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## **VIETNAM'S SEAPORT POLICY AND TRADE COMPETITIVENESS IN THE CONTEXT OF GLOBALIZATION**

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### **Abstract**

In the context of globalization, deep integration through free trade agreements (CPTPP, EVFTA, RCEP), global supply chain shifts, and the proliferation of ultra-large container vessels (ULCVs), seaports play a pivotal role in Vietnam's international trade, handling over 90% of the total import-export cargo volume. This study evaluates how Vietnam's seaport policy responds to the pressures and opportunities of globalization, as well as the extent to which these policy responses translate into national trade competitiveness. Employing a qualitative research approach, the paper combines a content analysis of key policy frameworks, including the 2015 Maritime Code, the 2021–2030 master plan for seaport development, seaport infrastructure fees, e-ports, and green ports with a comparative analysis of indicators such as the logistics performance index (LPI), the liner shipping connectivity index (LSCI), and logistics costs as a percentage of GDP between Vietnam, Singapore, and China, anchored in global value chain theory and Porter's national competitive advantage framework. The findings reveal that policy implementation and infrastructure planning exhibit time lags relative to actual market growth. Furthermore, while the competitiveness of major port clusters, such as Hai Phong and Cai Mep – Thi Vai, demonstrates an upward trajectory, it remains constrained by fragmentation and unsustainable practices. Key barriers encompass institutional mechanisms, logistics infrastructure, and inter-agency coordination. Based on these findings, the study proposes policy implications aimed at refining institutional frameworks, advancing infrastructure development, and enhancing cross-sectoral coordination.

### **Keywords:**

*Seaport policy; trade competitiveness; globalization; global value chains; logistics; Vietnam.*

### **1. Introduction**

Over the past two decades, Vietnam has become one of the economies with the highest degree of trade openness in the region. In 2025, total import-export turnover reached approximately USD 930 billion, of which exports amounted to approximately USD 475 billion and imports approximately USD 455 billion (Thoi bao Tai chinh Vietnam, 2026). Participation in new-generation free trade agreements such as the CPTPP, EVFTA and RCEP has expanded

market access and drawn the economy deeply into global value chains (Gereffi et al., 2005). Within this process, seaports serve as the gateway for international trade. The seaport system currently handles over 90% of the country's import-export cargo volume. In 2025, total cargo throughput via seaports reached 1,172 million tonnes, an increase of 12% compared with 2024, and container throughput reached 34.36 million TEU, an increase of 11% (Tran Hieu, 2026). From a theoretical perspective, transport costs are one of the determinants of the extent to which each country participates in international trade (Hummels, 2007). Clark et al. (2004) also argue that port efficiency is directly related to maritime transport costs and bilateral trade flows.

Alongside the opportunities that globalization brings to the seaport system, numerous challenges remain. The development of large container vessels and the formation of shipping alliances have changed the way ports compete. Shipping lines increasingly concentrate cargo at a small number of gateway and transshipment ports with suitable channel depth and operational capacity (Notteboom et al., 2022; Notteboom & Rodrigue, 2005). In addition, the COVID-19 pandemic and geopolitical tensions have exposed the vulnerability of global supply chains to adverse shocks, driving a trend towards restructuring and diversifying supply sources and relocating production away from a single market (Gereffi, 2020; UNCTAD, 2024). Moreover, the emission reduction requirements for the maritime sector under the roadmap of the International Maritime Organization have set new standards for green ports and clean energy (IMO, 2023). In the face of these pressures, a country's capacity depends not only on the scale of cargo handled through its seaports but also on infrastructure policy, service connectivity... that meet current green standards.

The objective of this study is to evaluate how Vietnam's seaport policy responds to the pressures and opportunities of globalization, and the extent to which these responses are translated into trade competitiveness. The study was conducted to answer three questions. First, what opportunities and challenges does globalization create for Vietnam's seaport system and trade? Second, how has Vietnam's seaport policy responded to these pressures in terms of orientation and level of implementation? Third, which institutional and infrastructural barriers are limiting the capacity to translate policy into competitiveness?

The study employs a qualitative method, combining content analysis of documents and policies with a comparison of the LPI, the LSCI and the logistics cost/GDP ratio between Vietnam, Singapore and China. The analytical framework is based on global value chain theory (Gereffi et al., 2005) and Porter's (1990) model of national competitive advantage. Data were collected from legal normative documents, reports of the World Bank and UNCTAD (UNCTAD, 2024), and statistics from state maritime management authorities.

## **2. Theoretical Basis and Literature Review**

### ***2.1. Theoretical Basis***

#### *Globalization in trade and maritime transport*

Within the scope of this paper, globalization is defined as the process of increasing economic integration among countries through trade, investment and cross-border production networks. According to Baldwin (2016), the current wave of globalization is associated with declining communication and operating costs, which allows production stages to be geographically separated and distributed across many countries around the world. Economic integration and trade liberalization, particularly the conclusion of free trade agreements (FTAs),

have reduced tariff and non-tariff trade barriers, thereby accelerating the globalization process. Containerization has significantly reduced handling costs and time, facilitating large-scale merchandise trade (Levinson, 2006). Currently, approximately 80% of global merchandise trade volume is transported by sea (UNCTAD, 2024). Transport costs and time are therefore regarded as trade barriers of equivalent significance to, and in many cases even greater than, tariffs (Hummels, 2007; Hummels & Schaur, 2013).

#### *Seaport policy*

Seaport policy is the set of State decisions and instruments aimed at guiding the development, operation and governance of the port system, including: planning, investment and public-private partnership (PPP), pricing and costs, procedures, governance, digitalization and green ports. Regarding investment governance, port management models are distinguished by the degree of public and private sector participation, among which the landlord port model is widely applied (World Bank, 2007). Studies on port governance also indicate that the effectiveness of a model depends on the decision-making and operational processes (Brooks & Pallis, 2008). The relationship between privatization, efficiency and the competitiveness of container ports has also been empirically tested (Tongzon & Heng, 2005). As ports become increasingly integrated into logistics chains, the role of port authorities shifts from infrastructure management to coordinating the service ecosystem (Notteboom & Winkelmans, 2001). Regarding digitalization and greening, digital transformation at seaports affects information coordination among stakeholders (Heilig et al., 2017). The environmental management tools of leading ports in Asia and Europe have been compared (Lam & Notteboom, 2014), and the drivers of sustainable innovation in ports have also been systematized (Acciaro et al., 2014). These issues are linked to the emission reduction requirements of the maritime sector (IMO, 2023).

#### *Trade competitiveness*

Trade competitiveness is the ability of a country to bring goods to market at reasonable cost, in a short time, with high reliability and broad connectivity, consistent with the World Bank's LPI, which measures the efficiency of customs, infrastructure, costs and service quality, tracking and tracing, and timeliness (Arvis et al., 2023). Costs, infrastructure quality and port efficiency determine transport costs and trade flows (Clark et al., 2004; Limão & Venables, 2001; Wilmsmeier et al., 2006). Regarding time and reliability, studies show that delays and time variability reduce trade (Hausman et al., 2013; Hummels & Schaur, 2013). Regarding connectivity, the level of liner shipping connectivity (LSCI) has been shown to be a determinant of bilateral trade (Fugazza & Hoffmann, 2017).

#### *Global value chains (GVCs) and the role of logistics and seaports in GVC participation*

The GVC approach analyzes how stages from design and production to distribution are organized and operated across countries. Gereffi et al. (2005) classify five types of chain governance (market, modular, relational, captive and hierarchy) based on the complexity of transactions, the ability to codify information and the capabilities of suppliers. Supply-chain trade is characterized by intermediate goods crossing borders multiple times (Baldwin & Lopez-Gonzalez, 2015). Therefore, transit time, timeliness and logistics reliability are of greater significance than in trade in final goods (Hummels & Schaur, 2013). In this context, seaports are the link connecting domestic factories with production networks and consumer markets, particularly in the case of gateway ports, where cargo is consolidated and distributed via deep-sea routes (Notteboom & Rodrigue, 2005; Notteboom et al., 2022). Consequently, a

country that participates more deeply in GVCs but has an inefficient port and logistics system will bear higher costs and risks. This situation reduces its attractiveness to manufacturers that are restructuring their supply chains (Gereffi, 2020). This is the basis on which the study regards seaports as a precondition for capitalizing on the opportunities of globalization, rather than merely a consequence of trade growth.

### *National competitive advantage*

Porter (1990) argues that a nation's competitiveness in an industry is determined by four interacting groups of factors, known as the diamond model: factor conditions, demand conditions, related and supporting industries, and firm strategy, structure and rivalry. Two auxiliary factors are chance and the role of government. According to this theory, the government does not directly create competitive advantage but exerts an indirect influence by shaping the four groups of factors above, including investment in infrastructure and specialized human resources. Porter (1998) extended the approach to clusters, emphasizing the benefits of geographical concentration and linkages among firms, suppliers and related institutions.

When applied to seaports, Porter's framework allows the port system to be interpreted as an industry cluster. Factor conditions include geographical location, channel depth, berth and yard infrastructure, and hinterland connectivity. Demand conditions include the import-export cargo volume generated by the processing and manufacturing industry and by FDI inflows. Supporting industries include shipping lines, domestic transport, logistics services and customs. Domestic rivalry is reflected in competition among ports and terminal areas within the same region. Seaport policy falls under the role of government.

## **2.2. Literature Review**

Empirical studies can be divided into four main strands. The first strand comprises studies focusing on the relationship between port infrastructure, transport costs and trade. Limão and Venables (2001) show that infrastructure quality is an important determinant of transport costs and trade flows. Clark et al. (2004) estimate that raising port efficiency from the low group to the high group could substantially reduce maritime transport costs and markedly increase bilateral trade. Wilmsmeier et al. (2006) confirm the impact of port characteristics and transport connectivity on costs. Hummels (2007) and Hummels and Schaur (2013) add that transit time is also a form of trade cost, while Hausman et al. (2013) emphasize the role of logistics performance, particularly time and reliability. Fugazza and Hoffmann (2017) show that liner shipping connectivity is also a determinant of trade. What this strand has in common is that it demonstrates the role of ports and logistics in trade, but it generally treats policy as a background factor and does not analyze how policy is translated into these mechanisms.

The second research strand focuses on port governance, competition and port choice. Notteboom and Winkelmans (2001) discuss how port authorities adapt to logistics integration. Brooks and Pallis (2008) assess port governance models in terms of process and performance. Tongzon and Heng (2005) analyze the impact of privatization on the efficiency and competitiveness of container ports. Notteboom and Rodrigue (2005) show that competition among ports increasingly extends to the hinterland and transport chains. Tongzon (2009) points out that operational efficiency, frequency of ship calls, infrastructure, location and charges are factors affecting freight forwarders' port choice. However, these studies mainly revolve around

the port or port-cluster level and rarely examine coordination among policy levels within a country.

The third strand addresses the digitalization and greening of seaports. Heilig et al. (2017) analyze digital transformation in ports, Lam and Notteboom (2014) compare “green port” management tools, and Acciaro et al. (2014) propose a framework for sustainable innovation. These studies provide a basis for assessing the group of digitalization and green port policies; however, they mainly concern major ports in Europe and developed Asia, so caution is needed when applying them to a developing economy such as Vietnam.

The fourth strand consists of studies on Vietnamese seaports. Nguyen et al. (2016) apply the bootstrap DEA method to 43 major ports in Vietnam, showing that different measurement methods yield significantly different efficiency results. In terms of actual performance, the Container Port Performance Index (CPPI) 2025 ranks Cai Mep 11th and Hai Phong 13th in the world, the second consecutive year in which both ports are among the 20 most efficient ports (Vietnam News/ANN, 2026). This result shows that the operational capacity of individual ports has improved markedly. However, as presented in Section 1, efficiency at the port level does not equate to competitiveness at the national level, as logistics costs remain high and logistics quality still lags behind the reference countries (Arvis et al., 2023; VNF, 2025).

The literature review shows that, within the scope of the documents reviewed, most studies measure efficiency and costs at the port level or analyze individual policy groups separately, and few studies fully link the chain starting from the pressures and opportunities of globalization. This study contributes by proposing and applying an integrated analytical framework in order to achieve the stated research objective.

### 2.3. Analytical Framework

Based on the theoretical background and the literature review, the paper constructs the following analytical framework:

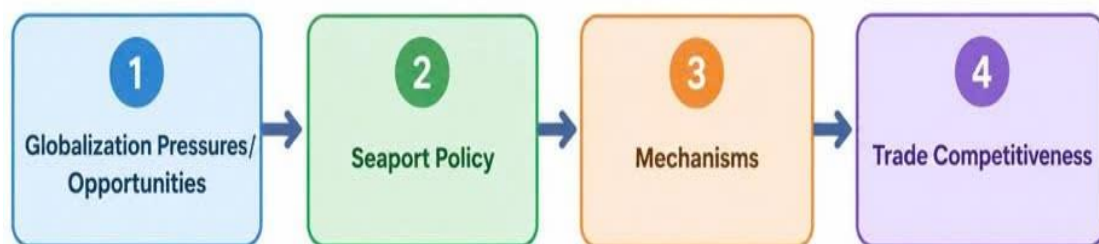


**Figure 1.** Proposed analytical framework

*Source: Compiled and proposed by the research team*

The first block comprises external pressures and opportunities: free trade agreements, GVC participation and FDI inflows, shipping alliances and large vessels, green and digital standards, and geopolitical risks. This block is grounded in GVC theory (Gereffi et al., 2005; Gereffi, 2020) and the literature on the restructuring of port competition (Notteboom et al., 2022). The second block is Vietnam's policy response, comprising planning, investment, charges, procedures, digitalization and governance, corresponding to the role of government in Porter's (1990) framework. The third block consists of the intermediate mechanisms through which policy affects final outcomes: infrastructure, connectivity, costs, time and reliability

(Clark et al., 2004; Fugazza & Hoffmann, 2017; Hausman et al., 2013). The fourth block is trade competitiveness, assessed through the LPI, logistics costs as a share of GDP, and position relative to the reference countries.

This analytical framework rests on three propositions corresponding to the three research questions. First, globalization affects competitiveness mainly through policy responses rather than directly. Second, policy generates competitiveness only when it is translated into specific mechanisms concerning infrastructure, connectivity, costs, time and reliability. Third, this translation process is influenced by institutional conditions, logistics infrastructure and the degree of cross-sectoral coordination, factors that may cause time lags or reduce policy effectiveness.

### **3. Global Context and Vietnam's Seaport Policy**

#### ***3.1. Globalization trends affecting seaports***

International economic integration and accession to free trade agreements (FTAs) are the first driver shaping demand for the seaport system. As of March 2022, Vietnam had participated in 17 free trade agreements, of which 15 had entered into force. New-generation FTAs include the CPTPP (in force for Vietnam since 14 January 2019), the EVFTA (1 August 2020), the UKVFTA (provisionally applied from 1 January 2021 and officially in force from 1 May 2021) and the RCEP (1 January 2022) (WTO and Integration Center, 2022). This has driven an increase in Vietnam's import-export turnover in 2025, reaching approximately USD 930 billion (Thoi bao Tai chinh Vietnam, 2026).

Together with FTAs, export-oriented FDI inflows have increased demand for container transport. In 2025, registered FDI reached USD 38.42 billion and disbursed FDI reached USD 27.62 billion, an increase of 9% and the highest in the past five years, with the processing and manufacturing sector accounting for the largest share (82.8% of total disbursed capital) (Vietnam News, 2026). These inflows reflect the restructuring and diversification of global supply chains following the COVID-19 pandemic (Gereffi, 2020). When configuring supply chains, manufacturers take into account costs, transit time and schedule reliability (Hummels & Schaur, 2013), that is, conditions that depend directly on seaports and logistics. Besides the opportunities created by the trade environment, UNCTAD (2025) warns that tariffs and port fees imposed on certain vessels in the United States may lead shipping lines to consolidate services, reduce frequency or shift cargo to other transshipment ports, thereby affecting connectivity and trade competitiveness.

From February 2025, the shipping alliance structure between Maersk and Hapag-Lloyd was re-established as the Gemini Cooperation, operating a hub-and-spoke network; ONE, HMM and Yang Ming, which originated from THE Alliance, were restructured into the Premier Alliance; the Ocean Alliance, comprising carriers such as CMA CGM, COSCO, Evergreen and OOCL, extended its cooperation until 2032; and MSC operates independently (Van der Helm Logistics, 2025). Under the new structure, Southeast Asia remains an area of intense competition for transshipment. Container transshipment activity in the region is held mainly by Singapore, Port Klang and Tanjung Pelepas (PTP). All of Gemini's outbound Asia–Europe cargo is routed through PTP, while the Premier Alliance and MSC focus on Singapore (The Loadstar, 2025). Competition among ports therefore takes place not only at the terminal but also in the ability to attract alliance services, consistent with the arguments on port

regionalization and competition via the hinterland (Notteboom & Rodrigue, 2005; Notteboom et al., 2022).

For Vietnam, its position is mainly that of a gateway port with direct services rather than a regional transshipment hub. The Cai Mep – Thi Vai port cluster receives container ships of up to 232,000 tonnes (Tran Hieu, 2026) and has 48 international container services per week, of which more than 20 are mother-vessel services sailing directly to Europe and both coasts of the United States (Ministry of Construction, 2026). Vietnam's liner shipping connectivity index (LSCI) also increased by 12% between June 2024 and June 2025, owing to increases in direct calls and deployed capacity (UNCTAD, 2025). However, the fact that major alliances have chosen Singapore or Malaysia as transshipment points for Asia–Europe services shows that regional competitive pressure remains very strong.

Regarding digitalization, the IMO FAL Convention was amended in 2022 with effect from 1 January 2024, requiring countries to establish and use a maritime single window (MSW) system for the electronic exchange of information on the arrival, stay and departure of ships. UNCTAD (2025) notes that countries with a port community system (PCS) or MSW have, on average, higher LPI scores and container connectivity. However, the report also emphasizes that the data are insufficient to conclude a causal relationship.

Regarding greening, the 2023 IMO Strategy sets the target of net-zero emissions by around 2050 (IMO, 2023). However, the global regulatory framework remains uncertain. The Net-Zero Framework was approved in principle in April 2025, but the vote on its formal adoption was postponed for one year on 17 October 2025, with 57 votes in favour of postponement and 49 against. At MEPC 84 (concluded on 1 May 2026), the majority of countries affirmed that the framework remains the basis for further discussions, and the resumed session is expected to take place in late 2026 (Datamar News, 2026). For seaports, market signals remain clear: ports providing infrastructure for alternative fuels have an advantage in attracting vessels and liner services (UNCTAD, 2025).

### ***3.2. Vietnam's seaport policy framework***

The Vietnam Maritime Code No. 95/2015/QH13 (effective from 1 July 2017) regulates maritime activities, including seaports, navigational channels, dry ports and state management of maritime affairs. The Code has been amended several times, including by Law No. 35/2018/QH14, Law No. 81/2025/QH15 and the Law on Planning No. 112/2025/QH15 (effective from 1 March 2026) (Office of the National Assembly, 2026). On 1 April 2026, the Government approved six policies of the draft Vietnam Maritime and Waterway Code (amended) (Government, 2026). The draft is developed on the basis of consolidating the 2015 Maritime Code with the 2004 Law on Inland Waterway Transport (Ministry of Construction, 2026a).

The Master Plan for the development of the seaport system for the 2021–2030 period, with a vision to 2050, was approved by Decision No. 1579/QĐ-TTg (Prime Minister, 2021) and adjusted by Decision No. 442/QĐ-TTg (Prime Minister, 2024). The adjusted plan identifies investment needs of over VND 359 trillion by 2030 (Vietnam News/ANN, 2026). Detailed plans for the land and water areas of seaports in each region were also issued in 2025, for example the Khanh Hoa seaport plan (Ministry of Construction, 2025).

The attraction of private and foreign investment is carried out under the legal framework on investment and public-private partnership (National Assembly, 2020). In practice, many international operators have participated in ports in Vietnam, such as DP World, SSA Marine, PSA, APM Terminals and Hutchison Port (VietnamNet, 2023). New strategic projects include Cai Mep Gemadept – Terminal Link phase 2, Cai Mep Ha general and container port phase 1, and Can Gio international transshipment port (Journal of Economics and Finance, 2026).

The fee for the use of infrastructure works within the seaport border-gate area is an instrument issued by local authorities. Hai Phong has applied it since 2017 (Hai Phong City People's Council, 2016), and Ho Chi Minh City since 1 April 2022 (Ho Chi Minh City People's Council, 2020). This policy has been adjusted several times, and currently only two localities collect this type of fee (Dien dan Doanh nghiep, 2026). From 5 January 2026, Ho Chi Minh City applied a new fee schedule under Resolution 91/2025/NQ-HDND, and then exempted the fee entirely from 1 July 2026 to 30 June 2029 under Resolution 12/2026/NQ-HDND (Ho Chi Minh City People's Council, 2026). Hai Phong has only set a fee of VND 0 for liquid cargo (petrol, oil and gas) from 1 April 2026 to 31 December 2026 (Hai Phong City People's Council, 2026).

According to the Deputy Minister of Construction, all administrative procedures at the specialized maritime management authority are now received through the electronic single-window system (Tran Hieu, 2026). This is consistent with the IMO requirement on the MSW. However, interoperable logistics data among the parties remains a weakness (Khanh Hong, 2025). Decision No. 876/QD-TTg sets a roadmap to 2050 for converting 100% of fossil-fuel-powered vehicles and 100% of port equipment to electricity and green energy (Prime Minister, 2022).

## 4. Research Results

### 4.1. Results of the policy content analysis

**Table 1. Timeline, issuing level and instrument group of the policies**

| No. | Date                                | Document / event                                 | Issuing level                         | Instrument group                        |
|-----|-------------------------------------|--------------------------------------------------|---------------------------------------|-----------------------------------------|
| 1   | 25/11/2015<br>(effective 1/7/2017)  | Maritime Code No. 95/2015/QH13                   | National Assembly                     | Legal                                   |
| 2   | 13/12/2016<br>(collected from 2017) | Resolution 148/2016/NQ-HDND (Hai Phong)          | Provincial/municipal People's Council | Pricing, fees                           |
| 3   | 20/11/2018<br>(effective 1/1/2019)  | Law No. 35/2018/QH14                             | National Assembly                     | Legal, planning                         |
| 4   | 2020 (collected from 1/4/2022)      | Resolution 10/2020/NQ-HDND (HCMC)                | Provincial/municipal People's Council | Pricing, fees                           |
| 5   | 22/9/2021                           | Decision 1579/QD-TTg                             | Prime Minister                        | Planning                                |
| 6   | 22/7/2022                           | Decision 876/QD-TTg                              | Prime Minister                        | Greening                                |
| 7   | 1/1/2024                            | Amendments to the FAL Convention (mandatory MSW) | IMO                                   | Digitalization (international standard) |

| No. | Date                               | Document / event                                                            | Issuing level                         | Instrument group  |
|-----|------------------------------------|-----------------------------------------------------------------------------|---------------------------------------|-------------------|
| 8   | 22/5/2024                          | Decision 442/QD-TTg                                                         | Prime Minister                        | Planning          |
| 9   | 18/7/2025                          | Decision 975/QD-BXD (detailed plan for Khanh Hoa)                           | Ministry of Construction              | Detailed planning |
| 10  | 10/12/2025<br>(effective 1/3/2026) | Law on Planning No. 112/2025/QH15                                           | National Assembly                     | Legal, planning   |
| 11  | 2025 (effective 5/1/2026)          | Resolution 91/2025/NQ-HDND (HCMC)                                           | Provincial/municipal People's Council | Pricing, fees     |
| 12  | 1/4/2026                           | Resolution 77/NQ-CP (06 policies of the amended Maritime and Waterway Code) | Government                            | Legal             |
| 13  | 1/4/2026 (until 31/12/2026)        | Resolution 01/2026/NQ-HDND (Hai Phong, VND 0 fee for liquid cargo)          | Provincial/municipal People's Council | Pricing, fees     |
| 14  | 19/6/2026<br>(1/7/2026–30/6/2029)  | Resolution 12/2026/NQ-HDND (HCMC, fee exemption)                            | Provincial/municipal People's Council | Pricing, fees     |

*Source: Compiled by the research team*

All five provincial-level resolutions belong to a single instrument, namely the seaport infrastructure fee, and this instrument has the largest number of documents in the entire list. This means that the high-level policy layer (laws, plans) and the layer of market-based pricing instruments operate separately from each other; the instrument that most directly affects business costs is the most volatile one, and there is no common national-level regulatory framework within the set of documents analyzed. In addition, the intervals between documents reveal considerable time lags. From the adoption of the Maritime Code (25 November 2015) to the Government's approval of the policies for the consolidated code (1 April 2026), more than 10 years elapsed. The 2021 Master Plan was adjusted after approximately 2 years and 8 months (from 22 September 2021 to 22 May 2024). Only more than 5 years after Hai Phong introduced the fee (13 December 2016) did Ho Chi Minh City begin collecting it (1 April 2022). From the start of collection to full exemption (1 July 2026), Ho Chi Minh City took a further approximately 4 years and 3 months. These lags are consistent with the hypothesis that policy implementation is slower than the pace of market change.

In terms of density, 6 out of 14 milestones (approximately 43%) are concentrated in the 12 months from July 2025 to June 2026, including the detailed plan, the Law on Planning, the new fee resolution, the resolution on the consolidated code and two other fee resolutions. This high density indicates that the system is in a restructuring phase, but it also implies a risk that implementing guidelines have not yet been synchronized with the new laws. At the same time, digitalization appears only as an international standard milestone (FAL) without a corresponding domestic document in the set of documents, since information on the electronic single-window mechanism was mainly drawn from statements and management reports. Green policy has only one guiding document (Decision 876), with no specific implementing document identified.

Table 2 matches each global pressure or opportunity with the policy response, the implementation instruments and the degree of alignment between the two.

**Table 2. Global pressures, policy responses and implementation instruments**

| Global pressure / opportunity                       | Policy response                             | Implementation instruments                            | Implementation evidence                                                                   | Degree of alignment |
|-----------------------------------------------------|---------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------|
| FTAs, GVCs and FDI increase throughput              | 2021–2030 Master Plan; capital mobilization | Decision 1579, Decision 442; PPP; detailed plans      | Containers up 11% in 2025; proposals for additional connecting infrastructure still exist | Medium to high      |
| Large vessels, alliances, transshipment competition | Development of deep-water gateway ports     | Lach Huyen, Cai Mep – Thi Vai; Can Gio project        | Receives 232,000-tonne vessels; >20 direct services; not yet a transshipment hub          | Medium              |
| Cost pressure                                       | Seaport infrastructure fee                  | Provincial-level resolutions (2016, 2020, 2025, 2026) | Changed multiple times; exempted in HCMC; Hai Phong exempts only liquid cargo             | Low                 |
| Procedural and digitalization standards             | Electronic single-window mechanism          | Single-window system; amendment of the Code           | Administrative procedures digitized; data not yet interoperable                           | Medium              |
| Green standards (IMO)                               | Green energy transition programme           | Decision 876/QĐ-TTg                                   | Clear long-term objectives; no implementation targets yet                                 | Medium              |
| Geopolitical risks                                  | No dedicated instrument identified          | –                                                     | Indirect response through planning                                                        | Low                 |

*Source: Compiled by the research team*

Table 2 shows that the six global pressures are addressed by five response groups with specific instruments and one geopolitical group without a dedicated instrument. For the pressure on throughput, the response is fairly appropriate, as reflected in planning and PPP, and throughput has increased at the two main port clusters. For the pressure of transshipment competition, Vietnam has invested in deep-water ports and received very large vessels, but the major alliances still choose ports in Singapore and Malaysia as transshipment points (The Loadstar, 2025); therefore, the response has so far only addressed the gateway role and has not yet created a transshipment role.

The greatest weakness concerns cost pressure: the seaport infrastructure fee is the only instrument aimed at directly adjusting business input costs, yet this instrument changes continuously and is inconsistent between the two localities, so its degree of alignment is low. Digitalization and greening have a medium degree of alignment because their objectives are clear but implementation targets and data are lacking. Regarding geopolitical risks, UNCTAD (2025) warns that tariffs, port fees and route adjustments may affect connectivity, yet there is no dedicated instrument such as response scenarios or a connectivity monitoring mechanism. This indicates that the policy is more reactive to growth than proactive in responding to risks.

**Table 3. Evolution of the seaport infrastructure fee policy in Hai Phong and Ho Chi Minh City**

| Date                             | Locality  | Document                    | Main content                                                     |
|----------------------------------|-----------|-----------------------------|------------------------------------------------------------------|
| 13/12/2016 (collected from 2017) | Hai Phong | Resolution 148/2016/NQ-HDND | Issuance of fee rates                                            |
| 2020 (collected from 1/4/2022)   | HCMC      | Resolution 10/2020/NQ-HDND  | Issuance of fee rates                                            |
| 8/6/2022                         | HCMC      | Notice 169/TB-VPCP          | Government conclusions on the fee in HCMC                        |
| 2025 (effective 5/1/2026)        | HCMC      | Resolution 91/2025/NQ-HDND  | New fee schedule following administrative boundary rearrangement |
| 1/4/2026–31/12/2026              | Hai Phong | Resolution 01/2026/NQ-HDND  | VND 0 fee for liquid cargo                                       |
| 1/7/2026–30/6/2029               | HCMC      | Resolution 12/2026/NQ-HDND  | 100% fee exemption                                               |

*Source: Hai Phong City People's Council (2016, 2026); Ho Chi Minh City People's Council (2020, 2026); Office of the Government (2022); Dien dan Doanh nghiep (2026).*

Table 3 shows that the fee policy is fragmented: only 2 localities apply this type of fee (Dien dan Doanh nghiep, 2026), and each issues it with its own timing, rates and scope. Furthermore, from 1 July 2026 Ho Chi Minh City exempts the fee entirely for all cargo, while Hai Phong exempts only liquid cargo until the end of 2026. This disparity may alter the cost advantage between the southern and northern port clusters for the same type of cargo. However, the actual impact on shifts in cargo flows cannot yet be assessed because the policy has only just taken effect. Regarding the budgetary trade-off, Ho Chi Minh City's revenue was approximately VND 2,386 billion in 2025, and the revenue reduction is projected at approximately VND 7,170 billion after three years of exemption (Dien dan Doanh nghiep, 2026). This revenue has been used for investment in port and connecting infrastructure; thus, the exemption reduces immediate costs for businesses but may reduce resources for infrastructure investment.

According to Porter's analytical framework, the role of government is to exert an indirect influence by shaping factor conditions, not to replace the market (Porter, 1990). From this perspective, the issue is not whether the fee is collected or not, but that this instrument lacks common principles regarding its purpose, degree of stability and impact assessment.

#### **4.2. Vietnam's trade competitiveness**

Table 4 summarizes the key indicators of throughput, connectivity and operational efficiency of the seaport system and the two gateway port clusters.

**Table 4. Throughput, connectivity and operational efficiency of Vietnamese seaports**

| Group             | Indicator                   | Value                                                                            | Period               | Source                                      |
|-------------------|-----------------------------|----------------------------------------------------------------------------------|----------------------|---------------------------------------------|
| National          | Cargo volume                | 1,172 million tonnes (+12%)                                                      | 2025                 | Tran Hieu (2026)                            |
| National          | Container                   | 34.36 million TEU (+11%)                                                         | 2025                 | Tran Hieu (2026)                            |
| Hai Phong         | Cargo;<br>containers        | 114.5 million tonnes; >8.2 million TEU                                           | 2025                 | Minh Khoi (2025)                            |
| Cai Mep – Thi Vai | Mother-vessel<br>containers | Nearly 6.3 million TEU (+18%)                                                    | 10 months<br>of 2025 | Vietnam Seaports<br>Association (2025)      |
| Cai Mep – Thi Vai | Container                   | 1.94 million TEU (+13%)                                                          | Q1/2026              | Economic and<br>Financial Journal<br>(2026) |
| Connectivity      | Services                    | 48 services/week; >20 direct mother-vessel services to Europe and both US coasts | 3/2026               | Ministry of<br>Construction (2026b)         |
| Connectivity      | Largest vessel              | Up to 232,000 tonnes (Cai Mep)                                                   | 2025                 | Tran Hieu (2026)                            |
| Connectivity      | LSCI                        | 6th in the world; +12% (6/2024–6/2025)                                           | 6/2025               | UNCTAD (2025)                               |
| Efficiency        | CPPI 2025                   | Cai Mep 11; Hai Phong 13                                                         | 2025                 | Vietnam News/ANN<br>(2026)                  |

In terms of scale and growth rate, the port system has grown in both cargo and containers at double-digit rates, consistent with the increase in trade turnover and in FDI in the processing and manufacturing sector. In terms of concentration, Hai Phong accounts for approximately 24% of national container throughput (8.2 out of 34.36 million TEU) and approximately 10% of cargo volume. Since Cai Mep's 10-month figure (nearly 6.3 million TEU) is a lower bound for the full year, this cluster accounts for at least approximately 18% of national container throughput. In terms of growth drivers, Cai Mep grew by approximately 18% in the first 10 months of 2025 and by 13% in Q1/2026, while the national total grew by 11% in 2025. The difference of approximately 7 percentage points indicates that the southern deep-water port cluster is growing faster than the overall average, although the comparison periods do not fully coincide. In terms of connectivity, the existence of more than 20 mother-vessel services sailing directly to Europe and both coasts of the United States, together with the sixth-place LSCI ranking and the 12% increase within one year (UNCTAD, 2025), shows that Vietnam has established a solid gateway position. The 199% increase in the LSCI according to UNCTAD (2024) further reinforces this assessment. From the perspective of Porter's framework, these are favourable factor conditions and demand conditions that are being strengthened. In terms of operational efficiency, Cai Mep ranked 7th in the CPPI 2024 (Vietnam Seaports Association, 2025) but dropped to 11th in the CPPI 2025, while Hai Phong ranked 13th (Vietnam News/ANN, 2026), even though throughput at both clusters increased. The CPPI is constructed based on the time container ships spend in port (World Bank & S&P Global Market Intelligence, 2024), so these rankings may be affected by waiting time, channel transit and turning, in addition to berth handling productivity. This is consistent with Hai Phong still proposing the expansion of the turning basin and the organization of two-way traffic on the Lach Huyen channel (Minh Khoi, 2025).

Vietnam's logistics costs stand at approximately 16% of GDP, double that of Singapore (8%), 4 percentage points higher than Malaysia (12%), 5 percentage points higher than the

world average (11%), and approximately 2.1 percentage points (roughly 15%) higher than China (13.9%). If the high estimate of nearly 20% of GDP is used, the gap with China widens to approximately 6.1 percentage points (roughly 44%). The range from 16% to nearly 20% reflects differences in calculation methods (Khanh Hong, 2025; VnEconomy, 2023), so cross-country comparisons are only relative. Nevertheless, both cases show that Vietnam is higher than all three reference benchmarks. Notably, China reached a record low of 13.9% in 2025 after many years of improvement (Xinhua, 2026). This suggests that the gap could be narrowed with a sustained cost-reduction programme. The causes include dependence on road transport, unsynchronized regional connectivity and small-scale, fragmented logistics enterprises (VnEconomy, 2023; Khanh Hong, 2025).

Table 5 compares the handling time per container move in 2024 in Vietnam, Singapore and China across nine call-size groups, together with Vietnam's relative difference.

**Table 5. Handling time per container move in 2024 (minutes) by call size**

| Container moves per call | Vietnam | Singapore | China | VN faster than Singapore | VN faster than China |
|--------------------------|---------|-----------|-------|--------------------------|----------------------|
| <500                     | 2,7     | 3,6       | 3,5   | 25,0%                    | 22,9%                |
| 501–1.000                | 1,6     | 1,8       | 2,0   | 11,1%                    | 20,0%                |
| 1.001–1.500              | 1,1     | 1,3       | 1,3   | 15,4%                    | 15,4%                |
| 1.501–2.000              | 0,9     | 1,0       | 0,9   | 10,0%                    | 0%                   |
| 2.001–2.500              | 0,7     | 0,9       | 0,8   | 22,2%                    | 12,5%                |
| 2.501–3.000              | 0,6     | 0,8       | 0,7   | 25,0%                    | 14,3%                |
| 3.001–4.000              | 0,6     | 0,7       | 0,6   | 14,3%                    | 0%                   |
| 4.001–6.000              | 0,5     | 0,6       | 0,5   | 16,7%                    | 0%                   |
| >6.000                   | 0,4     | 0,4       | 0,4   | 0%                       | 0%                   |

*Source: UNCTAD (2025) and calculations by the research team*

Table 5 shows that Vietnam handles containers faster than Singapore in eight of the nine groups and faster than or equal to China in all nine groups. The advantage is most evident for small and medium-sized calls: 25% faster than Singapore in the group below 500 moves and in the 2,501–3,000 moves group, and 22.9% faster than China in the group below 500 moves. Conversely, in the largest vessel group (over 6,000 moves), all three countries are at 0.4 minutes, meaning that productivity converges when call size is very large.

Table 6 summarizes the national-level indicators of the three countries and calculates Vietnam's relative gap compared with each reference country.

**Table 6. Comparative summary of Vietnam – Singapore – China**

| Indicator             | Vietnam | Singapore | China | Gap VN – Singapore        | Gap VN – China            |
|-----------------------|---------|-----------|-------|---------------------------|---------------------------|
| LPI 2023 (score)      | 3,3     | 4,3       | 3,7   | –1.0 points (23.3% lower) | –0.4 points (10.8% lower) |
| LPI 2023 ranking      | 43/139  | 1         | 19    | 42 places lower           | 24 places lower           |
| LSCI ranking (6/2025) | 6       | 3         | 1     | 3 places lower            | 5 places lower            |

| Indicator                                  | Vietnam                     | Singapore | China        | Gap VN – Singapore | Gap VN – China                                                                     |
|--------------------------------------------|-----------------------------|-----------|--------------|--------------------|------------------------------------------------------------------------------------|
| LSCI, September 2026                       | among the top 15 countries  | 626,7     | 1.347,6      | not determined     | not determined                                                                     |
| Logistics costs/GDP                        | ~16% (estimates up to ~20%) | ~8%       | 13.9% (2025) | 2 times higher     | 2.1 percentage points higher (up to 6.1 percentage points under the high estimate) |
| Handling time, 2,001–2,500 moves (minutes) | 0,7                         | 0,9       | 0,8          | 22.2% faster       | 12.5% faster                                                                       |

*Source: Arvis et al. (2023); UNCTAD (2025); Chirls (2026); Khanh Hong (2025); Xinhua (2026); calculations by the research team*

In terms of port-level and connectivity indicators, Vietnam ranks close to or above the reference countries: sixth in the LSCI compared with third for Singapore and first for China, and faster than both countries in container handling time in the medium-sized group. However, in terms of national-level indicators, Vietnam is significantly lower: its LPI score is 23.3% lower than Singapore's and 10.8% lower than China's, and its logistics costs are significantly higher. The gap with Singapore is larger than the gap with China in both LPI and costs, which is understandable since Singapore is a city-state transshipment-port economy with a very short hinterland distance, and is therefore not fully comparable with Vietnam. China is a more appropriate reference in terms of territorial size and production structure, and the gap with China (0.4 LPI points, approximately 2.1 percentage points in costs) is a more realistic target to narrow. It should also be noted that the LSCI reflects only the supply side (number of services, vessel size, frequency) and not costs or reliability, and China's index is more than twice that of Singapore (1,347.6 versus 626.7), so the rankings do not fully reflect the magnitude of the differences.

This paradox can be explained by four causes. First, domestic transport depends on roads, and regional connectivity has not been synchronized (VnEconomy, 2023; Vietnam News/ANN, 2026). Second, procedures and specialized inspections are still time-consuming, as reflected in the assessment of the potential to reduce time through smart inspection (Khanh Hong, 2025). Third, logistics data lack interoperability, and logistics enterprises are small and fragmented, with no leading enterprises (Khanh Hong, 2025). Fourth, there are differences in measurement methods, as the LPI is based on perception surveys and estimates of logistics costs range from 16% to nearly 20%.

## 5. Recommendations and Policy Implications

### 5.1. Principles for formulating recommendations

The recommendations below are formulated according to four principles. First, the recommendations must be based on the evidence of the study: each group of solutions derives from a specific finding. The comparative results show that Vietnam has achieved a high position in connectivity and handling productivity (UNCTAD, 2025), but its LPI score (Arvis et al., 2023) and logistics costs as a share of GDP (Khanh Hong, 2025) still lag behind the reference countries. Therefore, the focus is not on further expanding berth capacity but on translating policy into lower costs, shorter time, higher reliability and broader connectivity.

Second, the recommendations aim to enhance competitiveness in the context of globalization. This means that each solution needs to be linked to a specific pressure identified in Section 3, such as regional transshipment competition, the restructuring of shipping alliances, IMO digital and green standards, or trade and geopolitical risks. Third, the recommendations must be feasible, as reflected in identifying the lead agency, sequencing by timeframe and making use of existing instruments rather than proposing an entirely new framework. Fourth, the recommendations are cautious about the degree of certainty of the evidence. For issues on which the study does not yet have quantitative data (for example, the level of implementation of green policy or the quality of human resources), the recommendations are presented in the form of orientations, accompanied by proposals for data collection prior to decision-making.

## ***5.2. Recommendations by policy group***

**Planning and coordination:** The results show that the 2021 Master Plan had to be adjusted after less than three years (Prime Minister, 2021, 2024), the new Law on Planning effective from 1 March 2026 requires a review of related regulations (Office of the National Assembly, 2026), and the maritime management function after 2025 is assumed by the Ministry of Construction (Ministry of Construction, 2026a). On this basis, the study proposes three main recommendations. First, establish a mechanism for periodic planning reviews based on market data (throughput, vessel size, service frequency), so that adjustments are deliberate rather than reactive. Second, synchronize port planning with planning for roads, railways, inland waterways and the network of logistics centres, since competition among ports increasingly extends to the hinterland and transport chains (Notteboom & Rodrigue, 2005). Third, develop an inter-regional coordination mechanism for port clusters, especially the northern cluster (Hai Phong) and the southern cluster (Cat Lai, Cai Mep – Thi Vai, Can Gio), to avoid duplicated investment and to clearly delineate the roles of gateway ports and transshipment ports. This recommendation is consistent with the argument that when ports are integrated into logistics chains, the role of the port authority shifts from infrastructure management to coordinating the entire ecosystem (Notteboom & Winkelmans, 2001). At the same time, this recommendation is highly feasible, as the draft Maritime and Waterway Code (amended) is currently being developed (Government, 2026) and can incorporate these coordination mechanisms.

**Investment and PPP:** Investment needs for the seaport system to 2030 exceed VND 359 trillion (Vietnam News/ANN, 2026), far beyond the capacity of the state budget. Vietnam has attracted many international operators (VietnamNet, 2023) and is implementing projects such as Cai Mep Ha and Can Gio international transshipment port (Journal of Economics and Finance, 2026). The study proposes following the landlord port model, in which the State focuses on investing in common-use infrastructure such as channels, breakwaters and connections, while private and foreign enterprises invest in and operate terminals (World Bank, 2007). PPP contracts need to be standardized, with a clear allocation of demand risk, site clearance risk and policy change risk, in order to reduce risks for investors. At the same time, competition among operators within the same port cluster should be maintained, as privatization only yields efficiency when accompanied by competition (Tongzon & Heng, 2005). Specifically for transshipment ports, as the alliances have chosen Singapore, Port Klang or Tanjung Pelepas as their main transshipment points (The Loadstar, 2025), investment should be phased in line with actual demand signals (shipping line commitments, throughput) rather than building large capacity in advance.

**Pricing and fee policy:** The results show that the seaport infrastructure fee is an instrument issued by local authorities, applied in only two localities, changed multiple times and currently inconsistent: Ho Chi Minh City grants a full exemption from 1 July 2026 to 30 June 2029, while Hai Phong exempts only liquid cargo until the end of 2026 (Ho Chi Minh City People's Council, 2026; Hai Phong City People's Council, 2026). The exemption reduces revenue by approximately VND 2,390 billion per year in Ho Chi Minh City (Dien dan Doanh nghiep, 2026). The study proposes developing a unified framework of principles at the national level, including the purpose of revenue use (prioritizing investment in port and connecting infrastructure), publicity and transparency, stability of fee rates over a sufficiently long period to allow businesses to make forecasts, and a requirement for impact assessment before exemptions or reductions. It is necessary to monitor whether the exemption in Ho Chi Minh City shifts cargo flows between port clusters, rather than assuming its impact.

**Logistics infrastructure connectivity:** The main barriers and constraints lie outside the port gate: transport relies heavily on roads (VnEconomy, 2023), logistics enterprises are small and fragmented and there is no national logistics centre (Khanh Hong, 2025), while localities and businesses continue to call for increased investment in railways, inland waterways, dry ports and logistics centres (Vietnam News/ANN, 2026). Even in Hai Phong, the local authority is still proposing the expansion of the turning basin and the organization of two-way traffic on the Lach Huyen channel (Minh Khoi, 2025). The study proposes prioritizing corridors connecting gateway ports with industrial parks via railways and inland waterways; developing dry ports and logistics centres at key hubs; and synchronizing investment in channels, berths and connecting roads to avoid situations where new terminals are completed but access routes are not yet ready. This is the fundamental foundation, since infrastructure quality determines transport costs and trade (Limão & Venables, 2001).

**Procedures and digital transformation:** Vietnam has digitized all administrative procedures at the specialized maritime management authority (Tran Hieu, 2026), in line with the IMO's MSW requirement. However, data among ports, customs, shipping lines and domestic transport are not yet interoperable (Khanh Hong, 2025), and UNCTAD (2025) notes a positive association between port community systems (PCS), MSW and container connectivity, although a causal relationship cannot yet be concluded. The study proposes building a shared logistics data platform based on open standards, enabling real-time information exchange among the parties. Smart inspection at border gates should be developed to shorten clearance time (Khanh Hong, 2025), and clearance time should be measured periodically using a unified methodology to obtain internationally comparable data. Digitalization also improves information coordination among stakeholders at ports (Heilig et al., 2017), but it must be accompanied by regulations on data security and data ownership.

**Green ports and adaptation:** Decision 876/QĐ-TTg has set a roadmap to 2050 (Prime Minister, 2022), but the IMO emissions framework remains uncertain, as the vote on the Net-Zero Framework has been postponed and no official outcome has yet been reached (Datamar News, 2026). In this context, the study proposes prioritizing measures that are beneficial regardless of changes in the international framework, such as electrification of terminal equipment, onshore power supply and emissions measurement at ports, which are among the green port management tools of leading ports (Lam & Notteboom, 2014; Acciaro et al., 2014). Investment in infrastructure for alternative fuels should closely follow the demand of shipping lines and be implemented only at major gateway ports, as ports with such infrastructure will

have an advantage in attracting vessels (UNCTAD, 2025). Regarding adaptation, response scenarios for supply chain disruptions need to be developed, especially as tariffs, port fees and route adjustments may affect connectivity (UNCTAD, 2025; Gereffi, 2020). These may include diversification of routes and markets, and monitoring of the connectivity index (LSCI) as an early warning tool. Since the study does not yet have data on the level of implementation of green policy, the first proposal is to establish a system for monitoring emissions and progress.

**Human resources and governance capacity:** According to Porter's (1990) framework, specialized human resources are an advanced factor of production that determines sustainable competitive advantage. Direct evidence on human resources in Vietnam's seaport sector was not collected in this study, so the recommendations below are inferred from the requirements of the above groups of solutions. The study proposes training in digital skills for port staff and logistics enterprises, capacity in PPP contract management and port operations management for regulatory authorities, and knowledge of emissions management for port enterprises. Particular attention should be paid to small and medium-sized enterprises, which account for the majority of the logistics sector (Khanh Hong, 2025). At the same time, the state maritime management authority needs to strengthen its capacity following the organizational restructuring in 2025. It is advisable to begin with a survey of the sector's skill needs before developing training programmes.

## Conclusion

The study shows that globalization both creates opportunities and imposes new pressures on Vietnam's seaports, and that policy responses have helped enhance capacity at the port level but have not yet been fully translated into trade competitiveness at the national level. FTAs and FDI inflows into processing and manufacturing raised container throughput in 2025 to 34.36 million TEU (up 11%), while the restructuring of shipping alliances, regional transshipment competition, IMO digital and green standards, and geopolitical risks demand a higher level of responsiveness in terms of costs, time, reliability and connectivity. The policy framework has a relatively consistent orientation, as reflected in seaport planning and the electronic single-window mechanism, but it still exhibits time lags and fragmentation, particularly in the seaport infrastructure fee, which is issued by local authorities, has been changed multiple times and is inconsistent between Hai Phong and Ho Chi Minh City. As a result, Vietnam ranks sixth in the world in the LSCI and handles containers faster than or on par with Singapore and China in most call-size groups, but its LPI 2023 score is only 3.3 (ranked 43rd out of 139) and its logistics costs are approximately 16% of GDP, higher than Singapore (8%) and China (13.9%). This indicates that the gap lies mainly outside the port gate, in hinterland connectivity, inter-agency procedures, logistics data and enterprise structure. Accordingly, the policy implications focus on unifying the framework of principles for fee policy, synchronizing investment in hinterland connectivity, building a logistics data platform, strengthening inter-regional and cross-sectoral planning coordination, and green transition. The study has several limitations, such as not yet exploiting the detailed components of the LPI and lacking comparable clearance data and logistics cost data disaggregated by stage, while the level of implementation of green and digitalization policies and the impact of the infrastructure fee exemption in Ho Chi Minh City have only been assessed through documents and reports. Future studies could add enterprise surveys, logistics cost decomposition and quantitative models using panel data to further verify the above findings.

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