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ANALYZING THE IMPACT OF ESG FACTORS ON VIETNAM'S AGRICULTURAL EXPORTS

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ABSTRACT

This study examines the impact of Environmental, Social, and Governance (ESG) factors on Vietnam's agricultural exports within the framework of the gravity model of international trade. Using panel data covering 950 observations across trading partners over the study period, the research evaluates both the composite ESG index and its individual pillars (E, S, and G) to capture their effects on export performance. The empirical results indicate that the overall ESG index has a positive and statistically significant effect on Vietnam's agricultural exports, suggesting that higher ESG standards in importing countries are associated with increased export flows. Among the three pillars, the environmental factor exhibits the strongest influence, reflecting the growing importance of environmental standards in agricultural trade. In contrast, the social and governance dimensions show positive but statistically insignificant effects when examined separately. Further analysis reveals that the impact of ESG is more pronounced in markets with higher sustainability standards, such as the European Union, highlighting the role of ESG as both a market access requirement and a competitive advantage. Control variables, including economic size, distance, and logistics performance, behave consistently with the traditional gravity model, while free trade agreements do not show a significant effect. The findings contribute to the literature by providing empirical evidence on the role of ESG in shaping agricultural export performance in a developing country context. From a policy perspective, the study suggests that enhancing ESG practices can help Vietnam strengthen its position in global agricultural markets and better comply with increasingly stringent international standards.

KEYWORDS: ESG; Agricultural Exports; Gravity Model; Sustainable Trade; Vietnam.
JEL Classification: F14, Q17, Q56, F18, C23

In recent years, sustainable development has become one of the central orientations of global economic and trade policies. The ESG (Environmental, Social, and Governance) framework is increasingly being widely adopted to assess the sustainability and responsibility of countries, industries, and enterprises. Initially applied primarily in the fields of finance and investment, ESG standards have, over the past decade, expanded significantly into international trade and global value chains (OECD, 2020; World Bank, 2020).

In international trade, requirements related to environmental protection, labor standards, food safety, and governance are gradually shifting from voluntary commitments to mandatory regulations. Initiatives such as the European Green Deal, the European Union's "Farm to Fork" strategy, and regulations on traceability and social responsibility have brought about fundamental changes in market access conditions for imported goods, particularly agricultural products (European Commission, 2020). These developments have made ESG an increasingly important determinant of the competitiveness of exporting countries.

Agriculture is a sector that is strongly affected by ESG standards due to its close association with natural resource use, rural labor, and food safety. Numerous studies indicate that environmental and social standards in agriculture can function both as non-tariff trade barriers and as drivers for improving product quality and long-term value addition (Disdier et al., 2008; Shepherd & Wilson, 2013). Therefore, the impact of ESG on agricultural trade is not straightforward but depends on the institutional context and the adaptive capacity of each country.

Agricultural exports represent one of Vietnam's key export sectors, with major products including rice, coffee, seafood, fruits and vegetables, and cashew nuts. Agriculture not only plays a crucial role in the export structure but also contributes to ensuring rural livelihoods and maintaining socio-economic stability. However, most of Vietnam's agricultural exports still rely on cost and scale advantages, while the capacity to meet international sustainability standards remains limited (World Bank, 2016). This poses a significant challenge as importing markets increasingly prioritize products with higher ESG content.

1. THEORETICAL FRAMEWORK

1.1. The Concept of ESG and Its Measurement in the Trade Context

ESG (Environmental, Social, and Governance) is a multidimensional framework that reflects the level of sustainability and responsibility of economic actors. In the context of international trade, ESG not only captures the intrinsic characteristics of exporting countries but also indicates their ability to comply with the standards and expectations of importing markets (OECD, 2020).

At the national level, the environmental pillar (E) is typically measured through indicators such as greenhouse gas emissions, resource-use efficiency, and environmental protection. The social pillar (S) reflects issues related to labor, food safety, social welfare, and human rights. Meanwhile, the governance pillar (G) captures institutional quality, government effectiveness, transparency, and corruption control (Kaufmann et al., 2011).

Although ESG has been widely applied in financial and investment studies, its measurement in the field of trade - particularly in agriculture - remains challenging due to differences in data availability, methodologies, and national contexts (Ioannou & Serafeim, 2017). Therefore, many studies adopt a disaggregated approach by examining each ESG pillar separately to better capture their distinct mechanisms of influence.

1.2. Theoretical Foundations of ESG and International Trade

1.2.1. Extended Comparative Advantage Theory

According to traditional comparative advantage theory, international trade is driven by differences in costs and resource endowments. However, in the context of sustainable development, comparative advantage is increasingly associated with the ability to meet environmental, social, and governance standards (Porter & van der Linde, 1995). Countries with strong ESG performance can achieve sustainable competitive advantages by enhancing product quality and value added within supply chains.

1.2.2. Non-Tariff Barriers Theory

ESG standards are often considered a form of non-tariff measures (NTMs), particularly in the agricultural sector. Numerous studies suggest that environmental and food safety standards may increase compliance costs and constrain exports from developing countries in the short run (Disdier et al., 2008; Jaffee & Henson, 2005). However, in the long run, these standards can foster value chain upgrading and improve competitiveness.

1.2.3. Signaling Theory and Information Asymmetry

In agricultural trade, information regarding production processes and product quality is often

characterized by asymmetry. According to signaling theory, compliance with ESG standards can serve as a credible signal of quality and responsibility for exporters, thereby reducing risks for importers and facilitating trade (Spence, 1973; Shepherd & Wilson, 2013).

2. LITERATURE REVIEW ON ESG AND EXPORTS

2.1. ESG and International Trade

In recent years, the concept of ESG (Environmental, Social, and Governance) has attracted increasing attention in studies on international trade and sustainable development. ESG reflects the extent to which environmental standards, social responsibility, and governance practices are implemented in the economic activities of countries and firms. These standards not only affect firm performance but also significantly influence participation in global value chains and access to international markets.

According to Porter and van der Linde (1995), stringent environmental regulations can stimulate innovation and enhance firms' competitiveness. This perspective, commonly referred to as the Porter Hypothesis, suggests that environmental standards not only increase compliance costs but can also create incentives for technological innovation, thereby improving production efficiency and international competitiveness (Porter & van der Linde, 1995).

Moreover, ESG standards are increasingly becoming a critical factor in international trade. Many countries and economic regions have introduced sustainability-related regulations for imported goods. According to OECD (2020), environmental and social standards are gradually emerging as a new form of non-tariff barriers in international trade, particularly in resource-based and agricultural sectors.

2.2. The Impact of Environmental Factors on Exports

Environmental factors constitute one of the core pillars of ESG and have a significant impact on international trade. Environmental standards typically relate to regulations on emissions, resource use, and sustainable production practices. According to Disdier, Fontagné, and Mimouni (2008), product and environmental standards can affect agricultural trade through two main mechanisms.

First, such standards may increase compliance costs for exporting firms, thereby reducing their competitiveness in the short term. Second, in the long run, environmental standards can improve product quality and enhance access to high-standard markets (Disdier et al., 2008).

In the agricultural sector, environmental standards are often associated with requirements such as product traceability, chemical use management, environmental protection, and carbon emission reduction. These requirements are particularly prevalent in developed markets such as the European Union (EU) and North America.

2.3. The Role of Social Factors in Trade

In addition to environmental factors, social standards also play an increasingly important role in international trade. These standards typically relate to labor conditions, food safety, social welfare, and corporate social responsibility. According to Shepherd and Wilson (2013), social standards can serve as a signal of product quality and reliability to importers and consumers. This is particularly important in the food and agricultural sectors, where consumers are increasingly concerned about issues such as food safety and sustainable production (Shepherd & Wilson, 2013).

Furthermore, many international retail chains require suppliers to comply with specific social standards, such as international labor standards or social responsibility certifications. These requirements can directly affect exporters' ability to participate in global supply chains.

2.4. Governance Quality and International Trade

The governance factor reflects institutional quality, the degree of transparency, and the effectiveness of economic management systems. Numerous studies indicate that governance quality has a significant impact on transaction costs and the efficiency of international trade. According to Kaufmann, Kraay, and Mastruzzi (2011), countries with higher governance quality tend to have more transparent business environments, thereby reducing transaction costs and promoting international trade activities. Governance-related factors such as corruption control, government effectiveness, and the quality of the legal system can directly influence the trust of trading partners and firms' investment decisions (Kaufmann et al., 2011). In an increasingly globalized and integrated trade environment, countries with strong governance quality are more likely to participate more deeply in global value chains and attract a greater number of trading partners.

2.5. ESG and Vietnam's Exports

For Vietnam, exports play a crucial role in economic growth, particularly in agriculture and manufacturing. However, in the context of deepening international economic integration, ESG standards are becoming an increasingly important factor affecting access to export markets. Major export markets for Vietnam, such as the European Union (EU), the United States, and Japan, are increasingly implementing regulations related to sustainable development, including environmental standards, labor regulations, and product traceability requirements.

These regulations create both opportunities and challenges for Vietnamese exporting firms. On the one hand, compliance with ESG standards can enhance the reputation and brand value of Vietnamese products in international markets. On the other hand, these requirements also increase compliance costs and require firms to improve their governance capacity and production technologies (OECD, 2020). Although there have been numerous studies on Vietnam's exports, research directly examining the relationship between ESG and exports remains limited.

3. RESEARCH MODEL AND HYPOTHESES

3.1. Research Hypotheses

Improvements in environmental standards help enhance traceability, reduce environmental risks, and meet the requirements of high-standard importing markets. Although these improvements may increase costs in the short term, environmental improvements are expected to promote exports in the medium and long term (Porter & van der Linde, 1995; Disdier et al., 2008). The author proposes the following hypothesis H1: Environmental factors (E) have a positive impact on Vietnam's agricultural exports.

Improvements in labor conditions, food safety, and social welfare help enhance the reputation of Vietnamese agricultural products and reduce risks for importers. According to signaling theory, social standards play an important role in improving market access (Shepherd & Wilson, 2013). The author proposes the following hypothesis H2: Social factors (S) have a positive impact on Vietnam's agricultural exports.

Institutional quality and effective governance help reduce transaction costs, enhance transparency, and create a favorable environment for international trade. Many studies show that governance is a fundamental factor determining the effectiveness of other sustainability policies (Kaufmann et al., 2011; Anderson & van Wincoop, 2003). Based on this, the author proposes the following hypothesis H3: Governance factors (G) have a positive impact and a stronger effect compared to environmental (E) and social (S) factors.

Markets such as the EU have a high level of sensitivity to ESG standards. Therefore, the impact of ESG on agricultural exports is expected to be stronger in these markets compared to developing markets (Shepherd & Wilson, 2013; OECD, 2020). On this basis, the following hypothesis is proposed H4: The impact of ESG on agricultural exports is stronger in markets with high sustainability standards.

3.2. Research Model

The study applies an extended gravity model, in which ESG factors are incorporated as institutional and sustainability-related determinants affecting Vietnam's agricultural export flows. The gravity model allows for controlling traditional economic factors such as market size and geographical distance, while also assessing the additional role of ESG (Anderson & van Wincoop, 2003). Based on the above theoretical foundations and research hypotheses, the author proposes the following research model:

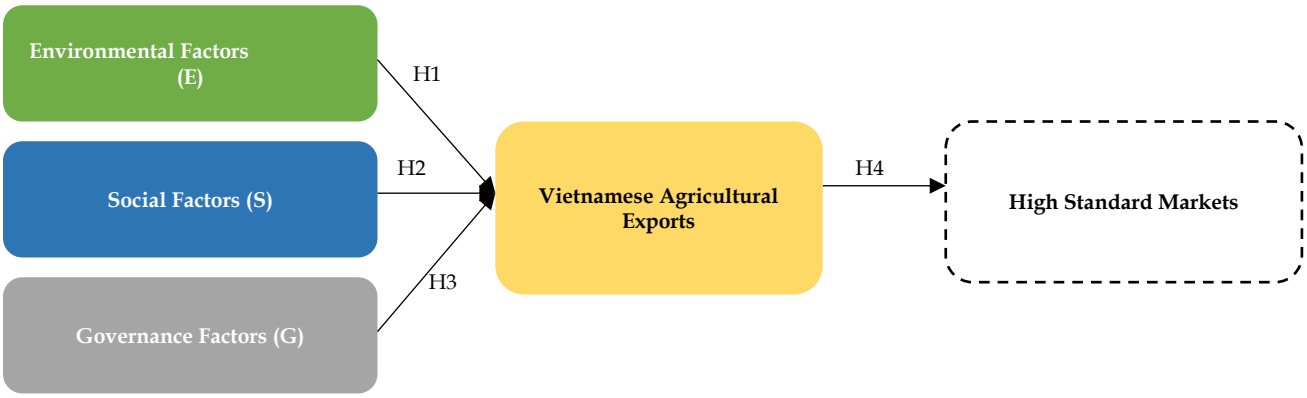

Figure 1: Proposed research model
***Source**: Compiled and proposed by the author*

4. DATA AND RESEARCH METHODOLOGY

4.1. Data

The study employs bilateral panel data to analyze the impact of ESG factors on Vietnam's agricultural exports. The unit of observation is the value of Vietnam's agricultural exports to each partner country by year. The study period is expected to span from 2005 to 2025, depending on the availability and consistency of ESG data.

The sample includes Vietnam's major trading partners, accounting for a large share of total agricultural export value, including countries in the European Union (EU), ASEAN, East Asia, and North America. This sample selection ensures representativeness and allows for analyzing differences in ESG impacts across groups of importing markets.

Data on agricultural exports are collected from the UN Comtrade database, with agricultural products identified based on the HS classification system. Macroeconomic variables such as GDP, population, and exchange rates are obtained from the World Development Indicators (WDI) of the World Bank (World Bank, 2023). Governance (G) data are sourced from the Worldwide Governance Indicators (WGI), reflecting aspects such as government effectiveness, institutional quality, and corruption control (Kaufmann et al., 2011). Environmental (E) and social (S) indicators are compiled from FAO, OECD, and WDI, in line with previous studies in agriculture and trade (Disdier et al., 2008; Shepherd & Wilson, 2013). Geographic distance and other bilateral characteristics, such as common borders and shared language, are obtained from the CEPII database (Mayer & Zignago, 2011).

4.2. Model Specification

Based on the standard gravity model in international trade, this study develops an extended gravity model in which ESG factors are incorporated as additional explanatory variables. The general form of the model is as follows:

$$\ln(EX_{ijt})=\alpha+\beta_1\ln(GDP_{it})+\beta_2\ln(GDP_{jt})+\beta_3\ln(DIST_{ij})+\beta_4ESG_{it}+\beta_5Z_{ijt}+\mu_i+\lambda_j+\tau_t+\varepsilon_{ijt}$$

In the model, EX_{ijt} denotes the value of Vietnam's agricultural exports to country j at time t; GDP represents economic size; DIST refers to geographical distance; ESG captures Vietnam's sustainability-related factors; and Z_{ijt} is a set of other control variables. Country and time fixed effects (μ_i, λ_j, τ_t) are included to control for unobserved factors that may affect bilateral trade.

To examine the distinct role of each ESG pillar, the study extends the model by replacing the aggregate ESG variable with its individual components E, S, and G thereby allowing for the assessment of differences in the magnitude and mechanisms of impact across these factors.

4.3. Estimation Methods

The study employs multiple estimation techniques to ensure the robustness of the results. First, the model is estimated using the Fixed Effects (FE) method to control for time-invariant factors at both the country and bilateral levels.

In addition, the study applies the Poisson Pseudo - Maximum Likelihood (PPML) estimator, which is widely recommended in gravity model analyses. PPML effectively addresses common issues in trade data, such as zero trade flows, heteroskedasticity, and the skewed distribution of the dependent variable (Santos Silva & Tenreyro, 2006). The use of PPML improves the reliability of the estimates compared to traditional log - linear regression methods.

4.4. Variables

The variables in the study are measured based on secondary data from reputable international sources such as the World Bank, UN Comtrade, CEPII, and OECD. The table below presents the definitions, measurements, and data sources for each variable in the research model.

Table 1. Measurement scales of variables

Variable	Definition	Measurement	Source
Agricultural Exports (EXP)	Value of Vietnam's agricultural exports to the partner country	Logarithm of export value (USD)	UN Comtrade
Environmental factor (E)	Level of implementation of environmental standards in the importing country	Environmental index score	World Bank / ESG database
Social factor (S)	Social conditions related to labor and food safety	Social index score	World Bank
Governance factor (G)	Institutional quality and governance of the partner country	Governance index	Worldwide Governance Indicators
ESG index	Composite ESG index	Average of E, S, G scores	Calculated by authors
GDP	Economic size of the importing country	Logarithm of GDP (USD)	World Bank
Distance	Geographical distance between Vietnam and the partner country	Distance between capital cities (km)	CEPII database
FTA	Free trade agreement between Vietnam and the partner country	Dummy variable (1 = có FTA, 0 = không)	WTO / Government reports
Logistics Performance Index (LPI)	Logistics performance of the importing country	LPI score	World Bank

Source: Compiled by the author

The value of agricultural exports (EXP) is used as the dependent variable in the research model and is measured by the value of Vietnam's agricultural exports to partner countries, expressed in USD and logarithmically transformed to reduce heteroskedasticity (Anderson & van Wincoop, 2003).

The three pillars of ESG include Environmental (E), Social (S), and Governance (G). These indicators reflect the level of implementation of sustainable development standards in the importing country. The composite ESG index is calculated as the average of the three pillars (E, S, and G), similar to the approach used in previous studies on ESG and international trade (OECD, 2020).

In addition, the model includes commonly used control variables in gravity models of trade, including economic size (GDP), geographical distance (Distance), free trade agreements (FTA), and logistics performance (LPI). These variables have been shown to significantly influence international trade flows (Anderson & van Wincoop, 2003; Shepherd & Wilson, 2013).

5. EMPIRICAL RESULTS

5.1. Descriptive Statistics and Preliminary Analysis

Table 2 presents the descriptive statistics of the main variables in the model. The results indicate that the value of Vietnam's agricultural exports to its partners exhibits considerable variation, with a mean value of approximately 0.37 million USD and a standard deviation of 0.56. The relatively large standard deviation of the export variable reflects heterogeneity in Vietnam's agricultural trade relationships, which is consistent with the characteristics of the gravity model, where trade flows depend strongly on economic size and distance (Anderson & van Wincoop, 2003).

The composite ESG index has an average value of 0.496, ranging from 0.13 to 0.90, indicating substantial variation in ESG practices across partner markets. Among the three ESG pillars, the governance index (G) has the highest average value, followed by social (S) and environmental (E). This suggests that Vietnam's agricultural exports are oriented toward markets with higher institutional quality, which are typically associated with more stringent import standards.

Additionally, the average Logistics Performance Index (LPI) is 3.18, reflecting the relatively high level of logistics development in many of Vietnam's major trading partners.

Table 2. Descriptive Statistics of Variables

Variable	Obs.	Mean	Std. Dev.	Min	Max
Agricultural Exports (USD million)	950	0.369	0.560	0.000	6.000
ESG Index	950	0.496	0.145	0.131	0.895
Environmental (E)	950	0.411	0.180	0.021	0.910
Social (S)	950	0.494	0.165	0.071	0.921
Governance (G)	950	0.575	0.168	0.102	0.943
GDP (USD)	950	2.75e+12	1.73e+12	3.69e+11	1.03e+13
Logistics Performance Index (LPI)	950	3.18	0.48	1.83	4.55

Source: Author's data analysis results

This result is consistent with the characteristics of international trade, where larger markets tend to exhibit higher levels of economic development and ESG standards (OECD, 2020).

5.2. Gravity Model Results with Composite ESG

The gravity model is widely used to analyze international trade, in which trade flows depend on economic size and trade costs between countries (Anderson & van Wincoop, 2003).

The estimation results show that the ESG coefficient is positive and highly statistically significant ($p < 0.01$), confirming that ESG has a positive impact on Vietnam's agricultural exports. This implies that markets with higher ESG standards tend to import more from Vietnam, or conversely, Vietnam tends to export more to these markets. This finding is consistent with the argument of Porter and van der Linde (1995), which suggests that environmental and sustainability standards can enhance competitiveness through innovation. At the same time, ESG can serve as a signal of product quality to importers (Shepherd & Wilson, 2013).

Table 3. Gravity Model Estimation with Composite ESG Index

Variable	Coefficient	Std. Error	p-value
ESG Index	4.811***	1.261	0.000
Distance	-0.0002***	0.00007	0.002
GDP	2.34e-13**	9.89e-14	0.018
FTA	-0.032	0.362	0.929
LPI	0.814**	0.361	0.025

*Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$*
Source: Author's data analysis results

The distance variable has a negative and statistically significant coefficient, consistent with the gravity model theory, reflecting that transportation and transaction costs increase with geographical

distance. Meanwhile, the partner country's GDP has a positive impact, indicating that larger economies tend to have higher import demand.

A notable finding is that the FTA variable is not statistically significant. This may reflect the reality that, in the current context, non-tariff factors such as ESG and technical standards may be more important than traditional tariff preferences in promoting trade. This result is consistent with hypothesis H1, suggesting that ESG acts as a signal of product quality and sustainability, thereby enhancing access to international markets (Porter & van der Linde, 1995).

5.3. The Impact of Individual ESG Pillars

To provide a more detailed analysis, the model is re-estimated using the three separate pillars of ESG.

Table 4. Effects of Individual ESG Pillars

Variable	Coefficient	Std. Error	p-value
Environmental (E)	3.088	1.887	0.102
Social (S)	0.770	1.886	0.683
Governance (G)	1.407	2.025	0.487
Distance	-0.0002***	0.00007	0.002
GDP	2.37e-13**	9.92e-14	0.017
LPI	0.814**	0.361	0.024

*Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$*
Source: Author's data analysis results

The results in table 4 indicate differences in the magnitude of impact among the three ESG pillars. Among them, the environmental factor (E) has the largest coefficient, although its statistical significance is not very strong. This suggests that environmental standards may play a more important role in agricultural trade compared to social and governance factors.

This finding is consistent with the characteristics of the agricultural sector, which heavily depends on natural factors and is directly affected by environmental regulations, such as controls on chemical residues, product traceability, and carbon emissions (Disdier et al., 2008).

Meanwhile, social (S) and governance (G) factors have positive effects but do not reach high levels of statistical significance in this model. A plausible explanation is that these factors may influence trade indirectly through channels such as the business environment, trust, and institutional quality, rather than exerting a direct impact on export flows in the short term (Kaufmann et al., 2011).

In addition, the possibility of multicollinearity among the E, S, and G variables may reduce the statistical significance of each individual variable, while the composite ESG index remains highly significant.

5.4. Analysis by Import Market Groups

To test hypothesis H4, the data are divided into two groups of markets: high sustainability-standard markets (EU) and other markets.

Table 5. Comparison by Import Market Groups

Market Group	Avg. Exports	Avg. ESG	Avg. E	Avg. S	Avg. G
Non-EU Markets	0.385	0.495	0.412	0.494	0.575
EU Markets	0.333	0.497	0.410	0.496	0.573

Source: Author's data analysis results

The results in Table 5 show differences between the EU market group and other markets. Although the average export value to the EU is lower, these markets exhibit higher ESG levels.

This reflects an important reality: high-standard markets such as the EU often impose stricter technical barriers, resulting in lower export volumes but higher value-added and quality requirements. Previous studies also indicate that developed markets tend to apply more stringent environmental and social standards to imported goods (Shepherd & Wilson, 2013); however, such high standards can act both as barriers and as drivers for value chain upgrading (OECD, 2020).

This finding also supports Hypothesis H4, suggesting that the impact of ESG tends to be stronger in markets with higher sustainability standards. This implies that improving ESG standards may help Vietnam penetrate more deeply into developed markets.

5.5. Discussion of Results

The research findings provide several important implications.

First, ESG has a positive impact on Vietnam's agricultural exports, indicating that compliance with sustainability standards can become a source of competitive advantage in international trade. This result is consistent with the Porter Hypothesis, which suggests that stringent environmental standards can stimulate innovation and enhance firms' competitiveness (Porter & van der Linde, 1995).

Second, among the three ESG pillars, the environmental factor plays a more prominent role in agricultural trade. This reflects the increasing trend of environmental regulations in global supply chains, particularly those related to traceability, carbon emission reduction, and sustainable production.

Third, the results also indicate that developed markets such as the EU exhibit higher sensitivity to ESG standards. This reinforces the argument that ESG can act as a new form of technical barrier in international trade (OECD, 2020).

Overall, the findings suggest that promoting ESG practices in agricultural value chains can help Vietnam improve access to high-standard export markets and enhance the long-term sustainability of its agricultural trade activities.

6. CONCLUSION, POLICY IMPLICATIONS, AND FUTURE RESEARCH

6.1. Conclusion

This study systematically analyzes the impact of ESG (Environmental, Social, and Governance) factors on Vietnam's agricultural exports in the context where sustainability standards are increasingly playing a critical role in international trade. By applying an extended gravity model to bilateral panel data and employing estimation methods appropriate for the characteristics of trade data, the study provides empirical evidence on the relationship between ESG and agricultural exports in a developing economy.

The empirical results indicate that the composite ESG index has a positive impact on Vietnam's agricultural exports, particularly when using the PPML estimator, which effectively addresses issues such as zero trade flows and heteroskedasticity. This finding suggests that improving sustainability standards is not only a matter of compliance but can also serve as a driver of agricultural export growth in the medium and long term, consistent with the Porter Hypothesis on the relationship between environmental standards and competitiveness (Porter & van der Linde, 1995).

When disaggregating the ESG pillars, the study shows that the impacts of Environmental (E), Social (S), and Governance (G) factors are heterogeneous. Among them, the governance pillar (G) demonstrates a more fundamental and stable role in promoting exports, reflecting the importance of institutional quality, transparency, and government effectiveness for international trade (Kaufmann et al., 2011). The environmental and social pillars exhibit positive but less stable effects, implying the presence of short-term compliance costs, particularly in the agricultural sector.

In addition, the analysis by import market groups reveals that the impact of ESG is significantly stronger for agricultural exports to the EU market compared to other markets. This finding highlights the role of ESG as a market-differentiating factor and as a key condition for accessing high-standard, high-value-added markets (Shepherd & Wilson, 2013).

6.2. Policy Implications

Based on the empirical findings, this study proposes several important policy implications to promote the sustainable export of Vietnam's agricultural products.

First, ESG should be integrated as a central pillar in the national strategy for agricultural development and export, rather than being viewed merely as an external compliance requirement. Incorporating ESG criteria into agricultural development programs and trade promotion activities will help Vietnam enhance its access to high-standard markets such as the EU.

Second, improving governance quality (G) is a prerequisite for environmental and social improvements to be effective. Institutional reforms, enhanced transparency, reduced administrative costs, and improved law enforcement play a crucial role in lowering transaction costs and creating a favorable environment for agricultural enterprises to participate in global value chains (Anderson & van Wincoop, 2003).

Third, regarding the environmental pillar (E), it is necessary to establish an appropriate transition roadmap to mitigate short-term negative impacts on farmers and small enterprises. Policies supporting financial assistance, green credit, technology transfer, and technical training are essential to reduce compliance costs and encourage the adoption of sustainable agricultural practices (OECD, 2020).

Fourth, social factors (S), such as labor conditions, food safety, and rural welfare, should receive greater attention in export strategies. Improving social standards not only enhances the reputation of Vietnamese agricultural products in international markets but also contributes to inclusive and sustainable growth in rural areas (Jaffee & Henson, 2005).

Finally, the market-level analysis suggests that export strategies should be differentiated across groups of importing markets. While ESG plays a critical role in developed markets such as the EU, developing markets may be less sensitive to these standards. Therefore, Vietnam should adopt flexible market entry strategies tailored to the requirements and potential of each trading partner.

6.3. Limitations and Future Research

Despite providing important empirical evidence, this study has several limitations. First, measuring ESG at the country level may not fully capture variations at the firm and value chain levels. Second, data on environmental and social factors in agriculture remain limited in terms of detail and availability, especially for developing countries.

Future research could be extended in several directions. First, using firm-level microdata to analyze the

impact of ESG on export performance at a more granular level. Second, examining ESG from the demand side, namely the sustainability standards and expectations of importing countries, to better understand the role of market demand in shaping agricultural trade flows. Third, analyzing differences in ESG impacts across various agricultural product groups would provide deeper insights into the mechanisms within specific value chains.

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