emerging and transition nations (in this case—Vietnam) are likely to boost exports and imports over time, with the largest benefits expected in the manufacturing industry. These results are consistent with earlier studies (Hanh et al., 2017; Tran and Dinh, 2014). Thus, we do not reject H_1.

Regarding the location factor, we, however, do not find enough evidence to confirm its moderating role. The authors assumed that location is not a vital factor that affects export intensity of Vietnamese exporters though firms located in metropolitan regions or industrial clusters or near seaports might benefit from external economies

of scales and improving their export likelihood (Mittelstaedt et al., 2006; van Beers and van der Panne, 2011). Hence, we reject the second hypothesis.

Table 6. The results of our model.

EI	Model 1	Model 2
L1.EI	0.017*** (0.000)	0.814*** (0.007)
OE	−0.007 (0.009)	−0.013*** (0.002)
CIR	−0.100* (0.057)	−0.369*** (0.044)
REV	0.282*** (0.032)	0.101*** (0.008)
REV*DISTANCE		0.001 (0.001)
EXP	−25.104*** (6.385)	−4.544*** (1.132)
SIZE	−0.360*** (0.041)	−0.114*** (0.008)
LEV	−0.027*** (0.005)	−0.004*** (0.001)
LIQ	0.069*** (0.021)	0.006 (0.05)
AGE	25.423*** (6.319)	4.665*** (1.130)
OPEN	0.224*** (0.043)	0.037* (0.021)
FDI	0.246*** (0.069)	0.023 (0.049)
GDP	−0.457*** (0.325)	−0.413** (0.175)
LABOR	−0.0001*** (0.001)	−0.0001** (0.0001)
_cons	0.186 (0.26)	1.260* (1.85)
No. of obs.	489	489
No. of groups	57	57
No. of instruments	16	22
AR1 (*p*-value)	0.080	0.094
AR2 (*p*-value)	0.788	0.610
Sargan test (*p*-value)	0.146	0.986
Hansen test (*p*-value)	0.394	0.140

Note: *t*-tests are in parentheses. *, **, *** significance at the 10%, 5%, and 1% levels, respectively. For diagnostic tests, the results show that the *p*-values of the Hansen test and the Arellano-Bond test for second-order autocorrelation are statistically not significant. This means that over-identifying restrictions do not exist, the moment conditions are fulfilled, and the instruments are justified. Furthermore, the coefficients of lagged measures of export intensity are significantly positive, implying that the system GMM is appropriate to use in our study.
Source: Authors' estimation.

For other determinants, the results in **Table 6** show that efficiency may lead to fewer exports though the relationship may be weak. The conclusion is shown by the significant and negative coefficient of both OE and CIR in Models 1 and 2. Our results

are in line with the study of Crino and Epifani (2010), which explains that the correlation between export intensity and efficiency to be negative in trade with low-income and/or distant destinations. In addition, export-oriented enterprises may have an increase in agency costs since they must operate in both home countries and foreign nations with different institutional and economic features (Jensen and Meckling, 1976).

For firm experience, our results affirm the study of Cieślik et al. (2015), which implies that a firm's export experience and performance have an inverted S-shaped relationship, i.e., performance is increasing at low and high levels but decreasing at moderate levels of experience. Firm size is an important indicator since the resource-based view regards it as a measure of the firm's managerial and financial resources. Our findings provide additional empirical evidence to the existing literature regarding the association between firm size and export intensity which appear to be paradoxical. In the line with RBV viewpoint, we also taken the firm's size into consideration since it indicates the managerial and financial resources that are available inside the company. In addition to a company's capabilities and level of international experience, the company's size is often cited as a primary factor in deciding whether it will engage in export (Ayllón and Radicic, 2019). The negative and significant coefficients of SIZE in both models implies that small businesses might present highly specialized products with better flexibility to enter foreign markets (Bonaccorsi, 1992; Majocchi et al., 2005; Verwaal and Donkers, 2002).

Regarding firm leverage, our study confirms again the negative relationship between export intensity and leverage, already proved in the study of Lisboa (2019) (the coefficients in both models are 0.027 and 0.004). The firm's revenue may improve owing to international diversification, but joining a foreign market may result in several debts in advance due to the distance and disparities in legal systems between countries (Du and Girma, 2007; Minetti and Zhu, 2011). Lastly, the positive and significant parameters of LIQ are in line with the study of Forlani (2010). He said that higher liquidity results in the rise in the number of exporting destinations, leading to raise the firms' export intensity. Further, they concluded that the export markets are affected by the level of cash stock for constrained firms, i.e., SMEs.

5. Conclusions and limitations

In the context that almost economies are negatively affected by the covid-19 pandemic, the trade war between major powerful countries, and the Russia-Ukraine geopolitical event, Vietnam still maintain high economic growth rate, especially in export sector. That fact has raised an issue that needs to be studied—whether the trade liberalization policy of the Vietnamese government and location advantages are explaining or moderating factors of the achievement of exporters. To confirm roles of trade liberalization policy and location advantage on export intensity of exporters located in Vietnam, we collected the data from 61 listed exporting companies from 2012 to 2020 in Vietnam stock markets and run regression with GMM model. The test results confirmed that both trade openness and FDI (Proxies of trade liberalization policy) affect positively and significantly on export intensity of listed exporters in Vietnam. The research results proved the positive effect of the trade liberalization policy in the export sector. The research also provided empirical evidence supporting

international business literature. Although the research has a meaningful contribution to both practical and theoretical perspectives, it still possesses limitations that need to be improved. In particular, the replicated study on export intensity should be conducted on non-listed firms. Due to the availability of data, we only studied listed firms, whose data are published online and easily retrieved from Refinitiv Eikon.

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Notes

1. See the list of all seaports used in this study in Appendix **Table A1**.
2. According to the Statistical Year Book of Vietnam, the industries are classified into (1) Agriculture, forestry, and fishing; (2) Mining and quarrying; (3) Manufacturing; (4) Electronic, gas, steam, and air conditional supply; (5) Water supply, sewerage, waste management, and remediation activities; (6) Construction; (7) Wholesale and retail trade; repair of motor vehicles and motorcycles; (8) Transportation and storage; (9) Accommodation and food service activities; (10) Information and communication; (11) Financial, banking, and insurance activities; (12) Real estate activities; (13) Professional, scientific, and technical activities; (14) Administrative and support service activities; (15) Education and training; (16) Human health and social work activities; (17) Arts, entertainment and recreation; and (18) Other service activities.

References

Ahmad, F., Draz, M. U., & Yang, S.-C. (2018). Causality nexus of exports, FDI and economic growth of the ASEAN5 economies: evidence from panel data analysis. The Journal of International Trade & Economic Development, 27(6), 685–700. https://doi.org/10.1080/09638199.2018.1426035

Ali, S., & Munir, Q. (2022). Moderating role of trade openness between export upgrading and economic growth. Pakistan Journal of Commerce and Social Sciences (PJCSS), 16(4), 530-551.

Ang, J. B., Madsen, J. B., & Robertson, P. E. (2015). Export performance of the Asian miracle economies: The role of innovation and product variety. Canadian Journal of Economics/Revue Canadienne d'économique, 48(1), 273–309. Portico. https://doi.org/10.1111/caje.12125

Antonio Belso-Martínez, J. (2006). Do industrial districts influence export performance and export intensity? Evidence for Spanish SMEs' internationalization process. European Planning Studies, 14(6), 791–810. https://doi.org/10.1080/09654310500496115

Arawomo, D. F., Oyelade, A. O., & Tella, A. T. (2014). Determinants of Export Diversification in Nigeria: Any Special Role for Foreign Direct Investment (FDI)? Journal of economics and business research, 20(2), 21-33.

Arellano, M., & Bond, S. (1991). Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations. The Review of Economic Studies, 58(2), 277. https://doi.org/10.2307/2297968

Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. Journal of Econometrics, 68(1), 29-51. doi: https://doi.org/10.1016/0304-4076(94)01642-D

Ayllón, S., & Radicic, D. (2019). Product innovation, process innovation and export propensity: persistence, complementarities and feedback effects in Spanish firms. Applied Economics, 51(33), 3650–3664. https://doi.org/10.1080/00036846.2019.1584376

Bakan, İ., & Doğan, I. F. (2012). Competitiveness of the industries based on the Porter's Diamond model: An empirical study. International Journal of Research and Reviews in Applied Sciences. 11(3), 441–455.

Balassa, B. A. (1980). The process of industrial development and alternative development strategies. Princeton University Press.

Bashiri Behmiri, N., Rebelo, J. F., Gouveia, S., et al. (2019). Firm characteristics and export performance in Portuguese wine firms. International Journal of Wine Business Research, 31(3), 419–440. https://doi.org/10.1108/ijwbr-07-2018-0032

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Bhagwati, J. N. (1988). EXPORT-PROMOTING TRADE STRATEGY. The World Bank Research Observer, 3(1), 27–57. https://doi.org/10.1093/wbro/3.1.27

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. Journal of Econometrics, 87(1), 115-143. doi: https://doi.org/10.1016/S0304-4076(98)00009-8

Boehe, D. M., & Jiménez, A. (2016). How does the geographic export diversification–performance relationship vary at different levels of export intensity? International Business Review, 25(6), 1262–1272. https://doi.org/10.1016/j.ibusrev.2016.03.011

Bonaccorsi, A. (1992). On the Relationship Between Firm Size and Export Intensity. Journal of International Business Studies, 23(4), 605–635. https://doi.org/10.1057/palgrave.jibs.8490280

Bond, S. R. (2002). Dynamic panel data models: a guide to micro data methods and practice. Portuguese Economic Journal, 1(2), 141–162. https://doi.org/10.1007/s10258-002-0009-9

Bottega, A., & Romero, J. P. (2021). Innovation, export performance and trade elasticities across different sectors. Structural Change and Economic Dynamics, 58, 174–184. https://doi.org/10.1016/j.strueco.2021.05.008

Brouthers, K. D., Brouthers, L. E., & Werner, S. (2008). Real Options, International Entry Mode Choice and Performance. Journal of Management Studies, 45(5), 936–960. Portico. https://doi.org/10.1111/j.1467-6486.2007.00753.x

Campi, M. T. C., Blasco, A. S., & Marsal, E. V. (2004). The Location of New Firms and the Life Cycle of Industries. Small Business Economics, 22(3/4), 265-281. Retrieved from http://www.jstor.org/stable/40229325 https://doi.org/10.1023/B:SBEJ.0000022215.02146.40

Carlin, W., & Soskice, D. (2014). Macroeconomics: Institutions, Instability, and the Financial System. Oxford University Press.

Chevassus-Lozza, E., & Galliano, D. (2003). Local Spillovers, Firm Organization and Export Behaviour: Evidence from the French Food Industry. Regional Studies, 37(2), 147–158. https://doi.org/10.1080/0034340022000057505

Cieślik, J., Kaciak, E., & Thongpapanl, N. (Tek). (2015). Effect of export experience and market scope strategy on export performance: Evidence from Poland. International Business Review, 24(5), 772–780. https://doi.org/10.1016/j.ibusrev.2015.02.003

Crino, R., & Epifani, P. (2010). Productivity, Quality, and Export Intensities. Available online: https://EconPapers.repec.org/RePEc:aub:autbar:824.10 (accessed on 10 December 2023).

D'Angelo, A., Majocchi, A., Zucchella, A., et al. (2013). Geographical pathways for SME internationalization: insights from an Italian sample. International Marketing Review, 30(2), 80–105. https://doi.org/10.1108/02651331311314538

Deutscher, F., Zapkau, F. B., Schwens, C., et al. (2016). Strategic orientations and performance: A configurational perspective. Journal of Business Research, 69(2), 849–861. https://doi.org/10.1016/j.jbusres.2015.07.005

Du, J., & Girma, S. (2007). Finance and Firm Export in China. Kyklos, 60(1), 37–54. Portico. https://doi.org/10.1111/j.1467-6435.2007.00362.x

Ducruet, C., Koster, H. R. A., & Van der Beek, D. J. (2009). Commodity Variety and Seaport Performance. Regional Studies, 44(9), 1221–1240. https://doi.org/10.1080/00343400903167904

Elhiraika, A., & Mbate, M. (2014). Assessing the Determinants of Export Diversification in Africa. Applied Econometrics and International Development, 14(1), 147-160. Available online: https://EconPapers.repec.org/RePEc:eaa:aeinde:v:14:y:2014:i:1_11 (accessed on 10 December 2023).

Fan, H., Lai, E. L.-C., & (Steffan) Qi, H. (2019). Trade liberalization and Firms' export performance in China: Theory and evidence. Journal of Comparative Economics, 47(3), 640–668. https://doi.org/10.1016/j.jce.2019.05.001

Fernández-Mesa, A., & Alegre, J. (2015). Entrepreneurial orientation and export intensity: Examining the interplay of organizational learning and innovation. International Business Review, 24(1), 148–156. https://doi.org/10.1016/j.ibusrev.2014.07.004

Fletcher, M., & Harris, S. (2012). Knowledge acquisition for the internationalization of the smaller firm: Content and sources. International Business Review, 21(4), 631–647. https://doi.org/10.1016/j.ibusrev.2011.07.008

Forlani, E. (2010). Liquidity Constraints and Firm's Export Activity. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.1646950

Forte, R. P., & Sá, A. R. (2020). The role of firm location and agglomeration economies on export propensity: the case of Portuguese SMEs. EuroMed Journal of Business, 16(2), 195–217. https://doi.org/10.1108/emjb-02-2020-0011

Freeman, J., & Styles, C. (2014). Does location matter to export performance? International Marketing Review, 31(2), 181–208. https://doi.org/10.1108/imr-02-2013-0039

Freeman, J., Styles, C., & Lawley, M. (2012). Does firm location make a difference to the export performance of SMEs? International Marketing Review, 29(1), 88–113. https://doi.org/10.1108/02651331211201552

Fujita, M., & Krugman, P. (2004). The new economic geography: Past, present and the future. Papers in Regional Science, 83(1), 139–164. https://doi.org/10.1007/s10110-003-0180-0

Fuller‐Love, N. (2006). Management development in small firms. International Journal of Management Reviews, 8(3), 175‐190. Portico. https://doi.org/10.1111/j.1468-2370.2006.00125.x

Ganotakis, P., & Love, J. H. (2012). Export propensity, export intensity and firm performance: The role of the entrepreneurial founding team. Journal of International Business Studies, 43(8), 693–718. https://doi.org/10.1057/jibs.2012.16

Ghimire, S., Mukherjee, D., & Alvi, E. (2016). Aid-for-Trade and Export Performance of Developing Countries. Applied Econometrics and International Development, 16(1), 23-34. Available online: https://EconPapers.repec.org/RePEc:eaa:aeinde:v:16:y:2016:i:1_3 (accessed on 10 December 2023).

Grossman, G. M., & Helpman, E. (1991). Quality Ladders in the Theory of Growth. The Review of Economic Studies, 58(1), 43. https://doi.org/10.2307/2298044

Grossman, G. M., & Helpman, E. (1994). Endogenous Innovation in the Theory of Growth. Journal of Economic Perspectives, 8(1), 23–44. https://doi.org/10.1257/jep.8.1.23

Hahn, E. D., Bunyaratavej, K., & Doh, J. P. (2011). Impacts of Risk and Service Type on Nearshore and Offshore Investment Location Decisions. Management International Review, 51(3), 357–380. https://doi.org/10.1007/s11575-011-0078-z

Hanh, N. P., Van Hùng, Đ., Hoat, N. T., et al. (2017). Improving quality of foreign direct investment attraction in Vietnam. International Journal of Quality Innovation, 3(1). https://doi.org/10.1186/s40887-017-0016-7

Hansen, L. P. (1982). Large Sample Properties of Generalized Method of Moments Estimators. Econometrica, 50(4), 1029. https://doi.org/10.2307/1912775

Hatemi-J, A., & Irandoust, M. (2001). Productivity Performance and Export Performance: A Time-Series Perspective. Eastern Economic Journal, 27(2), 149-164. Available online: https://EconPapers.repec.org/RePEc:eej:eeconj:v:27:y:2001:i:2:p:149-164 (accessed on 10 December 2023).

He, X., Brouthers, K. D., & Filatotchev, I. (2012). Resource-Based and Institutional Perspectives on Export Channel Selection and Export Performance. Journal of Management, 39(1), 27–47. https://doi.org/10.1177/0149206312445926

Hunt, S. D., & Morgan, R. M. (1996). The Resource-Advantage Theory of Competition: Dynamics, Path Dependencies, and Evolutionary Dimensions. Journal of Marketing, 60(4), 107–114. https://doi.org/10.1177/002224299606000410

Hwang, Y.-S., Hwang, M.-H., & Dong, X. (2015). The Relationships Among Firm Size, Innovation Type, and Export Performance With Regard to Time Spans. Emerging Markets Finance and Trade, 51(5), 947–962. https://doi.org/10.1080/1540496x.2015.1061386

İpek, İ. (2017). The Resource-Based View within the Export Context: An Integrative Review of Empirical Studies. Journal of Global Marketing, 31(3), 157–179. https://doi.org/10.1080/08911762.2017.1328630

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of Financial Economics, 3(4), 305-360. doi: https://doi.org/10.1016/0304-405X(76)90026-X

Johanson, J., & Vahlne, J.-E. (1977). The Internationalization Process of the Firm—A Model of Knowledge Development and Increasing Foreign Market Commitments. Journal of International Business Studies, 8(1), 23–32. https://doi.org/10.1057/palgrave.jibs.8490676

Johnston, A., & Regan, A. (2015). European Monetary Integration and the Incompatibility of National Varieties of Capitalism. JCMS: Journal of Common Market Studies, 54(2), 318–336. Portico. https://doi.org/10.1111/jcms.12289

Katsikeas, C. S., Leonidou, L. C., & Morgan, N. A. (2000). Firm-Level Export Performance Assessment: Review, Evaluation, and Development. Journal of the Academy of Marketing Science, 28(4), 493–511. https://doi.org/10.1177/0092070300284003

Krueger, A. (1980). Trade Policy as an Input to Development. National Bureau of Economic Research. https://doi.org/10.3386/w0466

Krugman, P. R. (1979). Increasing returns, monopolistic competition, and international trade. Journal of International Economics, 9(4), 469-479. doi: https://doi.org/10.1016/0022-1996(79)90017-5

Lages, L. F. (2000). A Conceptual Framework of the Determinants of Export Performance. Journal of Global Marketing, 13(3), 29-51. doi:10.1300/J042v13n03_03 https://doi.org/10.1300/J042v13n03_03

Le, T. DQ., Ho, T. H., Nguyen, D. T., et al. (2022). A cross-country analysis on diversification, Sukuk investment, and the performance of Islamic banking systems under the COVID-19 pandemic. Heliyon, 8(3), e09106. https://doi.org/10.1016/j.heliyon.2022.e09106

Lisboa, I. (2019). Capital Structure Choices and Exports: the Case of the Portuguese Mold Industry. Australasian Accounting, Business and Finance Journal, 13(4), 23–45. https://doi.org/10.14453/aabfj.v13i4.3

Love, J. H., Roper, S., & Zhou, Y. (2016). Experience, age and exporting performance in UK SMEs. International Business Review, 25(4), 806–819. https://doi.org/10.1016/j.ibusrev.2015.10.001

Lu, Y., & Yu, L. (2015). Trade Liberalization and Markup Dispersion: Evidence from China's WTO Accession. American Economic Journal: Applied Economics, 7(4), 221–253. https://doi.org/10.1257/app.20140350

Madsen, J. B. (2008). Economic Growth, TFP Convergence and the World Export of Ideas: A Century of Evidence. The Scandinavian Journal of Economics, 110(1), 145–167. Portico. https://doi.org/10.1111/j.1467-9442.2008.00530.x

Majocchi, A., Bacchiocchi, E., & Mayrhofer, U. (2005). Firm size, business experience and export intensity in SMEs: A longitudinal approach to complex relationships. International Business Review, 14(6), 719–738. https://doi.org/10.1016/j.ibusrev.2005.07.004

Meccheri, N., & Pelloni, G. (2006). Rural entrepreneurs and institutional assistance: an empirical study from mountainous Italy. Entrepreneurship & Regional Development, 18(5), 371–392. https://doi.org/10.1080/08985620600842113

Minetti, R., & Zhu, S. C. (2011). Credit constraints and firm export: Microeconomic evidence from Italy. Journal of International Economics, 83(2), 109–125. https://doi.org/10.1016/j.jinteco.2010.12.004

Mittelstaedt, J. D., Ward, W. A., & Nowlin, E. (2006). Location, industrial concentration and the propensity of small US firms to export. International Marketing Review, 23(5), 486–503. https://doi.org/10.1108/02651330610703418

Morgan, N. A., Kaleka, A., & Katsikeas, C. S. (2004). Antecedents of Export Venture Performance: A Theoretical Model and Empirical Assessment. Journal of Marketing, 68(1), 90–108. https://doi.org/10.1509/jmkg.68.1.90.24028

Ngo, V. D., Janssen, F., Leonidou, L. C., et al. (2016). Domestic institutional attributes as drivers of export performance in an emerging and transition economy. Journal of Business Research, 69(8), 2911–2922. https://doi.org/10.1016/j.jbusres.2015.12.060

Oliveira, M., Curado, C., Balle, A. R., et al. (2020). Knowledge sharing, intellectual capital and organizational results in SMES: are they related? Journal of Intellectual Capital, 21(6), 893–911. https://doi.org/10.1108/jic-04-2019-0077

Piercy, N. F., Kaleka, A., & Katsikeas, C. S. (1998). Sources of competitive advantage in high performing exporting companies. Journal of World Business, 33(4), 378-393. doi: https://doi.org/10.1016/S1090-9516(99)80081-9

Porter, M. E. (1986). Changing Patterns of International Competition. California Management Review, 28(2), 9–40. https://doi.org/10.2307/41165182

Qasim, S., Rizov, M., & Zhang, X. (2020). Financial constraints and the export decision of Pakistani firms. International Journal of Finance & Economics, 26(3), 4557–4573. Portico. https://doi.org/10.1002/ijfe.2030

Radicic, D., & Djalilov, K. (2019). The impact of technological and non-technological innovations on export intensity in SMEs. Journal of Small Business and Enterprise Development, 26(4), 612–638. https://doi.org/10.1108/jsbed-08-2018-0259

Radicic, D., & Pinto, J. (2019). Collaboration with External Organizations and Technological Innovations: Evidence from Spanish Manufacturing Firms. Sustainability, 11(9), 2479. https://doi.org/10.3390/su11092479

Ratnaike, Y. C. (2012). Is there an empirical link between trade liberalisation and export performance? Economics Letters, 117(1), 375–378. https://doi.org/10.1016/j.econlet.2012.05.015

Reis, J., & Forte, R. (2016). The impact of industry characteristics on firms' export intensity. International Area Studies Review, 19(3), 266–281. https://doi.org/10.1177/2233865916646560

Rivera-Batiz, L. A., & Romer, P. M. (1991). Economic Integration and Endogenous Growth. The Quarterly Journal of Economics, 106(2), 531. https://doi.org/10.2307/2937946

Rodríguez-Pose, A. (2013). Do Institutions Matter for Regional Development? Regional Studies, 47(7), 1034–1047. https://doi.org/10.1080/00343404.2012.748978

Santos-Paulino, A. U. (2002). Trade Liberalisation and Export Performance in Selected Developing Countries. Journal of Development Studies, 39(1), 140–164. https://doi.org/10.1080/00220380412331322701

Selvaduray, M., Omoju, B., & Yunus, N. (2022). MEASUREMENT OF PORT CITIES – A SYSTEMATIC LITERATURE REVIEW APPROACH. Journal of Maritime Logistics, 2(1), 56–67. https://doi.org/10.46754/jml.2022.08.004

Siddiqui, K. (2015). Trade Liberalization and Economic Development: A Critical Review. International Journal of Political Economy, 44(3), 228–247. https://doi.org/10.1080/08911916.2015.1095050

Smallbone, D., Ram, M., Deakins, D., et al. (2003). Access to Finance by Ethnic Minority Businesses in the UK. International Small Business Journal: Researching Entrepreneurship, 21(3), 291–314. https://doi.org/10.1177/02662426030213003

Sousa, C. M. P., Martínez‐López, F. J., & Coelho, F. (2008). The determinants of export performance: A review of the research in the literature between 1998 and 2005. International Journal of Management Reviews, 10(4), 343‐374. Portico. https://doi.org/10.1111/j.1468-2370.2008.00232.x

Thanh, V. T. (2005). Vietnam´s Trade Liberalization and International Economic Integration: Evolution, Problems, and Challenges. Asean Economic Bulletin, 22(1), 75–91. https://doi.org/10.1355/ae22-1g

Thornton, J. (1996). Cointegration, causality and export-led growth in Mexico, 1895-1992. Economics Letters, 50(3), 413-416. doi: https://doi.org/10.1016/0165-1765(95)00780-6

Tinashe Kahiya, E., & L. Dean, D. (2014). Export performance: multiple predictors and multiple measures approach. Asia Pacific Journal of Marketing and Logistics, 26(3), 378–407. https://doi.org/10.1108/apjml-11-2012-0119

Tran, T. A.-D., & Dinh, T. T. B. (2014). FDI inflows and trade imbalances: evidence from developing Asia. The European Journal of Comparative Economics, 11(1), 147.

Udeagha, M. C., & Ngepah, N. (2019). Trade liberalization and the geography of industries in South Africa: fresh evidence from a new measure. International Journal of Urban Sciences, 24(3), 354–396. https://doi.org/10.1080/12265934.2019.1695652

Vaessen, P., & Keeble, D. (1995). Growth-Oriented SMEs in Unfavourable Regional Environments. Regional Studies, 29(6), 489–505. https://doi.org/10.1080/00343409512331349133

van Beers, C., & van der Panne, G. (2009). Geography, knowledge spillovers and small firms' exports: an empirical examination for The Netherlands. Small Business Economics, 37(3), 325–339. https://doi.org/10.1007/s11187-009-9245-z

Verwaal, E., & Donkers, B. (2002). Firm Size and Export Intensity: Solving an Empirical Puzzle. Journal of International Business Studies, 33(3), 603–613. https://doi.org/10.1057/palgrave.jibs.8491035

Wang, W., & Ma, H. (2018). Export strategy, export intensity and learning: Integrating the resource perspective and institutional perspective. Journal of World Business, 53(4), 581–592. https://doi.org/10.1016/j.jwb.2018.04.002

Westhead, P., Wright, M., & Ucbasaran, D. (2004). Internationalization of private firms: environmental turbulence and organizational strategies and resources. Entrepreneurship & Regional Development, 16(6), 501–522. https://doi.org/10.1080/0898562042000231929

Zahra, S. A., Neubaum, D. O., & Huse, M. (1997). The Effect of the Environment on Export Performance among Telecommunications New Ventures. Entrepreneurship Theory and Practice, 22(1), 25–46. https://doi.org/10.1177/104225879702200102

Zhao, H., & Zou, S. (2002). The Impact of Industry Concentration and Firm Location on Export Propensity and Intensity: An Empirical Analysis of Chinese Manufacturing Firms. Journal of International Marketing, 10(1), 52–71. https://doi.org/10.1509/jimk.10.1.52.19527

Appendix

Table A1. The list of 6 biggest seaports in Vietnam.

No.	Seaport name	Province
1	Hai Phong	Hai Phong
2	Vung Tau	Ba Ria–Vung Tau
3	Van Phong	Khanh Hoa
4	Quy Nhon	Binh Dinh
5	Quang Ninh	Quang Ninh
6	Sai Gon	Ho Chi Minh City

Source: Authors' collection.