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DOES THE ADOPTION OF SUSTAINABLE PRACTICES DRIVE FIRMS' EXPORT PERFORMANCE?

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Does the Adoption of Sustainable Practices Drive Firms' Export Performance?

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Acknowledgments

Concluding this dissertation goes far beyond completing a degree. It marks the end of a long journey filled with challenges, perseverance, and personal growth. This work reflects countless hours of dedication, balancing professional responsibilities and academic commitments, and the resilience shown through all the process. This achievement would not have been possible without the support of several important people, to whom I owe my deepest gratitude.

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Abstract

This dissertation investigates how the adoption of sustainable practices influences firms' export performance and examines the moderating effect of environmental requirements imposed by destination markets. Grounded in Stakeholder Theory, the Eclectic Paradigm (OLI framework) and the Resource-Based View (RBV), this study explores whether firms adopting sustainable practices achieve stronger export outcomes, both due to stakeholder pressures and enhanced international competitiveness. The empirical analysis relies on large-scale, multi-country firm-level data from the sixth round of the Business Environment and Enterprise Performance Survey (BEEPS), which provides detailed information on firms' sustainable strategies and export intensity. An Ordinary-Least-Squares (OLS) model is employed to test the hypotheses derived from the state-of-the-art literature.

The results show that sustainable practices have a positive and statistically significant effect on export performance, confirming that firms integrating sustainability into their operations achieve higher export intensity. In contrast, environmental requirements imposed by destination markets exert a negative direct effect, and their moderating influence on the relationship between sustainable practices and export performance is statistically non-significant, suggesting that compliance costs may constrain competitiveness.

This study contributes to the International Business academic literature by providing robust empirical evidence that sustainability-oriented actions serve as a strategic approach that strengthens firms' international performance. In addition, it clarifies how environmental regulations shape the sustainability-export performance link and highlights their complex role in firms' ability to compete abroad. Overall, the findings indicate that sustainability should be viewed as a long-term strategic advantage. Policymakers should support firms in adopting sustainable investments and managers should integrate sustainability into their core strategies to reinforce international presence.

Keywords: Sustainable practices, Export Performance, International Business

JEL Classification: F14; F18; M14; Q56

Resumo

Esta dissertação investiga de que forma a adoção de práticas sustentáveis influencia a performance exportadora das empresas e analisa o efeito moderador dos requisitos ambientais impostos pelos mercados de destino. Com base na Teoria dos Stakeholders, no Paradigma Eclético (OLI Framework) e na Resource-Based View (RBV), o estudo avalia se as práticas sustentáveis reforçam a performance exportadora, quer através das pressões dos stakeholders, quer pelo aumento da competitividade internacional. A análise empírica utiliza um conjunto de dados de grande escala provenientes da sexta ronda do Business Environment and Enterprise Performance Survey (BEEPS), que disponibiliza informação detalhada sobre estratégias sustentáveis e intensidade exportadora. Um modelo de regressão Ordinary-Least-Squares (OLS) é utilizado para testar as hipóteses derivadas da literatura.

Os resultados mostram que a adoção de práticas sustentáveis tem um efeito positivo e estatisticamente significativo na performance exportadora, confirmando que as empresas que integram sustentabilidade nas suas operações têm associada uma maior intensidade exportadora. Em contraste, os requisitos ambientais impostos pelos mercados de destino exercem um efeito direto negativo e um efeito moderador estatisticamente não significativo, sugerindo que os custos de cumprimento com tais requisitos podem limitar a competitividade dessas empresas.

Este estudo contribui para a literatura de International Business ao demonstrar que a adoção de práticas orientadas para a sustentabilidade funcionam como uma abordagem estratégica que reforça a performance internacional. Além disso, clarifica como as regulamentações ambientais moldam a relação entre sustentabilidade e performance exportadora, destacando o seu papel complexo na competitividade das empresas. No geral, os resultados indicam que a sustentabilidade deve ser encarada como uma vantagem estratégica de longo prazo. Os decisores políticos devem apoiar as empresas na adoção de investimentos sustentáveis e os gestores devem integrar a sustentabilidade nas suas estratégias centrais de modo a reforçar a sua presença internacional.

Palavras-chave: Práticas Sustentáveis, Performance Exportadora, International Business

Classificação JEL: F14; F18; M14; Q56

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List of Acronyms

BEEPS: Business Environment and Enterprise Performance Survey

BIST SI: Borsa Istanbul Sustainability Index

CSR: Corporate Social Responsibility

EBRD: European Bank for Reconstruction and Development

FDI: Foreign Direct Investment

GVC: Global Value Chain

HC: Human Capital

IB: International Business

KBV: Knowledge-Based View

NRBV: Natural Resource-Based View

Oa: Proprietary Rights and Intangible Assets

Oi: Institutional Assets

OLI: Ownership, Location and Internalization

OLS: Ordinary-Least-Squares

Ot: Transaction Cost Minimizing Advantages

RBV: Resource-Based View

R&D: Research and Development

VIF: Variance Inflation Factor

VRIO: Value, Rarity, Imitability, Organization

WBG: World Bank Group

Introduction

In recent years, the integration of sustainability in organizational strategies and practices has become a central focus of firms' agendas, marking a key stage in the global shift towards more sustainable systems (Nguyen & Kanbach, 2024). On the one hand, pressure materialized in regulations has driven firms to take sustainability into account (Farooq et al., 2024). As sustainability disclosure becomes increasingly embedded in formal (and often compulsory) regulation, firms are compelled to rethink their strategic orientation by establishing new managerial processes that align with emerging institutional expectations (Goerzen et al., 2025). On the other hand, the recent increase in stakeholders' pressures driven by the rise of environmental concerns is turning the integration of sustainability in firms' operations imperative (Baah et al., 2021).

Sustainability impacts arising from firms' international activities are not fixed outcomes, but instead depend on the regulatory, institutional and internal conditions of the firm (Omri & Al-Qasir, 2025). In line with this, International Business (IB) research should shift its attention towards confronting major global issues and foster sustainable development, by integrating diverse insights and methods to strengthen the fields overall impact (Ghauri et al., 2021).

Integrating sustainability and environmental responsibility into business operations has become a key source of competitive advantage (Singh, 2019). The adoption of sustainable practices enhances firms' operational efficiency, strengthens their reputation, and expands their market access (Ortiz-de-Mandojana & Bansal, 2015; Roffé & González, 2023) Furthermore, as firms expand and compete in international markets, they must address environmental concerns more efficiently in order to fully comply with evolving regulatory frameworks and manage increasingly complex stakeholders' pressures (Martos-Pedrero et al., 2022). When effectively integrating such issues into their operations, firms gain a competitive advantage and enhance their export performance (Martos-Pedrero et al., 2022). Yet, these sustainability-related broader international implications remain neglected (Buckley et al., 2017).

This study aims to contribute to fill the existing literature gap addressed by Haddoud et al. (2021) and Xu et al. (2018), concerning how the adoption of sustainable practices influences export performance. Existing literature offers limited insights into the relationship between these variables (Haddoud et al., 2021). While prior studies generally found a positive association, some research, in contrast, suggests that the costs of complying with environmental regulations can impose constraints on firms' export activities (Haddoud et al., 2021; Liu & Xie, 2020). These mixed findings underscore the need to better understand how firms can strategically leverage their sustainable practices to enhance profitability and strengthen their position in international markets (Xu et al., 2018). As sustainability is becoming a central concern for firms, such considerations increasingly play a decisive role shaping their foreign market expansion strategies (Üner et al., 2022).

Such implications highlight the need to study in greater depth how integrating sustainability into firms' activities affects their export outcomes. Building on this idea, this study investigates whether sustainable practices serve as a driver for firms' export performance through the central research question of this dissertation: "*Does the Adoption of Sustainable Practices Drive Firms' Export Performance?*".

A considerable share of the academic research in this field focuses exclusively on firms from only one national context, often relying on survey data collected from a limited number of domestic firms (Teplova et al., 2022). This study contributes to the IB literature by applying a methodological approach that relies on an econometric model applied to data from the sixth round of the Business Environment and Enterprise Performance Survey (BEEPS), a large-scale, multi-country firm-level dataset developed by the World Bank Group (WBG) in collaboration with the European Bank for Reconstruction and Development (EBRD).

This dissertation will be structured as follows. Chapter 1 provides an in-depth review of the relevant literature, introducing key concepts and developing a thorough review of relevant theoretical frameworks and empirical studies that support the development of the research hypotheses. Chapter 2 clarifies the research methodology, including data description, variables, explanation and estimation of an econometric model, followed by the presentation and discussion of the results. Finally, key conclusions will be outlined and suggestions for future research will be offered.

Chapter 1. Literature Review and Hypotheses Development

This chapter begins with a clarification and analysis of the key concepts (Section 1.1.). Section 1.2. examines the theoretical frameworks relevant to address the research question, offering a comprehensive view of both foundational and contemporary literature. This chapter closes with Section 1.3., presenting the relevant empirical studies on the topic, from which the framework proposed and the hypotheses to be tested in chapter 2 are derived.

1.1. Key Concepts: Sustainability, Exports and Export Performance

Sustainability has been increasingly debated and incorporated in discussions and firm decisions (Oliveira et al., 2023). The topic has become a priority not only for public institutions, but also for organizations and citizens (Eizaguirre et al., 2019). Although sustainability has been widely discussed in the literature, its inherent complexity prevents the establishment of a standardized and universally accepted definition and, consequently, opens doors for multiple interpretations and ambiguous commitments from key players (Ben-Eli, 2018). Divergent conceptions of sustainability between firms and their stakeholders pose a critical challenge to defining the expectations of what constitutes a sustainable firm and often undermine the credibility of sustainability-related communications. Such conceptual misalignment not only impacts organizational outcomes but also stakeholders' engagement (Lankoski, 2016). However, this vagueness and flexibility make the topic attractive and relevant to many areas of knowledge, and multiple meanings of sustainability remain acceptable as long as authors clearly articulate the specific interpretation guiding their work (Eizaguirre et al., 2019).

Sustainability represents a long-term strategic vision that reflects socially responsible firms, and a comprehensive commitment to global responsibility across economic, social and environmental dimensions (Salvioni & Gennari, 2017). The concept rounds up to a more holistic performance approach known as the triple bottom line, a framework that emphasises the integration of people, planet and profit when addressing sustainability, and incorporates economic performance, the natural environment and society at a broader level (Elkington, 1997). From an international perspective, sustainability has emerged as a critical competitive priority for succeeding in global markets. Üner et al. (2022) define the concept as operating in global markets in ways that do not harm the environment, local communities, or society

as a whole. Growing awareness of sustainability issues has amplified stakeholder demands, intensifying pressure on firms to manage environmental and social impacts in their own activities, as well as across their broader supply chains (Haleem et al., 2022). Hence, in order to avoid negative repercussions, firms must adopt a sustainable strategy that meets the expectations of its stakeholders, allowing them to remain competitive and maintain their reputation (Baah et al., 2021). Moreover, when entering foreign markets, firms need to follow the applicable regulatory framework, often characterized by stricter environmental requirements that impose extra production costs and negatively impact performance and international competitiveness (Liu & Xie, 2020).

In this dissertation sustainability is operationalized through the examination of ***sustainable practices***, a more tangible concept based on a shared value strategy that generates value while simultaneously creating benefits for society and the environment (Salvioni & Gennari, 2017). Adopting a long-term sustainable approach, based on the intersection of the triple bottom line dimensions, will bring social and environmental improvements while also delivering long-term economic benefits and secure firms' first-mover advantages (Chang, 2011; Tseng et al., 2020). Moreover, firms that integrate sustainability into their operations tend to be more resilient, as they possess a stronger capacity to detect and respond effectively to changes in the external environment, thereby supporting continuous improvement and long-term survival (Ortiz-de-Mandojana & Bansal, 2015). This perspective shifts the firm's strategic focus toward long-term economic performance rather than short-term gains (Salvioni & Gennari, 2017). The adoption of sustainable practices enables firms to distinguish themselves from competitors in foreign markets and, in turn, improve their export performance (Martos-Pedrero et al., 2022). Such practices not only mitigate the initial liability of foreignness but also help firms recover compliance-related costs over time (Liu & Xie, 2020). To illustrate how this variable has been operationalized, Table 1 below summarizes the approaches used to measure sustainable practices in studies examining their relationship with export performance.

Table 1. Sustainable Practices Measures used in Related Literature

Variable	Definition	Literature
Environmental Management Practices	Qualitative or managerial indicators capturing proactive environmental strategies.	Haddoud et al. (2021) Martín-Tapia et al. (2010) Teplova et al. (2022)
Green Investments	Concrete environmental actions and investments adopted by firms.	Antonietti & Marzucchi (2014) Fayek & Zaki (2025)
Corporate social responsibility-Based Practices	Voluntary and self-reported Corporate social responsibility behaviour.	Boehe & Barin-Cruz (2010) Dong et al. (2025) Martos-Pedrero et al. (2022) Xu et al. (2018)
ESG Scores	Composite indicators covering environmental, social, and governance dimensions of sustainability.	Aksoy et al. (2024) Teplova et al. (2022)
Environmental Regulation intensity	Reflect objective, cost-based environmental effort.	Liu & Xie (2020)

Source: Own elaboration, based on the literature.

In line with the most accepted metrics derived from the literature, sustainable practices are operationalized through firms' green investments, which constitute a robust proxy for sustainability-oriented actions. Accordingly, green investments reported in the BEEPS Green Economy Module serve as the primary measure of sustainable practices in this analysis. Across the literature, although the specific indicators vary by study, the most common and widely accepted method for capturing data on sustainable practices is the use of structured questionnaires or large-scale enterprise surveys (Boehe & Barin-Cruz, 2010; Fayek & Zaki, 2025; Teplova et al., 2022). Hence, this dissertation follows the prevailing approach in the literature by capturing firms' sustainable practices using firm-level data from the BEEPS questionnaire.

Exports can be defined as goods and services produced within a country and sold to non-residents (Farzaliyev, 2020). Exports are widely recognized as the quickest and most straightforward way of entering foreign markets and are often considered the initial stage of the internationalization process, when firms possess limited knowledge and low commitment to external markets (Johanson & Vahlne, 1977). Firms often choose exporting as their initial mode of entry into foreign markets as it requires relatively low organizational control and involves less risk compared to other entry strategies (Amankwah-Amoah et al., 2022). Moreover, firms can choose from two key exporting strategies, i.e. direct or indirect exports. Direct exporting occurs when the firm sells its products directly to foreign customers, whereas indirect exporting involves selling to a domestic intermediary who then handles the

sale to the foreign market on the firm's behalf (Elango & Pangarkar, 2020). Direct exporting typically results in lower variable costs, while indirect exporting offers lower fixed costs due to the intermediary's economies of scale and scope (Elango & Pangarkar, 2020).

Export performance refers to the outcomes achieved through a firm's export activities and can be measured using economic, non-economic and generic indicators (Katsikeas et al., 2000). Export performance indicators can also be grouped into objective and subjective measures. Objective indicators rely on absolute values, such as export intensity and sales volume, while subjective indicators reflect managerial perceptions, including perceived export success and satisfaction with export sales (Sousa, 2004). Table 2 below summarizes the main export performance measures commonly used in research examining the relationship between sustainable practices and export performance.

Table 2. Export Performance Measures used in Related Literature

Variable	Definition	Type of indicator	Literature	Signal
Export intensity	Ratio of export sales to total sales.	Economic and Objective.	Aksoy et al. (2024) Antonietti & Marzucchi (2014) Dong et al. (2025) Haddoud et al. (2021) Martín-Tapia et al. (2010) Teplova et al. (2022) Xu et al. (2018)	(+)
Export competitiveness	VRCA Index (RCA Index measured by export value added).	Economic and Objective.	Liu & Xie (2020)	(+)
Perceived export improvement	Firm's satisfaction with the results of its export-related activities.	Generic and Subjective	Boehe & Barin-Cruz (2010) Martos-Pedrero et al. (2022)	(+)
GVC intensive margin	GVC Index: $\left(\frac{exports}{total\ sales}\right) * \left(\frac{imported\ imputs}{total\ procurements}\right)$	Economic and Objective.	Fayek & Zaki (2025)	(+)

Source: Own elaboration, based on the literature.

Although numerous indicators of export performance exist, literature shows that economic measures remain the most widely used, typically including export intensity, export sales growth, export profitability and export sales volume, with export intensity emerging as the

most common metric (Katsikeas et al., 2000; Sousa, 2004). An increase in the share of sales directed to foreign markets generally enhances firms' profitability and contributes to reducing its managerial expenses (Teplova et al., 2022). This may explain the prevalence of export intensity in the literature, as it provides a clear understanding of the real importance of export activity within the firm's overall operations (Martín-Tapia et al., 2010). In line with this methodological stance and following the evident pattern observed in studies examining how sustainable practices influence export performance, this dissertation adopts export intensity as the proxy for measuring export performance.

1.2. Theoretical Background

This section provides a review of the main theories guiding this research, notably Stakeholder Theory, Hymer, Dunning and Porter's theoretical perspectives on competitive advantage, as well as the Resource-Based view, complemented with the Knowledge-Based View and Dynamic Capabilities Framework.

1.2.1. Stakeholder Theory

Stakeholder pressures are crucial in shaping the adoption of sustainable practices, either enhancing or hindering their implementation (Haleem et al., 2022). ***Stakeholder theory*** firmly positions stakeholders as the cornerstone of the firm's value creation (Awa et al., 2024). Their relationships, along with both voluntary and involuntary contributions, are fundamental in generating sustainable benefits and long-term success (Freeman, 2010). The theory argues that firms that recognize the benefits of socially responsible strategies and build strong stakeholder relationships enhance their performance, as aligning their values with stakeholders' expectations and societal concerns allows effective management of the business environment, the promotion of shared interests, and ultimately drives sustainable value creation (Salvioni & Gennari, 2017).

Effective strategic decisions made by firms will translate into outcomes that reflect stakeholders' pressures and consider economic, environmental, and social dimensions, rather than prioritizing solely financial results (Nogueira et al., 2025). In order to incorporate such concerns into their activities, firms must expand their responsibilities by addressing systemic challenges while also engaging with the multiple stakeholder groups (Awa et al., 2024). Such

strategies will maximize sustainable value creation while minimizing risks (Salvioni & Gennari, 2017). However, despite increasing pressure, firms often fail to meet stakeholders' expectations, and sustainable practices remain poorly implemented compared to what is communicated (Haleem et al., 2022).

As modern firms increasingly rely on stakeholder support, integrating sustainability into their operations has become a key mechanism for demonstrating responsible conduct that goes beyond profit-making, while simultaneously strengthening employee loyalty, enhancing firms' reputation, and ultimately supporting competitive advantage (Awa et al., 2024). Moreover, distinct types of stakeholders will influence the adoption of sustainable practices in different ways, creating a diverse stakeholder landscape that affects sustainability outcomes (Haleem et al., 2022). External stakeholders, such as governments and non-profit organisations, can impose regulations or influence the firm's reputation, while internal stakeholders, including the firm's employees and managers, may encourage the firm to adopt proactive environmental strategies (Haleem et al., 2022). Prioritizing stakeholder interest can create strategic trade-offs, making it crucial to integrate and align these interests toward a single direction that reinforces competitive advantage through sustainability (Awa et al., 2024).

Within the IB context, it can be argued that a stronger commitment to stakeholders enhances export performance (Bıçakcıoğlu-Peynirci & Tanyeri, 2020). Firms that engage with external markets face more complex pressures that drive the adoption of more sustainable practices (Martos-Pedrero et al., 2022). Exporting firms are increasingly expected to adopt such practices to reflect customers' needs and stakeholders' concerns and effectively transform these expectations into market opportunities by developing an environmentally and socially orientated strategy (Aksoy et al., 2024). The adoption of a sustainable strategy helps firms align with customer value and build deeper connections with new markets, which will increase the willingness to pay and, consequently, bring higher revenues (Boehe & Barin-Cruz, 2010). In practice, firms that embrace sustainability gain a competitive advantage in international markets, and the interaction between firms' strategy and stakeholder expectations becomes a key driver of stronger export performance (Aksoy et al., 2024).

1.2.2. The Concept of Advantage: Hymer, Dunning and Porter's Theoretical Perspectives

Hymer (1976) pioneered the introduction of the concept of advantage in the IB literature. The author noted that firms operating in foreign markets face several disadvantages compared with local competitors, commonly referred to as the cost of foreignness. For this reason, Hymer argued that entering a new market requires firms to possess specific advantages that grant them enough market power to overcome these disadvantages. Some firms hold distinctive advantages in specific activities which often motivate them to expand internationally. These may arise from several sources, such as access to lower cost inputs, superior knowledge, a more efficient production process or a more differentiated product offering. Hence, when a firm can successfully transfer such advantages to foreign markets, its international operations are more likely to be profitable, enabling it to offset the cost of foreignness (Hymer, 1976).

Building on Hymer's foundational work, Dunning's (1977) Eclectic Paradigm offers a comprehensive framework that brings together the key explanations for why firms engage in value-added activities across borders. Within this paradigm, the author identifies three core determinants of international production, notably Ownership, Location and Internalization (OLI) advantages. Focusing on ownership advantages, Dunning (1977) understood these as unique firm-specific advantages that provide firms with a competitive edge over domestic competitors in the destination market. This reasoning reflects Hymer's (1976) assertion that such advantages are essential for overcoming the inherent disadvantages associated with operating in an external market. Ownership advantages can be grouped into three categories: Proprietary Rights and Intangible Assets (Oa), Transaction Cost Minimizing advantages (Ot), and Institutional Assets advantages (Oi). Oa encompasses assets that enables firms establish differentiation and competitive strength, such as superior technology, product differentiation or distribution networks. Ot derives from the firms' capacity to effectively coordinate cross-border activities, benefiting from economies of scale or scope and risk diversification. Finally, Oi refers to the firm's formal and informal institutions that support the coordination and organization of its value-added activities, such as norms, codes of conduct and managerial diversity. By leveraging their ownership advantages, firms can use their strategic influence and transactional advantages to diffuse sustainable practices throughout their global operations (Allen et al., 2025). Acting as agents of institutional transfer, firms may extend

regulatory frameworks across borders, ensuring that standards and compliance procedures are consistently applied in all markets they operate (Allen et al., 2025).

Porter (2008) further established the idea of competitive advantage within industrial economics and strategic management, arguing that it arises when a firm creates value for customers that exceeds the cost of producing it. The author identified two sources of competitive advantage, notably cost leadership, where a firm delivers equivalent benefits at a lower price than competitors, and differentiation, where a firm offers unique benefits that justify a higher price. Integrating sustainability into business operations can create competitive advantages that help firms overcome the initial disadvantages of entering foreign markets (Haddoud et al., 2021). Firms that adopt sustainable strategies strengthen their international competitive position by improving operational efficiency in ways that directly support export activities (Aksoy et al., 2024).

Furthermore, Porter and van der Linde (1995) argued that environmental regulation, even when it imposes additional costs on firms, can stimulate investment in cleaner and more efficient technologies which can, in turn, improve productivity and ultimately strengthen a firm's competitive position. According to this perspective, strict environmental rules do not necessarily weaken firms in relation to their competitors. In many cases, they can actually enhance competitiveness through several mechanisms such as improving overall resource efficiency. Nonetheless, the authors also acknowledge that innovation does not always fully compensate for the costs of compliance, particularly in the short term, before firms gain experience and reduce the cost of implementing new technologies. Hence, rather than viewing environmental requirements as burdensome or easily postponed, firms are encouraged to recognize them as strategic opportunities that can support long-term competitiveness (Porter & van der Linde, 1995). Firms that develop strong sustainability-oriented practices are better able to detect changes in their external environment, enabling them to achieve long-term growth faster than firms that are less responsive to social and environmental challenges (Ortiz-de-Mandojana & Bansal, 2015).

1.2.3. Resource-Based View, Knowledge-Based View and Dynamic Capabilities

As new and greater environmental pressures arise, the effective integration of sustainability into firms' operations may emerge as a strategic resource that reinforces their long-term competitiveness (Chang, 2011).

The ***resource-based-view*** (RBV) defines a firm as a unique bundle of tangible and intangible productive resources and capabilities that are used to organize its production process and improve efficiency (Penrose, 1995). Barney (1991) further builds on this concept, arguing that firms can achieve a sustained competitive advantage by differentiating themselves through resources that meet the criteria of the VRIO framework, meaning they are valuable, rare, hard to imitate, and embedded in organizational structures. Hart (1995) extends the RBV to a sustainability context by incorporating the firm's relationship with the natural environment, developing the natural resource-based view (NRBV). This framework views ecological and social challenges as sources of both opportunities and threats within the natural environment, which give rise to sustainability-related resources that firms can develop and leverage to gain competitive advantage (McDougall et al., 2019). Hart (1995) identified three main types of such resources, notably pollution prevention, product stewardship, and sustainable development. The latter was further divided into clean resources and base of the pyramid (McDougall et al., 2019).

In an international context, such strategies will increase competitiveness as a result of a greater customer loyalty and compliance with international regulations (Chang, 2011). Firms' intangible resources related to these practices strengthen their strategic capabilities, allowing them to allocate resources more effectively so that they align with the demands of international markets (Aksoy et al., 2024). Greater commitment to sustainability reduces production waste while increasing productivity (Chang, 2011). Internally, the adoption of sustainable practices improves firms' reputation and attract more skilled employees, contributing to greater efficiency and profitability (Boehe & Barin-Cruz, 2010). Sustainability standards can further support trade by reducing information asymmetries and lowering transaction costs (Aksoy et al., 2024). As international markets increasingly value sustainability, exporters that clearly demonstrate their commitment to such practices are likely to achieve superior performance (Aksoy et al., 2024). Hence, sustainable practices

represent a valuable firm internal resource that will reinforce firms' long-term competitive advantages and supports higher export levels (Xu et al., 2018).

Building on the RBV, the Knowledge-Based View (KBV), extends the concept of resources to include intangible assets, particularly knowledge, which is seen as the most strategically important asset a firm can possess (Grant, 1996). Because they are difficult for competitors to imitate and cannot be easily transferred across firms, these knowledge resources can form the foundation for sustained competitive advantage (Grant, 1996). Acquiring knowledge about sustainable practices enables firms to build internal assets that strengthen long term competitive advantage, helping them achieve and maintain superior performance (Malik et al., 2023). Moreover, sustainability-related knowledge intensity can be a crucial factor in enhancing export performance, as firms that proactively invest in acquiring extensive knowledge about international environmental regulations and compliance tend to be more capable of designing strategies that meet the diverse foreign market requirements (Martín-Tapia et al., 2010).

A complement of KBV, the Dynamic Capabilities framework describes a firm's ability to sustain or enhance its value by building, adapting and applying internal capabilities that align to the changing external context (Teece et al., 1997). These dynamic capabilities are essential not only for competing amid technological change but also for navigating the underlying uncertainty related to evolving market opportunities and changing regulatory conditions in both domestic and international contexts (Teece et al., 2016). This perspective introduces a better understanding of how firms create and renew competitive advantage, arguing that they must go beyond merely possessing valuable resources and instead continually develop, reconfigure and deploy their capabilities to align with changing environmental conditions (Oliver & Holzinger, 2008). Dynamic capabilities allow firms to identify emerging sustainability expectations among stakeholders, capture new opportunities and adjust their existing capabilities to support long-term sustainable strategies (Wu et al., 2014). Although firms with proactive environmental strategies often obtain certifications voluntarily, external pressures from different stakeholders can motivate more reactive firms to follow, reinforcing strategic engagement to sustainability issues, and ultimately enhancing their ability to compete in international markets (Haddoud et al., 2021).

1.3. Empirical Literature Review and Hypotheses Development

This section is divided into two main parts. Subsection 1.2.1. reviews empirical research examining the relationship of the adoption of sustainable practices and firms' export performance. Subsection 1.2.2. extends this discussion by examining literature that analyses the effects of environmental requirements and certification demands, with particular attention to their moderating effect on the relationship between sustainable practices and export performance.

1.3.1. Adoption of Sustainable Practices and Export Performance

As previously noted, existing literature has generally established a positive relationship between the adoption of sustainable practices and higher levels of export performance. Drawing on sector-specific evidence from the food industry, Martín-Tapia et al. (2010) show that export performance is increasingly shaped by firms' sustainability strategies, making sustainability a central driver of overall export outcomes. The authors argue that integrating social and environmental considerations in their marketing activities may enhance firms' international competitiveness, contributing to stronger export results. Their findings also show that firm size strengthens the impact of sustainable practices on export performance, with large firms benefiting more from such strategies. Boehe and Barin-Cruz (2010), in their study, define Corporate Social Responsibility (CSR) as voluntary actions undertaken by firms that go beyond legal requirements and emphasize strategic CSR, meaning actions designed to build a competitive advantage by shaping consumers' perceptions of the firm as socially and environmentally responsible. Following this perspective, the authors argue that CSR demands substantial coordination and long-term investments to ensure that the entire supply chain complies with the social and environmental standards of the foreign markets. When these efforts are reflected in the final product, CSR becomes a differentiating factor that can enhance export performance more effectively than traditional product-quality differentiation. Additionally, building a truly sustainable firm requires a certain level of commitment, meaning that only a limited number of firms manage to turn CSR into a sustained competitive advantage (Boehe & Barin-Cruz, 2010).

On the productivity spectrum, Antonietti and Marzucchi (2014) show a positive link between the adoption of a sustainable-oriented strategy and export performance, through productivity

increases. They argue that firms may engage in sustainable practices not only because of regulatory pressures faced in foreign markets but also because these practices reduce operational costs and create new revenue. Their findings indicate that green investment strategies lead to higher total factor productivity, particularly when aligned with revenue-expanding objectives. This productivity increase, in turn, enhances firms' ability to compete internationally. Antonietti and Marzucchi (2014) demonstrate that more productive firms are better equipped to absorb the sunk costs associated with entering foreign markets, which increases their likelihood of exporting, especially to destinations with stricter environmental standards.

On the innovation side, Teplova et al. (2022) argue that sustainable-oriented practices support foreign market entry and, more specifically, increase export intensity by fostering innovation linked to environmental and social goals. Moreover, Haddoud et al. (2021) show that firms increase their export intensity when they commit to environmental practices, particularly through process innovation. Aksoy et al. (2024) also demonstrate that corporate sustainability, proxied by a binary variable for participation in the Borsa Istanbul Sustainability index (BIST SI), positively affects export intensity, and that this relationship becomes stronger when firms exhibit higher levels of Research and Development (R&D) intensity. Their study suggests that exporting firms that effectively integrate strong R&D efforts into their international operations are better positioned to leverage sustainability, particularly environmental initiatives, and achieve greater export intensity. In turn, Martos-Pedrero et al. (2022) conclude that the direct link between CSR – measured through a construct comprising stakeholder-related dimensions (shareholders, employees, customers, farmers, community, and competition) plus an additional environmental dimension – and export performance is not significant. Instead, their findings indicate that firms improve export performance by channelling CSR into innovation. Because innovation fully mediates this relationship, the effect of CSR on export outcomes occurs almost entirely through the firm's ability to embed CSR-driven improvements into its practices (Martos-Pedrero et al., 2022). Overall, the authors argue that CSR contributes to export success when it strengthens existing innovation capabilities or stimulates the development of new ones.

At a Global Value Chain (GVC) level, Fayek and Zaki (2025), on their recent study using data from the sixth round of BEEPS, indicate that firms with better environmental

performance, captured by the implementation of environmental actions, are more likely to raise their extensive margin, meaning they have a higher probability to enter GVCs. The authors note that a firm chooses to export when its expected profits surpass the sunk costs associated with entering the new market, meaning the export decision will be made based on their productivity level. Since environmental actions are linked with higher productivity, the authors show that firms investing more in such practices will be better positioned to access international markets (Fayek & Zaki, 2025). Moreover, the authors find that, once integrated into GVCs, further improvements in environmental performance increase their intensive margin, meaning that firms deepen their level of participation. Taken together, Fayek and Zaki (2025) findings highlight that incorporating sustainability practices can serve as an important driver of firm's export outcomes, both by increasing the likelihood of GVC participation and by enhancing the degree of their participation.

Overall, the literature shows that the link between sustainable practices and export performance is complex and shaped by various factors that influence both its intensity and direction. Factors such as firms' innovation capacity, productivity levels and GVC integration, all contribute to how this relationship unfolds. These variations highlight the need for further examination of the mechanisms through which sustainable practices affect export outcomes. Table 3 below provides a structured overview of the studies discussed, summarizing their main objectives, methodological approaches and key findings.

In light of this, the following research hypothesis is formulated:

H1: The adoption of sustainable practices is positively associated with export performance.

Table 3. Main Articles Reviewed on Sustainable Practices and Export Performance

Study	Signal	Goal	Variables	Empirical Context	Methodology	Key findings
Boehe & Barin-Cruz (2010)	**(+)**	Examine how corporate social responsibility can enhance product differentiation and improve firms' export performance.	**Dependent:** Export performance improvement. **Independent:** CSR-based product differentiation; Product quality differentiation; Product innovation differentiation.	Sample of 252 medium and large-sized Brazilian exporters.	Structural Equation Modelling.	There are differences between exporters that focus on developed markets in contrast to emerging economies, where the improvement of export performance driven by a sustainable strategy will be lower.
Martín-Tapia, et al. (2010)	**(+)**	Examine whether adopting environmental protection strategies supports small and medium-sized enterprises in expanding abroad through exports.	**Dependent:** Export intensity. **Independent:** Proactive environmental strategy.	Sample of 123 exporting small and medium-sized entrepises from the Spanish food industry.	Ordinary-Least-Squares regression model.	A proactive environmental strategy increases export intensity. Firm size moderates this relationship: the effect grows stronger with firm size.
Antonietti & Marzucchi (2014)	**(+)**	Investigate how investments in environmentally friendly equipment affect firms' export performance.	**Dependent:** Export propensity; Export intensity. **Independent:** Green tangible investment strategies.	Sample of 850 Italian manufacturing firms from 2001 to 2006.	Two-staged structural model (Cobb-Douglas estimation and probit combined with Ordinary-Least-Squares).	Positive relationship between the adoption of a sustainable oriented strategy and export performance, through productivity increases.
Haddoud et al. (2021)	**(+)**	Evaluate how strategic commitment to environmental issues shapes family firms' level of export intensity.	**Dependent:** Export intensity. **Independent:** Strategic commitment to environmental issues; Product innovation; Process innovation.	Sample of 409 Polish family firms, using the World Bank Enterprise Survey for 2019.	Non-linear partial least squares structural equation.	Strategic commitment to environmental issues positively and directly influences export intensity.
Teplova et al. (2022)	**(+)**	Explore how sustainable practices influences small and medium-sized enterprises export intensity.	**Dependent:** Export intensity; Export dummy. **Independent:** ESG indicators; Innovative activity.	Sample of small and medium-sized enterprises in 37 developing countries based on the Sixth round of the BEEPS survey data, from 2018 to 2020.	Probit combined with Ordinary-Least-Squares regression models.	Investments in CRS practices signifyingly increases firms' ability to enter foreign markets and raises export intensity.
Martos-Pedrero et al. (2022)	**(+) (not significant)**	Assess the extent to which firms' corporate social responsibility initiatives influence their export performance.	**Dependent:** Level of satisfaction with achieving export-related objectives. **Independent:** CSR comprising 6 stakeholder-related dimensions plus an additional environmental dimension.	Sample of 107 Spanish firms from the agri-food sector.	Partial Least Squares modelling.	Corporate social responsibility does not directly influence export performance. However, innovation mediates this relationship.

Aksoy et al. (2024)	**(+)**	Analyse the relationship between corporate sustainability and export intensity.	**Dependent:** Export intensity. **Independent:** Binary variable for participation in BIST SI.	Sample of 141 nonfinancial firms listed on the BIST Industrials Index, from 2014 to 2021.	Tobit regression model; Heckman two-stage model.	Corporate sustainability has a positive influence on firms' export intensity, as those that integrate sustainability into their strategies, particularly through R&D efforts, tend to achieve higher levels of export engagement.
Fayek & Zaki (2025)	**(+)**	Examine whether adopting environmental protection actions enhances firms' integration into global value chains.	**Dependent:** GCV participation (extensive margin); GVC intensity (intensive margin). **Independent:** Adoption of environmental protection actions (eg. Waste and water minimization, eco-friendly energy, air pollution control).	Sample covering around 28,000 firms in 41 countries based on the Sixth round of the BEEPS survey data, from 2018 to 2020.	Probit/logit regression analysis; Ordinary-Least-Squares; Heckman two-stage model combined with 2 stage-least-squares.	Improving a firm's environmental performance raises both the extensive and intensive margin of GVCs participation, with a stronger effect on the former.

Source: Own elaboration, based on the literature. Papers are referenced in chronological order.

1.3.2. The Role of Environmental Requirements and Certification in the Relationship between Sustainable Practices and Export Performance

Some studies show that environmental regulations and the cost associated with the adoption of sustainable strategies to comply with the legal framework of foreign markets can constrain export performance. When examining China's manufacturing industry, Liu and Xie (2020) find that stricter regulations affect firms' international competitiveness in different ways. At first, tighter rules lead to higher compliance costs and may reduce firms' R&D activities, which weakens their export performance. However, the authors also identify a turning point at which, once firms adapt, stricter regulations begin to drive green technology innovation, making the production process more efficient and environmentally sustainable. These improvements ultimately enhance export outcomes (Liu & Xie, 2020). Antonietti and Marzucchi (2014) further discuss that markets with stricter environmental regulations drive total factor productivity in order to reduce non-compliance-related costs and inherent risks in managing relationships with stakeholders, which will ultimately enhance exports.

Considering stakeholders' pressure, Taherdangkoo et al. (2017) address that in markets with more environmentally aware consumers, exporting firms are able to gain a competitive advantage over domestic companies, which, in turn, enhances their export performance.

On the certification side, Xu et al. (2018) argue that, even though the impact of specific environmental CSR practices, namely energy conservation and emission reduction, on export performance is positive but not significant, firms that adopt such practices are more likely to obtain ISO 14001 certification. This certification will serve as a moderating factor that enhances the relationship, leading to a positive and significant improvement in export performance. Dong et al. (2025) argue that environmental regulation shapes how firms manage their sustainability practices, reinforcing the positive influence of CSR disclosure – captured through the Hexum CSR rating score, a composite measure of firms' sustainability reporting quality – on firms' export performance. Their study shows that stricter regulatory conditions encourage firms to increase both the quality and frequency of CSR reporting, by implementing formal environmental management systems, such as ISO 14001, which will, in turn, improve the credibility of disclosed CSR information and firms' reputation in the eyes of the different groups of international stakeholders, ultimately enhancing their

competitive advantages in foreign markets. At the same time, Dong et al. (2025) also conclude that stricter environmental rules encourage firms to invest in cleaner technologies and green innovation, leading to greater resource efficiency and the development of products that facilitate differentiation within GVCs. As firms build stronger green capabilities, they become increasingly keen on proactively disclosing detailed and transparent CSR information to highlight these advantages and reinforce their competitive advantage in foreign markets (Dong et al., 2025).

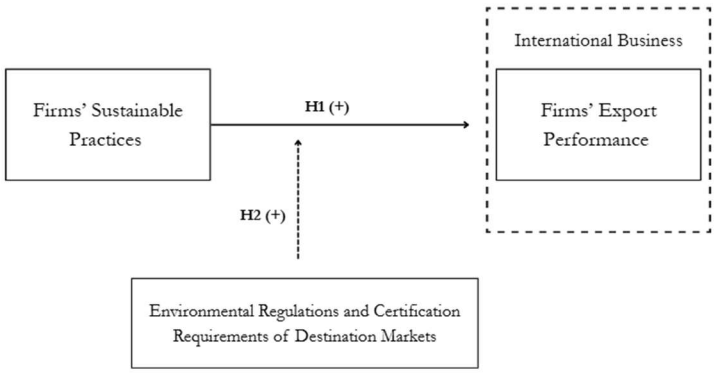
Overall, empirical studies reveal that environmental regulations and certification requirements add significant complexity to the relationship between sustainable practices and export performance. These mechanisms operate through multiple channels which can either constrain or enhance firms' international competitiveness, underscoring that the moderating role of environmental requirements is far from linear due to the interplay between regulatory pressure, strategic responses and market perceptions. Table 4 below organizes the discussed literature into a clear summary, detailing each study's purpose, methods, and central findings.

Based on this theoretical background and empirical literature review, the following research hypothesis is formulated:

H2: Environmental regulations and requirements for environmental certifications positively moderate the relationship of the adoption of sustainable practices and export performance.

The following framework represented in Figure 1 identifies such relationship.

Figure 1. Framework Proposed



Source: Own elaboration

Table 4. Main Articles Reviewed on the Role of Environmental Regulation and Certification Requirements in the Relationship between Sustainable Practices and Export Performance

Study	Signal	Goal	Variables	Empirical Context	Methodology	Key findings
Antonietti & Marzucchi (2014)	**(+)**	Investigate how investments in environmentally friendly equipment affect firms' export performance.	**Dependent:** Export propensity; Export intensity. **Independent:** Green tangible investment strategies.	Sample of 850 Italian manufacturing firms from 2001 to 2006.	Two-staged structural model (Cobb-Douglas estimation and probit combined with Ordinary-Least-Squares).	The increase in export performance driven by productivity increases is stronger in markets with stricter environmental regulations.
Taherdangkoo et al. (2017)	**(+)**	Review sustainability challenges in exporting firms, the drivers of their practices, and the impact of sustainability marketing on export performance.	**n/a**	Sample of 102 published articles in international journals between 1964 and 2015.	Systematic literature review in the field of sustainability of export companies.	In markets with more environmentally aware consumers, exporting firms are able to gain a competitive advantage over domestic companies which, in turn, enhances their performance.
Xu et al. (2018)	**(+) (not significant)**	Examine how environmental corporate social responsibility (CSR) supports firms in expanding their export activities.	**Dependent:** Export intensity **Independent:** Environmental CSR (energy conservation, emission reduction).	Sample of 425 publicly listed Chinese firms operating in environmentally sensitive industries, between 2008 and 2012.	Structural equation modelling.	Energy conservation and emission reduction have a positive but insignificant direct impact on export intensity. This effect becomes significant only when mediated by ISO 14001 certification.
Liu & Xie (2020)	**(+/-)**	Analyse China's manufacturing export competitiveness and the moderating role of environmental regulation.	**Dependent:** Export competitiveness. **Independent:** Environmental regulation intensity; Technological innovation.	Sample of 27 sub-industries in China's manufacturing sector, from 2000 to 2014.	Econometric regression models (panel regression, Quadratic specification).	Environmental regulations impact export competitiveness in a non-linear way.
Dong et al. (2025)	**(+)**	Examine how CSR disclosure affects corporate export performance, and the moderating role of environmental regulation.	**Dependent:** Export intensity **Independent:** CSR disclosure (Hexun CSR rating score) **Moderator:** Environmental regulation (pollution control investment).	Sample of 207 Chinese listed firms, from 2011 to 2022.	Two-way fixed-effects model (benchmark econometric model).	Environmental regulation strengthens the positive effect of CSR disclosure on exports.

Source: Own elaboration, based on the literature. Papers are referenced in chronological order.

Chapter 2. Econometric Analysis

This chapter presents the methodological framework used to address the research question and evaluate the formulated hypotheses. The analysis relies on an econometric model built with data from the BEEPS survey. Section 2.1. provides an overview of the BEEPS dataset and explains the criteria applied for selecting the data, while section 2.2. describes the variables included in the study and outlines the econometric framework employed.

2.1. Sample and Data

The database used in this dissertation – BEEPS – is a firm-level database jointly developed by the World Bank and the European Bank for Reconstruction and Development, which provides a comprehensive framework for analysing key aspects of business performance, allowing consistent comparison across countries and over time. It is built on face-to-face surveys by business owners and senior managers, providing detailed information on key specific firm aspects, covering governance structures, competition, innovation activities, performance measures and participation in export markets (BEEPS, 2020).

To address the research question and test the proposed hypotheses, this study will rely on an econometric model based on data from the sixth round of the survey, conducted between 2018 and 2020, which covers around 28 000 firms across 41 countries in the European Union, non-EU Eastern European countries, Central Asia, the Middle East and North Africa[1], capturing a wide range of firms operating in both developed and developing economies. For the purposes of this dissertation, this latest BEEPS wave is particularly relevant because it introduces a Green Economy Module that offers detailed information on firms' sustainable management practices and environmental initiatives, allowing an assessment of environmental responsibility and its economic effects on firms' performance (Fayek & Zaki, 2025). In light of this, the analysis focuses exclusively on firms whose management completed such module, as the central aim of this dissertation is to examine the impact (on export performance) of sustainable practices employed by firms.

[1] Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Egypt, Estonia, Georgia, Greece, Hungary, Italy, Jordan, Kazakhstan, Kosovo, Kyrgyz Republic, Latvia, Lebanon, Lithuania, Malta, Moldova, Mongolia, Montenegro, Morocco, North Macedonia, Poland, Portugal, Romania, Russia, Serbia, Slovak Republic, Slovenia, Tajikistan, Tunisia, Turkey, Ukraine, Uzbekistan and West Bank and Gaza.

The relevance of the BEEPS dataset within IB research is well established. The survey has supported empirical analyses on topics such as corruption and foreign direct investment (FDI) (Hanousek et al., 2021) as well as the innovation dynamics (Petković et al., 2023), illustrating its adaptability across diverse research domains. This versatility makes BEEPS a robust foundation for investigating how firms navigate and adapt to different institutional environments and the inherent challenges they present.

To obtain a coherent analytical dataset aligned with the study's research objectives, an exclusion process was applied to the original BEEPS VI survey, removing sections unrelated to the conceptual model, specifically sections C – Infrastructure and Services, T – Time Use of Top Manager, G – Land and Permits and I – Crime. A review of the dataset's temporal distribution was also conducted to determine the most suitable reference year for the analysis. This check relied on the a20y variable of the BEEPS VI database, which reports the calendar year corresponding to the end of each firm's most recent fiscal period. As shown in the frequency table presented in Annex (Table B.1.), only the 2018 wave provides near-complete coverage across the economies included in the survey. For that year, the dataset contains 25 457 observations, representing roughly 91% of all available observations. In contrast, the 2017 and 2019 entries are unevenly distributed and display substantial gaps in country representation, making them unsuitable for a consistent cross-country comparison. For this reason, 2018 was selected as the reference year for the analysis.

Based on this refined sample, Table 5 below illustrates the number and percentage of firms according to key characteristics relevant to the study, such as whether the firm engages in exporting activities and whether the firm faces environmental requirements imposed by destination markets. Furthermore, as an additional descriptive component, a breakdown of firms according to the development level of their domestic markets is shown in Table 6 below, in line with the World Banks' income classification system.

Table 5. Distribution of Firms Key Characteristics

Variable	Number of Firms	Sample Percentage
Exporter	7 071	28.61%
Environmental Requirements	3 247	13.14%
Green Economy Module Completed	24 718	100%

Source: Own elaboration using Stata 19.

Table 6. Distribution of Firms by Development Level

Variable	Number of Firms	Sample Percentage
Developed Economies	6 669	26.98%
Developing Economies	18 049	73.02%
Total	**24 718**	**100%**

Source: Own elaboration using Stata 19.

Table 5 above shows that 28.61% of the firms that completed the Green Economy Module are exporters. This indicates that the dataset contains a sufficiently meaningful share of internationally active firms, proving a solid and relevant foundation for the empirical analysis. Furthermore, Table 6, also above, reveals that the domestic markets of the majority of the firms in the sample are developing economies (73.02%).

2.2. Variables

This section presents the variables incorporated into the empirical model, explains how each is operationalised and clarifies the theoretical rationale underlying their inclusion.

The dependent variable used in this study is **Export Performance**, materialized through export intensity, which is defined as the ratio between sales directed to international markets and the total sales of each firm. This variable will be constructed by summing the percentage of sales directed to direct exports and indirect exports from section D of the BEEPS VI survey, an approach consistent with previous empirical studies examining the link between sustainable practices and export performance, such as Teplova et al. (2022).

The independent variable is **Sustainable Practices**, defined as the total of sustainable actions implemented by each firm. Such variable is constructed through binary responses to ten questions from the Green Economy Module of the BEEPS VI survey related to measures implemented with the objective of reducing the environmental impact of the firm. Each affirmative answer ("yes") will be addressed as 1 and each negative answer ("no") will be counted as 0. The total will be the result of summing all points, creating a composite indicator ranging between 0 and 10. The specific questions used to build this variable are presented in Annex (Table B.2.). Several studies indicate a positive link between the employment of sustainable practices and the increase of export performance, through improvements in, for

example, productivity, innovation and reputational gains (Antonietti and Marzucchi, 2014; Boehe & Barin-Cruz, 2010; Haddoud et al., 2021).

The variable **Environmental Requirements** reflects the extent to which the destination market imposes environmental standards that firms must meet. It is operationalized as a binary variable derived from question BMGA.4 of the BEEPS VI survey, coded 1 when the export market requires environmental conditions to conduct business with the firm and 0 when no such requirements are present. Although firms often face a trade-off between profit maximization and the cost of complying with environmental standards, the literature generally agrees that such regulatory requirements act as a driver for the adoption of sustainable practices (Ramanathan et al., 2017). Furthermore, studies, such as Liu and Xie (2020), demonstrate that there is a turning point at which those costs may be offset by long term benefits, making sustainability investments increasingly advantageous.

Moreover, a set of control variables are included in this study in order to address the potential effects that specific firm's characteristics may have on the increase of export performance and ensure the robustness of the empirical analysis. Firstly, **Firm Age** is an important factor in expanding a firm's access to foreign markets. As firms grow older, they accumulate experience-based capabilities and strengthen their adaptability and reliability, making them more flexible in responding to market changes and better equipped to enter and operate in new international environments (Behmiri et al., 2019). This variable will be measured as the natural logarithm of the number of years that had passed since the firm's establishment, as this transformation helps stabilize the distribution and reduces skewness typically associated with age-related measures (Weinberg & Abramowitz, 2008).

Firm Size is also a key determinant of a firm's internationalization capacity (Behmiri et al., 2019). Literature on corporate environmental practices has consistently shown its statistically significance as a control variable (Martín-Tapia, et al., 2010). Larger firms have more specialized resources and market power, making them more likely to expand internationally and better positioned to benefit from economies of scale, while also facing stricter regulations that push them to invest in sustainability-related innovations and improvements (Behmiri et al., 2019; Xu et al., 2018). Although firm size can be measured in various ways, the natural logarithm of the number of full-time employees is the most appropriate proxy,

as this transformation provides a more stable distribution and mitigates the influence of extreme values, thereby improving the reliability of the econometric estimation (Wooldridge, 2010).

Being a **Family Firm** will also be used as a control variable as existing research consistently indicates that family ownership plays a significant role in shaping the export behaviour of these firms (Urkiola & Alayo, 2022). This study will follow the most common approach in the literature and classifies a firm as a family firm when family members hold at least 50% of its shares, based on question BMBl1 of the BEEPS VI survey (Yin et al., 2022). Based on this threshold, a binary variable is created, coded 1 for family firms and 0 for non-family firms.

Finally, **Human Capital (HC)** is also included as a control variable, given its importance to export competitiveness. Greater investment in workforce development enhances labour skills and strengthens a firm's absorptive capacity, enabling industries to benefit more effectively from international technology spillovers and improve export performance (Behmiri et al., 2019). This variable is captured through the percentage of firms' employees that possess a university degree, based on question BMl1a from the BEEPS VI survey.

In addition to firm-level controls, the analysis accounts for broader contextual differences across sectors and countries that could impact firms' export performance. These sources of heterogeneity are incorporated through fixed effects, created from the categorical sector and country identifiers in the BEEPS VI dataset. These fixed effects are included using the "i.country" and "i.sector" notations in the regression specification, ensuring that the estimates isolate variation within firms. Literature shows that the development level of the destination market shapes export performance gains associated with adopting sustainable practices (Boehe & Barin-Cruz, 2010). This heterogeneity underscores the importance of controlling for country fixed effects. Sector fixed effects are also important to consider, as industry characteristics emerge as a determinant of export performance (Dorneles et al., 2025). Both will be included in the estimations of the models.

Table 7 below synthesizes the variables described above and outlines their expected direction of association with the dependent variable.

Table 7. Variables' Description and Expected Results

Variable	Description	Expected Signal	Literature
Export_Performance	Continuous variable capturing the share of a firm's total sales that goes to foreign markets, including both direct and indirect exports.	Dependent Variable	Antonietti & Marzucchi (2014) Haddoud et al. (2021)
Sustainable_Practices	Count variable measuring the total number of green practices a firm adopts, calculated from a sample of ten sustainability-related survey questions.	(+)	Antonietti & Marzucchi (2014) Boehe & Barin-Cruz (2010) Haddoud et al. (2021)
Environmental_Requirements	Composite binary indicator reflecting whether or not the destination market imposes environmental conditions in order to do business with the firm.	(-/+)	Boehe & Barin-Cruz (2010) Ramanathan et al. (2017)
Firm Size	Natural logarithm of the firm's total number of full-time employees at the end of the previous fiscal year.	(+)	Behmiri et al. (2019) Martín-Tapia, et al. (2010)
Firm Age	Natural logarithm of the firm's age, measured as the number of years since its founding.	(+)	Behmiri et al. (2019) Martín-Tapia, et al. (2010) Xu et al. (2018)
Family Firm	Dummy variable, being 1 for firms in which family members hold more than 50% of the ownership, and 0 for all other firms.	(+)	Urkiola & Alayo (2022) Yin et al. (2022)
Human Capital	Percentage of employees with a university degree	(+)	Behmiri et al. (2019)

Source: Own elaboration, based on the literature reviewed.

2.3. Descriptive Statistics

This section outlines the descriptive statistics of the variables employed in this analysis derived from the clean sixth-wave BEEPS dataset. The behaviour of each variable covers core distributional indicators, such as mean, median, minimum and maximum, alongside the standard deviation, allowing a clear view of both central patterns and variability within the data.

Table 8. Descriptive Statistics

Variable	Obs	Mean	Median	Std. dev.	Min	Max
Export Performance	24 718	13.89304	0	28.19198	0	100
Sustainable Practices	20 441	2.799814	2	2.74037	0	10
Firm Size	24 506	156.5739	21	10698.45	1	1 673 000
Firm Age	24 427	20.17255	17	15.62651	1	205
Family Firm	24 218	0.4516888	0	0.4976708	0	1
Human Capital	11 243	29.07285	20	28.41423	0	100

Source: Own elaboration, using Stata 19.

As disclosed in Table 8 above, the dependent variable **Export Performance**, ranging from 0 to 100, has a mean of 13.89, a median of 0 and a standard deviation of 28.19. This distribution indicates that most firms report no export activity, while a smaller group displays high export intensity, which raises the overall average. The large difference between the mean and the median reflects the presence of a few firms with substantial export performance, constraining the majority that do not export at all. This heterogeneity suggests that exporting is not widespread across the sample and may reflect differences in firms' capabilities, market access, or strategic orientation.

The variable **Sustainable Practices**, which ranges from 0 to 10, has a mean of 2.80, a median of 2, and a standard deviation of 2.74. These values indicate that firms adopt only a limited number of sustainable practices captured by this indicator. Although the Green Economy Module was widely completed, only firms with valid responses for all selected items were retained, ensuring internal consistency of the composite measure. The distribution suggests substantial variation in firms' engagement with sustainability, with most firms implementing only a few practices and a smaller group adopting more comprehensive sustainable practices.

The variable **Firm Size**, measured by the number of employees, presents a mean of 156.57, a median of 21, and a large standard deviation of 10 689.45. The maximum value of 1 673 000 employees highlights the presence of extremely large firms that strongly influence the average. The substantial difference between the mean and median confirms that most firms in the sample are small or medium-sized, while a few big-scale firms create considerable dispersion in the data. This pattern justifies the use of a logarithmic transformation in the econometric analysis to reduce the impact of outliers and improve the distribution's suitability for regression models (Box & Cox, 1964).

The **Firm Age** variable shows a mean of 20.17 years, a median of 17 and a standard deviation of 15.63, with values ranging from 1 to 205 years. The median being lower than the mean indicates that a small number of very old firms raise the overall average, while most firms in the sample are considerably younger. The wide range reflects substantial heterogeneity in the age structure of the sample, from newly established firms to long-standing organisations with extensive operations history.

As for the variable **Family Firm**, it is coded as a binary indicator, taking the value 1 if the firm is family-owned and 0 otherwise. The mean is 0.45, a median of 0 and a standard deviation is 0.49. These values show that approximately 45% of firms in the sample are classified as family firms. The distribution is consistent with a dummy variable, reflecting a clear split between family-owned and non-family-owned firms. This relatively balanced proportion allows for meaningful comparisons between the two groups.

The variable **Human Capital**, ranging from 0 to 100, presents a mean of 29.07, a median of 20, and a standard deviation of 28.41. These values indicate substantial variation in workforce qualification levels across firms. The difference between the mean and the median, combined with the high dispersion, suggest that while many firms have relatively low shares of qualified workers, others exhibit very high levels of human capital. This heterogeneity is likely to influence firms' absorptive capacity and ability to implement sustainable practices. The lower number of observations (11 243) reflects the requirement for complete and valid responses to compute the percentage of qualifies workers.

In addition, to verify the absence of potential multicollinearity issues among regressors that could compromise the interpretation of the regression results, a correlation matrix of the explanatory variables and Variance Inflation Factor (VIF) test are computed, presented in Table B.3. in Annex. Together, these diagnostics provide a clear understanding of the relationships within the data and support the robustness of the subsequent econometric analysis.

The Pearson Correlation Test reveals that Export Performance shows a statistically significant correlation with the key explanatory variables. This correlation is positive for Sustainable Practices (0.1832) and negative for Environmental Requirements (-0.1514), which is consistent with the expectation that sustainable practices can serve as driver of export performance, and that environmental requirements and certification imposed by destination markets can constrain export performance at an initial stage (Boehe & Barin-Cruz, 2010; Liu & Xie, 2020).

Overall, the correlation matrix suggests that the explanatory variables are not excessively correlated and contribute unique information to the econometric model. Additionally, all values obtained through the Variance Inflation Factor are close to 1, with the highest value around 1.22 and a mean of 1.10, indicating that the predictors do not inflate the variance of the estimated coefficients and that harmful multicollinearity is not present (Thompson et al., 2017). Taken together, both diagnostics confirm that the variables can be included simultaneously in the regression model without comprising its stability or interpretability. It can thus be concluded that the chosen dataset provides a solid foundation for proceeding with the regression analysis.

2.4. Model Specification

Given that the dependent variable, export intensity, is continuous, the empirical analysis employs an Ordinary-Least-Squares (OLS) regression model. OLS is widely used for single-equation linear models, providing consistent estimates when the error term has a zero conditional mean and is uncorrelated with the explanatory variables (Wooldridge, 2010). In the context of this dissertation, this assumption is plausible as the variables are directly observed firm-level characteristic from the BEEPS dataset, and the inclusion of section and

country fixed effects helps mitigate concerns about omitted variables. Accordingly, the empirical model is specified as follows:

$$
\begin{aligned}
Export\ Perfomance_i &= \beta_0 + \beta_1 Sustainable\ Practices_i \\
&+ \beta_2 Environmental\ Requirements_i \\
&+ \beta_3 (Sustainable\ Practices_i \times Environmental\ Requirements_i) \\
&+ X_i'\gamma + \varepsilon_i
\end{aligned}
$$

where:

- $\boldsymbol{Export\ Perfomance_i}$**:** the ratio between sales directed to international markets and the total sales of each firm.
- $\boldsymbol{Sustainable\ Practices_i}$**:** A count variable ranging from 0 to 10 showing the number of sustainable practices adopted by firm i.
- $\boldsymbol{Environmental\ Requirements_i}$**:** a binary variable coded 1 when the export market requires environmental conditions to conduct business with the firm and 0 when no such requirements are present.
- $\boldsymbol{Export\ Performance_i \times Environmental\ Requirements_i}$**:** interaction term used to test whether environmental requirements imposed by the destination market moderates the relationship between the adoption of sustainable practices and export performance.
- $\boldsymbol{X_i}$**:** vector of control variables that includes firms' characteristics that affect their export performance, such as, firm age, firm size, family firm and human capital.
- $\boldsymbol{\varepsilon_i}$**:** error term.

2.5. Results and Discussion

The results of the OLS regression used to test the hypotheses are presented in Table 9 below. Three models were estimated to examine the different relationships of interest. Model 1 includes only the control variables and serves as the baseline for comparison. Model 2 adds the main explanatory variables, assessing the direct effect of sustainable practices on export performance, as well as the effect of environmental and certification requirements imposed by the destination market. Model 3 incorporates all direct effects and the interaction term between sustainable practices and environmental requirements, allowing the analysis of

whether destination markets' requirements condition the relationship between sustainability and export performance. As it can be seen in Table 9 below, all models are statistically significant at the 1% level.

Model 1, which includes only the control variables, establishes the baseline for the analysis. Firm Size shows a positive and significant association with export performance across all models. This result is consistent with the finding from Revindo et al. (2025) and Tripathi et al. (2024) and aligns with the theoretical arguments of the RBV and Ownership Advantages frameworks, as larger firms possess and develop capabilities, resources and organizational structures that strengthen their competitive position and facilitate export activities. Human Capital also displays a positive and significant relationship with export performance. This finding aligns with Rodríguez and Orellana (2020) and supports the RBV and VRIO frameworks, as firms with a more qualified workforce benefit more from higher levels of knowledge, skills and competencies that strengthen their ability to compete internationally. In contrast, Firm Age does not show a statistically significant effect on export performance, contrasting with the finding of Behmiri et al., 2019, who argue that older firms tend to experience higher levels of export performance. Similarly, Family Firm status is not a significant predictor of export performance. This finding differs from that of Pascucci et al. (2021) who demonstrated that high levels of family involvement enhance export outcomes, while low levels constrain it.

Table 9. Ordinary-Least-Squares Regression Results

	Export Performance		
	Model 1	**Model 2**	**Model 3**
Sustainable_Practices		**0.744*** **	**0.998*** **
		(0.106)	(0.270)
Env_Requirements		**-1.403*** **	**-0.785**
		(0.389)	(0.614)
Sustaianable_Practices#Env_Requirements			**-0.147**
			(0.140)
Log (Firm_Size)	**5.172*** **	**4.615*** **	**4.617*** **
	(0.190)	(0.213)	(0.214)
Log (Firm_Age)	**-0.198**	**-0.141**	**-0.151**
	(0.334)	(0.356)	(0.356)
Family_Firm	**-0.0414**	**0.156**	**0.170**
	(0.546)	(0.593)	(0.593)
Human_Capital	**0.0298*** **	**0.0282*** **	**0.0280*** **
	(0.00874)	(0.00961)	(0.00961)
Constant	**-3.645*** **	**-3.071*** **	**-4.180*** **
	(1.492)	(1.780)	(2.004)
Country	Included	Included	Included
Sector	Included	Included	Included
R-Squared	0.278	0.285	0.285
Log Likelihood	-49304.5	-41548.0	-41546.9

Source: Own Elaboration using Stata 19.
Note: *** statistically significant at 1% level; ** at 5% level; * at 10% level.
Note: Standard errors reported in parentheses.

The results from Model 2 provide direct evidence to test Hypothesis 1. The coefficient for Sustainable Practices is positive and statistically significant, confirming H1: firms that adopt sustainable practices tend to achieve higher export performance. This result is consistent with prior empirical research, including Antonietti and Marzucchi (2014) and Teplova et al. (2022), which similarly identify sustainable practices as drivers of export performance. In the theoretical framework, this finding also aligns with Stakeholder Theory, which argues that firms committed to meeting stakeholder expectations are more likely to adopt sustainable-oriented practices that enhance legitimacy and competitive positioning in foreign markets (Bıçakcıoğlu-Peynirci & Tanyeri, 2020; Aksoy et al., 2024). In addition, from a theoretical standpoint, the result is coherent with both the Resource-Based View and the Dynamic Capabilities Framework, as sustainable practices can function as strategic capabilities that firms will develop and leverage in order to adapt to evolving environmental standards and stakeholders' expectations, strengthening their competitive advantage (Oliver & Holzinger, 2008; Wu et al., 2014).

Turning to Hypothesis 2, the results from Model 3 show that the interaction between Sustainable Practices and Environmental Requirements is not statistically significant. This indicates that environmental requirements and certifications imposed by destination markets

do not systematically moderate the relationship between sustainable practices and export performance. This outcome contrasts with the findings of Xu et al. (2018) and Dong et al. (2025), who report that stricter environmental regulations and certifications tend to enhance firms' export performance. In their studies, these mechanisms act as positive moderating factors, improving competitiveness through innovation, credibility in CSR disclosure and stakeholder trust. However, Model 2 also reveals a significant and negative direct effect of Environmental Requirements on Export Performance. This finding is consistent with the literature showing that environmental demands imposed by foreign markets can hinder export outcomes, particularly in the short term, due to compliance costs and operational adjustments (Liu & Xie, 2020).

Overall, the results confirm that the adoption of sustainable practices positively enhances export performance, supporting both empirical research and theoretical perspectives. In contrast, the moderating effect of environmental requirements in the relationship between sustainability and export outcomes is not supported. Instead, these requirements exert a negative direct effect. These findings suggest that while sustainability enhances firms' competitive advantage in international markets, external environmental demands may introduce constraints that firms must manage carefully when operating in such markets (Liu & Xie, 2020).

2.6. Robustness Test

To assess the stability of the relationships between export performance, sustainable practices and environmental requirements, a robustness check was conducted. In this complementary analysis, the sample was restricted to exporting firms only, and the model was re-estimated using the sub-sample. The results, presented in Table B.4. in Annex, confirm the main finding for H1, showing that sustainable practices continue to drive export performance. Regarding H2, the robustness check also supports the initial conclusion that the moderating effect of environmental requirements is negative. However, in this specification the moderating term becomes statistically significant. This difference could arise due to the fact that exporting firms face stronger pressures from international stakeholders and destination markets to comply with environmental standards (Martos-Pedrero et al., 2022; Aksoy et al., 2024). As a result, the interaction between sustainable practices and environmental

requirements becomes more pronounced when focusing exclusively on firms already engaged in exporting activities.

Overall, the robustness check reinforced the validity of the main results and highlights that the moderating effect identified in the baseline model becomes more pronounced when the analysis focuses exclusively on exporting firms.

Conclusions and Policy Implications

The purpose of this dissertation is to assess whether the adoption of sustainable practices acts as a driver of firms' export performance. To address this question, the study leverages the unique large-scale, multi-country data from the sixth round of the BEEPS survey and employs an econometric model.

By integrating perspectives from Stakeholder Theory, the Resource-Based View and the Dynamic Capabilities Framework with the broader sustainability debate, this dissertation enriches the International Business literature with a multidimensional approach to how sustainability can shape firms' international presence. The analysis also reveals the complex role of environmental requirements in this relationship. The negative direct effect of environmental requirements and certifications on export performance indicates that, while such pressures can stimulate firms to adopt more sustainable practices, they may simultaneously impose compliance costs that constrain competitiveness. This finding highlights the importance of assessing external environmental demands and managing the trade-off between regulatory compliance and international competitiveness.

The use of the BEEPS VI dataset, covering over 28 000 firms, across 41 countries, enables a robust comparison between firms' sustainable actions and their international activity. The Ordinary-Least-Squares model, complemented by a robustness test, further strengthens the reliability of the empirical results.

The results lead to important conclusions. The adoption of sustainable practices is positively associated with stronger export performance. However, the direct effect of environmental requirements and certification on export performance is negative, indicating that external

environmental demands impose compliance costs that may hinder firms' ability to compete abroad. Furthermore, the moderating effect of environmental requirements imposed by destination-market on the relationship between sustainable practices and export performance does not emerge as a significant moderating factor for this relationship, suggesting that such external pressures do not meaningfully influence how sustainability-oriented actions translate into export outcomes.

The results of this dissertation also offer important implications for both policy and managerial practice. Since sustainable practices were shown to enhance firms' export performance, policymakers should prioritise measures that promote and financially support green investments, particularly among small and medium-sized firms that often face financial and technical constraints. Additionally, the negative direct effect of environmental requirements on export performance, combined with their weak moderating effect, suggests that firms may struggle to comply with destination-market standards, reinforcing the need for targeted programs that reduce compliance costs and facilitate access to environmental certifications. At the managerial level, the findings highlight that sustainability should be viewed not merely as a regulatory obligation but as a strategic lever that strengthens firms' international competitiveness. Managers should proactively invest in environmental capabilities, anticipate destination-market requirements, and integrate sustainability into their long-term strategies to increase their external presence.

Overall, this dissertation contributes to the International Business literature by primarily advancing the understanding of how sustainable practices influence firms' export performance and by providing empirical evidence on the distinct roles played by sustainable practices, environmental requirements, and their interaction. The results confirm that sustainable practices strengthen export performance, while environmental requirements exert a negative direct effect and a negative but statistically non-significant moderating influence. In addition to these core relationships, the analysis also shows that firm-specific characteristics such as firm size and human capital, help explain differences in export performance, reinforcing the importance of accounting for structural heterogeneity across firms. Taken together, these findings deepen the understanding of how sustainability and firm characteristics jointly influence international competitiveness, offering a more

comprehensive view of the drivers of export performance and strengthening the relevance of sustainability as a strategic dimension in international markets.

Limitations and Avenues for Future Research

While providing valuable insights into how sustainable practices influence firms' export performance, this study faces certain limitations. The robustness analysis revealed that the moderating effect of environmental requirements becomes significant only among exporting firms, suggesting that the influence of destination-market regulations depends on firms' exposure to foreign environmental standards. This result highlights the need to consider sample composition when assessing how sustainability influences performance. This study also faces limitations related to the structure of the available data. Although the BEEPS VI dataset covers multiple years, most sustainability-related variables included in the Green Economy Module are available for only one year across the sampled countries. As a result, the analysis relies predominantly on cross-sectional information, which restricts the ability to observe how firms' sustainable practices and export performance evolve over time and limits causal inference. Future research could build on this insight by employing multi-year sustainability-focused datasets, using instrumental variables or panel-data approaches to mitigate endogeneity concerns, and distinguishing between occasional and intensive exporters. Given the diversity of industries represented in the dataset, future studies could also explore sector-specific dynamics, as environmental requirements and sustainability investments may exert different effects on export outcomes depending on the industry's technological intensity, regulatory exposure and environmental footprint. Examining how environmental regulations shape the sustainability-export performance link across sectors and over time would provide a better understanding of how sustainability-driven strategies evolve and shape international competitiveness.

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Annex

Table B.1. Country-Level Distribution of Firms across years

Country	2017	2018	2019	Number of Firms	% of sample
Albania	5	372	0	377	1.34%
Armenia	0	21	525	546	1.95%
Azerbaijan	0	189	36	225	0.80%
Belarus	354	246	0	600	2.14%
Bosnia and Herzegovina	0	362	0	362	1.29%
Bulgaria	26	704	42	772	2.75%
Croatia	2	402	0	404	1.44%
Cyprus	0	119	121	240	0.86%
Czechia	9	423	70	502	1.79%
Egypt	0	13	3 062	3 075	10.97%
Estonia	71	286	3	360	1.28%
Georgia	0	533	48	581	2.07%
Greece	375	225	0	600	2.14%
Hungary	154	632	19	805	2.87%
Italy	20	718	22	760	2.71%
Jordan	0	11	590	601	2.14%
Kazakhstan	0	0	1 446	1 446	5.16%
Kosovo	1	270	0	271	0.97%
Kyrgyz Republic	7	353	0	360	1.28%
Latvia	58	289	12	359	1.28%
Lebanon	0	4	528	532	1.90%
Lithuania	32	324	2	358	1.28%
Malta	27	194	21	242	0.86%
Moldova	359	1	0	360	1.28%
Mongolia	0	11	349	360	1.28%
Montenegro	2	148	0	150	0.53%
Morocco	0	0	1 096	1 096	3.91%
North Macedonia	0	11	349	360	1.28%
Poland	0	0	1 369	1 369	4.88%
Portugal	21	1 038	3	1 062	3.79%
Romania	22	773	19	814	2.90%
Russia	1	0	1 322	1 323	4.72%
Serbia	13	348	0	361	1.29%
Slovak Republic	8	415	6	429	1.53%
Slovenia	16	393	0	409	1.46%
Tajikistan	0	352	0	352	1.26%
Tunisia	0	3	612	615	2.19%
Türkiye	354	1 309	0	1 663	5.93%
Ukraine	2	0	1 335	1 337	4.77%
Uzbekistan	0	0	1 239	1 239	4.42%
West Bank and Gaza	0	361	4	365	1.30%
Total	**1 752**	**25 457**	**833**	**28 042**	**100%**

Source: Own elaboration using Stata 19

Table B.2. Operationalization of Variables Based on BEEPS Survey

Variable Name	Question Code	Question
Export_Performance	**D.3**	**In last complete fiscal year, what percentage of this establishment's sales were:**
	d3b	Indirect exports (sold domestically to third party that exports products)
	d3c	Direct exports
Sustainable_Practices	**BMGc23**	**Over the last three years, did this establishment adopt any of the following measures?**
	BMGc23a	Heating and cooling improvements
	BMGc23b	More climate-friendly energy generation on site
	BMGc23c	Machinery and equipment upgrades
	BMGc23d	Energy management
	BMGc23e	Waste minimization, recycling and waste management
	BMGc23f	Air pollution control measures
	BMGc23g	Water management
	BMGc23h	Upgrades of vehicles
	BMGc23i	Improvements to lighting systems
	BMGc23j	Other pollution control measures
Environmental_Requirements	BMGA.4	In fiscal year, did any of the establishment's customers require environmental certifications or adherence to certain environmental standards as a condition to do business with this establishment?
Firm Size	L.1	At the end of last fiscal year, how many permanent, full-time individuals worked in this establishment?
Firm Age	B.5	In what year did this establishment begin operations?
Family Firm	BMb1	What percentage of the firm is owned by the same family? (If more than one family, refer to the one with largest ownership)
Human Capital	BMl1a	What percentage of the full-time permanent workers employed at the end of fiscal year had a university degree?

Source: Own Elaboration, based on BEEPS.

Table B.3. Correlation Matrix and VIF test

Variables	1	2	3	4	5	6	7	VIF
1. Export_Performance	1.0000							
2. Sustainable_Practices	0.1832***	1.0000						1.15
3.Environmental_Requirements	-0.1514***	-0.0694***	1.0000					1.04
4. Log (Firm_Size)	0.3009***	0.3307***	-0.1132***	1.0000				1.22
5. Log (Firm_Age)	0.0841***	0.0941***	-0.0207***	0.2299***	1.0000			1.11
6. Family_Firm	0.0826***	0.0621***	0.0117*	-0.1012***	0.0891***	1.0000		1.06
7. Human_Capital	-0.0334***	-0.0536***	-0.0136	0.0702***	-0.0835***	-0.1704***	1.0000	1.04
							Mean VIF	1.10

Source: Own Elaboration, using Stata 19.
Note: *** statistically significant at 1% level; ** at 5% level; * at 10% level.

Table B.4. Robustness Check Results

Export Performance	
	Model 1
Sustainable_Practices	**0.997** (0.394)
Env_Requirements	**0.415** (1.040)
Sustaianable_Practices#Env_Requirements	**-0.469***** (0.207)
Log (Firm_Size)	**2.373***** (0.485)
Log (Firm_Age)	**-2.776***** (0.869)
Family_Firm	**-1.957** (1.306)
Human_Capital	**-0.0721***** (0.0264)
Constant	**-39.63***** (5.868)
Country	Included
Sector	Included
R-Squared	0.241
Log Likelihood	-12145.4

Source: Own Elaboration, using Stata 19.

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