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Impact of ESG Practices on Financial and Risk Performance in Family Businesses

Luis Alberto Otero-González[1] | Raquel Esther Querentes-Hermida[2] | Pablo Durán-Santomil[1] | María Garrido-Ruso[2]

[1]Department of Finance and Accounting, ECOBAS – Universidade de Santiago de Compostela (USC), Santiago de Compostela, Spain | [2]Department of Finance and Accounting, Universidade de Santiago de Compostela (USC), Santiago de Compostela, Spain

Correspondence: Raquel Esther Querentes-Hermida (raquel.querentes@usc.es)

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ABSTRACT

The study of the relationship between Environmental, Social, and Governance (ESG) practices and financial performance in family firms (FFs) is still in its early stages. This study focuses on 509 Spanish companies, examining how ESG influences their financial and risk performance. It differentiates among FFs, specifically between those with a single owner and those with multiple owners, and non-family businesses. The composition of our ESG index consists of 63 variables. To analyze the impact of ESG, we employed propensity score matching (PSM) to compare FFs and non-FFs and regression models to examine the effect of ESG commitment on future performance. The findings reveal that FFs with boards of directors demonstrate a strong commitment to ESG practices, particularly in environmental and labor subdimensions, which positively impact their financial performance. Conversely, social initiatives have a negative effect. Moreover, FFs—especially those with multiple family members involved—achieve more positive results from ESG engagement than non-FFs. Notably, FFs, except those with a single owner, with higher ESG scores performed better financially during the COVID-19 crisis, although not better than non-FFs. However, the presence of sustainability reports is positive but without differences between FF and non-FFs.

1 | Introduction

Family firms (FFs) are companies that have been founded or owned by individuals who share some form of kinship. The founder is often part of the board of directors (Lamb et al. 2017; Mariani et al. 2023), and the continuity of the business is intended to be "potentially sustainable across generations of the family or families" (Chua et al. 1999, 25; Martín and Aroca 2016). There are three essential characteristics that determine whether a company is a family-owned enterprise: the family owns all or a significant portion of the company, plays a key role in decision-making and management, and intends for ownership to be passed on to future generations within the family (Kelly et al. 2008; Bendell 2022; García-Sánchez et al. 2020).

The role of the family business in the economy is so significant that it represents the most common type of business worldwide (Martín and Aroca 2016; Lamb et al. 2017; Rovelli et al. 2022; Stock et al. 2024). Specifically, "families own two-thirds of the world's private businesses" (Li et al. 2023, 1). Family businesses represent between 80% and 90% of the global business fabric (Zellweger et al. 2015). The importance of these companies is highlighted by the "Family 500" index, which tracks the revenues of the largest family businesses in the world. This index experienced a 10% increase in 2023 compared to 2021, with these companies generating more than 8 trillion dollars in 2023 (Robertsson et al. 2023). In Europe, it is estimated that there are around 14 million family businesses, which generate 60 million jobs in the private sector. This means that family businesses are

a fundamental source of wealth wherever they operate. In Spain, as worldwide, family businesses are of great importance and are a highly attractive asset in the Spanish economy. Currently, it is estimated that Spain has over 1.1 million family businesses, generating 67% of employment and contributing 57.1% to the Gross Domestic Product (GDP) (Diéguez 2022).

The influence that family businesses exert in their respective regions, along with their unique characteristics, leads to several key priorities for these companies: attracting qualified personnel, ensuring the welfare of their workers and appropriately rewarding their efforts, enhancing innovation, and professionalizing the business. Consequently, recent years have seen a notable increase in the development and success of family businesses (Martín and Aroca 2016). The unique characteristics of family businesses distinguish them from other types of companies, necessitating special attention to understand their behavior. Moreover, given the significant importance of FFs, research on this topic has increased over the past decades. This growing interest has led to the establishment of three dedicated journals: *Family Business Review* (FBR), *Journal of Family Business Strategy* (JFBS), and *Journal of Family Business Management* (JFBM), created in the years 1988, 2010, and 2011, respectively (Rovelli et al. 2022).

One of the most current topics in the literature is ESG (Environmental, Social, and Governance), making it interesting to explore how family businesses engage with these practices and the results they achieve. It has been shown that certain groups of organizations, such as small and medium-sized enterprises (SMEs), achieve different outcomes compared to large companies, which are the most studied in this area (Garrido-Ruso et al. 2024). Therefore, it is essential to analyze family businesses and ESG, as this area is gaining relevance, yet few comprehensive studies have been conducted so far (Martín and Aroca 2016; Lamb et al. 2017; Rovelli et al. 2022; Mariani et al. 2023; Stock et al. 2024).

This paper aims to fill a gap in the literature by exploring and providing empirical evidence on the relationship between ESG—both as a whole and in its individual dimensions—and performance, distinguishing between family and non-family businesses in Spain. Furthermore, it examines the role of ESG as a strategic tool during times of crisis, alongside the extent of ESG disclosure and the presence of specialized committees comparing its impact on both types of firms.

This study contributes to the existing knowledge in several ways. First, it advances both the Family Business and ESG literature. It also compares the results between family and non-FFs, emphasizing the importance of focusing on family businesses due to the distinct outcomes observed. Our results reveal that family-owned companies with boards of directors are generally more committed to ESG practices, except for corporate governance. Also, the commitment to ESG tends to enhance financial performance to a greater extent for FFs, especially when focused on environmental and labor issues, while social initiatives have a negative impact.

Notably, family firms, except single owners, with higher ESG scores performed better financially during the COVID-19 crisis but not better than non-family firms. However, the presence of sustainability reports is positive but without differences between family and non-family firms.

The findings reveal that FFs with boards of directors demonstrate a strong commitment to ESG practices, particularly in environmental and labor subdimensions, which positively impact their financial performance. Conversely, social initiatives have a negative effect. Moreover, family businesses—especially those with multiple family members involved—achieve more positive and significant results from ESG engagement than non-family businesses. Notably, family firms, except single owner, with higher ESG scores performed better financially during the COVID-19 crisis but not better than non-family. However, the presence of sustainability reports is positive but without differences between family and non-family firms.

The remainder of the paper is structured as follows: Section 2 presents a literature review and formulates the hypotheses. Section 3 describes the sample and variables; Section 4 explains the model and discusses the results; and Section 5 demonstrates the robustness of the findings. Sections 6 and 7 include the discussion and implications of the study, and finally, Section 8 presents the conclusions.

2 | Theoretical Framework and Hypotheses Development

This section presents the framework of the relationships examined in this study: family firms and ESG; ESG and financial performance in family firms; ESG during periods of crisis in family firms; and ESG disclosure in family firms and financial performance, as well as the theories and prior research underlying the formulation of six proposed hypotheses.

2.1 | Family Firms and ESG

As mentioned above, the relationship between ESG and family businesses is increasingly present in the literature and has experienced enormous growth in the last decade (Mariani et al. 2023). The unique characteristics of family businesses present an interesting opportunity to determine whether their behavior differs from that of non-FFs. One theory that explains why the behavior of FFs differs from that of non-FFs is the socioemotional wealth (SEW) theory (Gómez-Mejía et al. 2007). The literature consistently views SEW as the primary reference point for FFs (Berrone et al. 2010; Gómez-Mejía et al. 2007; Bernhardsen and Ligard 2022).

SEW is defined as "the non-financial aspects of firms that satisfy the family's affective needs" (Gómez-Mejía et al. 2007, 106). These needs, which help explain the existence of family businesses, include maintaining identity, exercising family influence, and perpetuating the family dynasty (Gómez-Mejía et al. 2011; Block and Wagner 2014; De Massis and Rondi 2020; García-Sánchez et al. 2020; Bendell 2022; Mariani et al. 2023; Stock et al. 2024). Consequently, SEW theory focuses on the emotional needs of the owners and family members of the firm. FFs primarily base their decisions on the preservation of their

SEW (Samara et al. 2018; Bukalska et al. 2021). De Massis and Rondi (2020) state that this is the driver of decision making in family businesses.

Berrone et al. (2012, 258) claim that this theory "is the most important differentiator of the FFs as a unique entity and, as such, helps explain why FFs behave distinctively." The tendency of family businesses to prioritize preserving their SEW over economic objectives suggests that the emotional bonds driving their decision-making, a stronger commitment to the community, employees, and avoiding reputational risks, along with a long-term perspective, motivate family businesses to take a more proactive approach in areas like sustainability and social responsibility (Bernhardsen and Ligard 2022; Sun et al. 2024; Czyżewski et al. 2025).

Participating in ESG activities can enhance a firm's reputation and legitimacy, offering protection against potential harm to its brand value, while also enhancing the family's reputation (López-Pérez et al. 2018). Additionally, such initiatives improve the company's image, making it more attractive to investors (Espinosa-Méndez et al. 2024). A key benefit of substantial ESG investment is mitigating future risks and securing wealth for future generations, as firm survival is crucial for family businesses (López-Pérez et al. 2018). Consequently, FFs may achieve higher ESG scores compared to non-FFs.

Based on this theory, several studies have examined the performance of family and non-FFs in relation to their commitment to ESG (Nekhili et al. 2017; Campopiano et al. 2019; Mariani et al. 2023). García-Sánchez et al. (2020) analyzed an international sample of publicly listed firms and found that FFs exhibit a higher level of ESG performance compared to non-FFs. Martín and Aroca (2016) conducted a study to assess whether differences exist in behavior between family and non-family businesses, with a particular focus on identifying which type is more oriented towards ESG and found positive results in favor of family-owned companies, which prove to be more involved in Corporate Social Responsibility (CSR) than non-family-owned companies. Esparza and Reyes (2019) also argue that FFs demonstrate a higher level of ESG commitment compared to non-FFs.

According to Lamb et al. (2017), the primary goal of family companies is not solely financial gain but to establish the business as a family symbol. Following this idea, Martín and Aroca (2016) refer to the four main advantages that family businesses would have by engaging with ESG: a competitive advantage, stronger employee commitment, improved customer understanding and satisfaction, and an enhanced reputation.

However, some authors have found negative results when studying this relationship (Shu and Chiang 2020). They argue that family managers are more concerned with personal benefits and less with ESG criteria. In this line, Jian and Dai (2019) concluded through a sample of Chinese companies that concentrating a higher percentage of family ownership causes a reduction in ESG criteria concern. On the other hand, Labelle et al. (2015) concluded that there is a curvilinear relationship between family ownership and ESG. FFs will focus their investments more on these criteria in the face of reduced ownership percentages until such ownership exceeds 36%, after which the investment in ESG criteria becomes negative.

To further demonstrate that FFs behave differently from non-FFs, the following hypotheses are proposed:

H1. *FFs are more likely than non-FFs to engage in ESG activities.*

We hypothesize that family businesses are more closely linked to ESG activities and their sub-dimensions. However, it seems reasonable to suggest that governance-related activities do not necessarily follow this trend. Since corporate governance in FFs is often dominated by family members whose primary objective is to preserve SEW, this can result in less professionalized governance structures (Gómez-Mejía et al. 2007, 2011). This distinct approach to corporate governance compared to non-family companies leads to weaker ESG governance in family-owned firms (Chrisman et al. 2005). Viviers (2022), after analyzing the characteristics of boards of directors in family and non-family companies, recommends that FFs should focus more on implementing effective ESG measures to enhance the quality of their corporate governance. This includes actions such as increasing board diversity and the presence of non-family members as independent directors. Therefore, it is reasonable to conclude that the involvement of family members may obscure ESG governance efforts (Mashele et al. 2024).

H2. *FFs are more likely than non-FFs to engage in ESG dimensions, except in terms of governance.*

2.2 | ESG and Financial Performance in Family Firms

Voluntary actions focused on companies, that is, CSR, which in turn are strongly linked to ESG factors, involve high investments but no immediate return. The effort of this type of activity is an unproductive expenditure (Murray and Montanari 1986). However, several authors state that companies must align their objectives with voluntary actions, since these are not only a cost, but also present high opportunities and competitive advantages over competitors (Porter and Kramer 2006).

Financial performance is one of the most observed outcomes of ESG adoption (Mariani et al. 2023). Given the unique ways in which FFs engage with ESG compared to non-FFs, it is reasonable to expect that their financial results will reflect these differences. Previous research highlights a link between ESG practices and financial performance, suggesting that if family businesses are more committed to sustainability, they are likely to achieve better financial results (Lamb et al. 2017). But also, for the same level of ESG implementation, FFs' strong connections with their local communities, active involvement in social initiatives, dedication to employee welfare, and environmental efforts enhance their image within their environment. This improved perception can lead to increased consumer satisfaction and loyalty, a stronger reputation, and ultimately, improved financial performance (Stock et al. 2024). In the case of family businesses, besides contributing to improving

the reputation of the company towards stakeholders (Melo and Garrido-Morgado 2011; Michelon 2011), which is very difficult to imitate by competitors (Alniacik et al. 2011) also have a positive effect on financial performance.

As the aim of family businesses is to transfer business from generation to generation, those who focus on sustainability also want to pass on this legacy, but it must be borne in mind that the costs involved for this type of company to invest in ESG will be transformed into long-term financial performance (Jiménez 2023). Linked to this idea, the study carried out by PWC in 2023 concluded that 73% of family businesses have seen an increase in their revenues in the previous two years and it is expected that in the following years turnover will increase with these companies (Natera 2023).

Comparing family businesses with those that do not have any kind of family connection, Morck and Yeung (2004) concluded that family-owned companies only seek to preserve their own interests when returns are positive and therefore do not focus on activities which improve society as a whole. However, Friedman (1970) argued that in general, company managers try to carry out activities which involve social improvement but without obtaining a profit from these actions.

Mariani et al. (2023) found only 10 papers published on this subject in their literature review, most of them showing a positive relationship between the two variables analyzed: ESG and the financial performance of FFs. On the one hand, the study by Wu, Hsien, and Lin (2012) concluded that FFs, due to their specific characteristics, are reluctant to invest in ESG, unlike non-FFs. In contrast, López-Pérez et al. (2018) have analyzed the relationships between ESG practices and financial and non-financial results of SMEs located in Spain, differentiating, those who are related to the non-family. Their results showed that the relationship between these two variables is not significant, but the fact that the company is family-owned influences the results obtained and therefore these types of companies are more sensitive to factors such as social and environmental issues. Moreover, Singal (2014) concluded that family-owned companies make a greater investment in ESG dimensions than non-family-owned ones and that, the first ones have a higher financial performance. He therefore observed that when family-owned companies have financial resources, they try to strengthen their ESG activities and reduce them when they do not. Furthermore, Niehm et al. (2008) concluded that the size of FFs influences their financial success and that those with more employees will focus more on ESG dimensions. They even found a significant relationship between ESG activities and financial performance, depending on the benefits and assistance family businesses provide to the community where they operate. Gavana et al. (2018) also studied a sample of listed non-financial companies and found that family businesses that do ESG activities and disclose them have a significant effect on revenues. Kashmiri and Mahajan (2014) studied a sample of listed family companies and found that higher returns are obtained from the introduction of more socially responsible and ethical products on the market. The study by Wu, Lin, and Wu (2012) analyzed technology-sector companies in Taiwan and concluded that investors in family-owned companies are more likely to invest in shares of these companies, provided that they focus on ESG activities. Finally, Shahzad et al. (2018) concluded that performing ESG activities implies efficient investment in companies; in particular, it is higher in the case of family businesses, thus improving the image of the company and reducing possible asymmetries of information.

Although the literature provides extensive evidence on how ESG influences financial performance, the effects of specific ESG activities remain less explored. CSR practices do not uniformly affect business outcomes, and several studies (like Suciu et al. 2020 or Gregory 2022) emphasize the need for more granular research into firm-level ESG initiatives. Studies such as Garrido-Ruso et al. (2024) show that the individual effect may be offset across the different dimensions if only the overall variable is analyzed, making it necessary to consider the ESG variable both in general and in each of its dimensions individually.

Given the research analyzing this relationship both broadly and at the individual component level, and considering previous studies that suggest greater ESG involvement by family businesses, the following hypotheses are proposed:

H3. *ESG implementation has a higher positive impact on the financial performance of FFs than non-FFs.*

H4. *ESG dimensions implementation has a higher positive impact on the financial performance of FFs than in non-FFs.*

2.3 | ESG During Periods of Crisis in Family Firms

Previous studies have analyzed the role of ESG in a crisis. Rovelli et al. (2022) argue that this should be a topic of great importance for researchers in family businesses. Given the current historical moment, it is essential to know how family businesses can leverage their unique characteristics to survive the consequences of the COVID-19 pandemic (Rovelli et al. 2022). Several studies suggest that FFs tend to be more resilient than non-FFs during periods of economic downturn (Chrisman et al. 2011; Conz et al. 2020). These results align with the findings of Miroshnychenko et al. (2024), who also argues that FFs perform better financially during times of crisis compared to non-FFs.

Regarding the importance of ESG in times of crisis, Kashmiri and Mahajan (2014) suggest that FFs are likely to maintain higher levels of ESG involvement during a recession compared to non-FFs (Mariani et al. 2023). Kraus et al. (2020) examined how FFs responded to the crisis caused by COVID-19. The focus on family continuity as a primary objective has enabled many family businesses to draw lessons from past crises. Their findings indicate that more established FFs demonstrate greater resilience to crises than non-FFs. Espinosa-Méndez et al. (2024) conducted a study examining the impact of the COVID-19 crisis on family-owned companies, focusing on their ESG involvement and financial performance. The results show that companies with higher ESG ratings were less negatively affected than those with lower ESG involvement.

In response to the challenges posed by the COVID-19 pandemic, this study examines the role of ESG during the crisis. To this end, we propose the following hypotheses:

H5. *FFs with a higher level of ESG show a higher level of resilience in periods of crisis.*

2.4 | ESG Disclosure in Family Firms and Financial Performance

Non-financial or voluntary disclosure refers to aspects of the ESG dimensions, being a concern for both the stakeholders of the company and the company itself where it operates, because the company is responsible for any mis-executed action in relation to these factors (Baron 2014). ESG disclosure is closely tied to the governance pillar, as transparency and the quality of reporting are fundamental aspects of good corporate governance. Effective ESG disclosure reflects a company's commitment to clear communication with stakeholders. This is why both external and internal ESG reporting is essential for demonstrating governance practices. External reporting helps build transparency and trust with external stakeholders who increasingly look at ESG factors to assess long-term business sustainability and risk. On the other hand, internal reporting ensures that ESG considerations are deeply embedded in the company's culture, operations, and decision-making processes aligning business strategies with ESG objectives.

Considering this, the study is also grounded in Stakeholder Theory (Freeman 1984), one of the most widely applied frameworks for conceptualizing and analyzing the ethical responsibilities of firms (Dmytriyev et al. 2021). According to Freeman (2004), an organization can only be regarded as socially responsible if it first acknowledges its stakeholders, given their critical influence on performance outcomes. Consequently, in this context, stakeholders play a central role as the primary recipients of corporate disclosures.

A common issue in family businesses is their insufficient communication of their positive contributions, because the link between family ownership and disclosure is weakened by the fact that disclosure contradicts the primary objective of such companies, which is to protect SEW and preserve information asymmetry with other stakeholders (Hsueh 2018). The basis for disclosure of ESG information by family businesses is that it is reliable in gaining the trust of its stakeholders (Elving 2013). Moreover, for this type of company disseminating such information requires greater effort, since its objective is to improve its image and maintain its reputation in the market (McGuire et al. 2012). The main difference between family and non-family businesses is based on the possible asymmetry of information between potential majority investors and minority investors. Given their important role in the global economy and their proven commitment to ESG, it is essential for FFs to effectively disclose their sustainable actions to maximize their impact and outcomes (Stock et al. 2024), in addition to improving the company's image and reputation among investors (McGuire et al. 2012).

On the one hand, Salvato and Melin (2008) concluded that disclosing information related to ESG dimensions will cause family businesses to establish stronger relationships with both internal and external stakeholders. On the other hand, Chen et al. (2008) conducted a study comparing the disclosure practices of family and non-FFs, uncovering significant differences. Nekhili et al. (2017) later supported these findings by demonstrating that FFs provided less information about their ESG activities compared to non-FFs. Meidiana and Farah (2019) have shown that the relationship between family businesses and ESG disclosure is diminishing. However, Li et al. (2023) contend that it is still unclear whether a consistent difference in disclosure practices exists between family and non-FFs. Recent research, including studies by Araya-Castillo et al. (2022), has started to explore this issue by analyzing disclosure behaviors in more detail.

On the other hand, Martín and Aroca (2016) found that family businesses producing ESG reports exhibit higher levels of social commitment compared to those that do not. Based on these findings, it appears that family businesses tend to show stronger commitment to social and labor issues than non-FFs. Campopiano and De Massis (2015) examined whether the presence of a family in a business organization influences the disclosure of non-financial information. Their results indicate that family businesses produce a wider range of reports with content that differs from that of non-family businesses. The study by Borralho et al. (2022) studied a sample of listed family and non-family companies to understand how these companies behave when independently disclosing information on each of the ESG dimensions. Concluding that the results obtained in each of the ESG dimensions separately are different, being affected by the property factor. Positive and non-significant data were obtained on family businesses, between the disclosure of environmental information and financial performance. The same applies to non-family companies, due to potential conflicts of interest between shareholders and managers. In the case of social disclosure, it has a more positive effect on the financial results of non-family enterprises than on family enterprises. However, disclosing information related to the governance dimension, family businesses report less because family members participate in the company, thus causing less financial profitability. In the case of non-family firms, this relationship is significant. Recent comparative studies have emphasized how ownership structures shape the nature and strategic depth of CSR engagement. For instance, Iannone et al. (2025) explore how different ownership types, including family firms, adopt distinct CSR engagement models, in the three major economies of the European Union (Germany, France and Italy). This perspective is in line with our hypothesis on heterogeneity within family firms. In conclusion, family businesses are the ones that disclose more information compared to non-family companies since these companies focus more on both internal and external stakeholders.

Given the special characteristics of family businesses and their intention to preserve the SEW, it is reasonable to assume that family businesses are inclined to comply with disclosure regulations and provide comprehensive and clear information about their ESG activities. This approach allows them to effectively communicate their involvement to stakeholders and gain an edge over their competitors. Considering the strong connections between family-owned companies and their stakeholders, and based on previous studies indicating greater ESG involvement among family businesses, the following hypotheses are proposed:

H6. *ESG disclosure has a higher positive impact on the financial performance of FFs than non-FFs.*

3 | Methodology and Data

This section studies the impact of ESG implementation and disclosure on the performance and risk of a sample of Spanish companies. To carry out this analysis, an ESG index has been developed, as the companies included in the study are non-listed and no external ratings are available. Additionally, it provides details about the data and the independent variables used in the analysis, as well as the models used.

3.1 | Sample and Data Description

The data for this paper is derived from two sources: economic and financial information was gathered from the SABI (Iberian Balance Analysis System) database, while ESG data was collected through a survey (see Table 1). We utilized a consistent ESG index for the entire analysis period (2018–2020) as this variable does not experience significant short-term fluctuations. Therefore, the same value is applied across the studied years, under the assumption that the level of ESG implementation among the companies remains stable over these periods. Additionally, in the robustness section, we have incorporated the effect for the 2022–2023 period to analyze the effects over a longer time horizon. The initial sample consists of 538 Spanish companies from the northern region. After accounting for those included in the SABI database, the sample size has been reduced to 509 companies.[1] Of these, 50.5% are family-owned businesses, while 26.8% are sole proprietorships, where a single individual controls both management and ownership. The remaining 28.6% are owned by other types of investors, with approximately 3% belonging to public or financial entities. In family-owned businesses, the average equity held by the family is 94%, with many owning 100% of the company. The sample is highly representative of the target population, with a confidence level exceeding 95%. The electronic survey was administered to a random selection of companies between July and November 2019. The survey used dichotomous questions to assess the level of ESG implementation across different dimensions. In addition, companies self-labeled as family-owned and these data were cross-checked, confirming that the FFs in our sample have more than 90% family control. It targeted the company's management, utilizing the directory provided by the Galician Institute for Economic Promotion (IGAPE).

TABLE 1 | Detailed summary of the sample.

Topic	Description
Target population	245,660 companies registered in SABI
Initial sample size	538 companies
Final sample size	509 companies
Sampling method	Convenience sampling
Confidence level	95%
Margin of error	±4.34%
Collection period	July to November 2019
Instrument	Structured questionnaire online
Average duration	20 min per survey

Source: Own elaboration.

3.2 | ESG Measurement

One of the key challenges in measuring this variable is the lack of a standardized criterion. As noted by Barauskaite and Streimikiene (2021), it is crucial to establish consistent ESG assessment tools and indicators to evaluate the companies' ESG performance, both globally and across each dimension (Martinez-Conesa et al. 2017; Quéré et al. 2018). This paper uses an index to measure the degree of ESG implementation, with the following interpretation: companies with higher scores are those that have implemented a greater number of best practices and are considered the most ESG-engaged. Dichotomous variables are used as indicators to measure the degree of ESG activity, chosen for their objectivity and clarity in evaluation. While fully eliminating biases remains a challenge, several measures were taken to minimize their impact. These include indirect questioning, anonymity, confidentiality of responses or using simple language, among other measures.

The composition of our ESG index consists of 63 variables. Specifically, 13 items are used to measure the environmental dimension (*EnvInd*), 11 items for the social dimension (*SocInd*), 24 items for the labor dimension (*LabInd*), and 15 items for corporate governance (*GovInd*).[2] Each of them is detailed in Appendix I. In this paper, we applied various methodologies to test their robustness. However, because the results were closely related, we ultimately constructed our own ESG index using a broad set of variables based on multi-criteria decision analysis (MCDA) proposed by Cinelli et al. (2021). The process consists of two main steps: normalization and aggregation. The first step standardizes the indicators and dimensions to a common scale, ensuring they are comparable. The second step involves combining the normalized indicators. Various aggregation methods offer flexibility in how trade-offs between indicators are managed. This methodology can be explored in greater detail in the research by Garrido-Ruso et al. (2024).

3.3 | Variables and Descriptive Statistics

In addition to the variables related to the indices representing the level of ESG implementation by companies, a set of factors related to performance have also been included (see Table 2), which have been used previously (Otero-González et al. 2021; Garrido-Ruso et al. 2024). On the other hand, variables used as controls have also been employed in previous analyses, examining how these variables influence economic outcomes (Arosa et al. 2010; Block and Wagner 2014). Additionally, we have included variables related to ownership (family-owned

TABLE 2 | Variables considered in the analysis.

	Definition
Family variables	
Family	Dummy variable for family firms. Include family single owner and family with more than one member.
Familyonly	Firms with more than one member
Singleowner	Firms with a single owner
ESG-related variables	
ESGglobal	ESG global index (see Appendix I)
LabInd	Labor Index (see Appendix I)
SocInd	Social Index (see Appendix I)
EnvInd	Environmental Index (see Appendix I)
GovInd	Governance Index (see Appendix I)
ESGdepartment	Dummy with value 1 if the company uses a department or specialist on ESG
InfoESGuse	Dummy with value 1 if the company uses information of stakeholders in the global strategy of the company and 0 otherwise.
ESGcommittee	Dummy with value 1 if the company has ESG committee and 0 otherwise.
ESGreporting	Dummy with value 1 if the company has ESG report and 0 otherwise.
Performance variables	
Financial profitability (ROE)	Operating income/Average Equity
Economic profitability (ROA)	EBIT/Average total assets
Cashflow of total assets (CashflowTA)	Cashflow operations/Average total assets
Return on Assets adjusted by risk (ROAadj)	*ROA*/*ROA* volatility
Return on Equity adjusted by risk (ROEadj)	*ROE*/*ROE* volatility
Board characteristic	
Boardsize	Size of the board
Womenboard	Number of women in the board
Boardindependents	Number of board independents
Control variables	
Sector	Dummy variables for the different sectors based on National Economic Activities Classification
Size (logTA)	Logarithm of total assets
Solvency	Equity/Non-current assets
Growth	Growth rate in sales and operating revenue
Small	It considers the criteria set by the European Commission, including a revenue threshold of less than €10 million, fewer than 50 employees, and a balance sheet total not exceeding €10 million

Source: Own elaboration.

and single-owned) (Kuruppuge et al. 2018), as well as others related to the organization of ESG activities (ESG department) or board characteristics. Regarding ownership family, we classify firms as family (*Family*) and non-family firms. Family firms are divided into single-owner firms (*Singleowner*, firms with a single owner) and family-only firms (*Familyonly*, firms fully controlled and managed by several members of the same family). Performance measures include both non-adjusted and risk-adjusted metrics (*ROAadj*, *ROEadj*). For example, a higher *ROAadj* indicates a lower probability of insolvency risk, meaning greater financial stability (Otero-González et al. 2022).

TABLE 3 | Descriptive statistics of the main variables.

Variable	Obs.	Mean	Std. dev.	Min.	Max.
Family-related variables					
Family	1410	0.7638	0.5666	0	1
Familyonly	1410	0.5042	0.5001	0	1
Singleowner	1410	0.2595	0.4385	0	1
ESG-related variables					
ESGglobal	1040	32.7628	12.1114	1	59
LabInd	1257	11.1655	5.6674	0	23
SocInd	1389	5.61804	2.8034	0	11
EnvInd	1307	4.2742	3.2744	0	12
GovInd	1242	12.2740	3.7620	0	16
ESGdepartment	1401	0.16238	0.3690	0	1
InfoESGuse	1401	2.4539	1.3273	0	5
ESGcommittee	1401	0.16238	0.3690	0	1
ESGreporting	1323	0.2426	0.4288	0	1
Performance-related variables					
ROA	1401	0.0576	0.1059	−0.9094	1.4685
CashflowTA	1401	0.0720	0.0953	−0.8279	1.0916
ROE	1401	0.2365	5.4846	−13.0515	1.7257
ROAadj	1384	1.7325	2.9827	−6.5223	8.2787
ROEadj	1362	1.4877	4.0525	−4.5714	7.4160
Board characteristics					
Boardsize	609	3.5123	2.8436	0	13
Womenboard	555	0.9297	1.1113	0	6
Boardindependents	453	0.9536	2.0845	0	12
Control variables					
Size	1401	14.6009	1.6669	9.8121	24.3058
Solvency	1401	0.4710	0.2939	−4.1842	0.9938
Growth	1372	0.0369	0.2773	−0.9728	1.7257
Small	1401	0.8640	0.3428	0	1

Note: Please refer to the definition of variables in Table 2 for a detailed description.

Table 3 provides descriptive statistics for the main variables used in the analysis. Ownership characteristics show that 76.38% of the firms are family firms (FF), with 50.42% being family-owned firms with more than one family member involved, and 26.89% being family firms with a single owner. The average ESG global score (*ESGglobal*) is 32.76, with significant variability, ranging from 1 to 59, indicating that, on average, companies implement slightly more than half of the possible ESG indicators. The Labor Index (*LabInd*), Social Index (*SocInd*), Environmental Index (*EnvInd*), and Governance Index (*GovInd*) have mean values of 11.17, 5.62, 4.27, and 12.27, respectively, showing that companies on average implement less than half of the measures related to Labor and Environment, while achieving a significant level in Governance. The mean of financial performance measures (*ROA*: 5.76%, Cashflow to Total Assets: 7.20%, and *ROE*: 23.65%) suggests that, on average, companies perform well, although there is substantial variation across firms. Adjusted performance metrics, *ROAadj* and *ROEadj*, average 1.73 and 1.49, though also with significant differences in performance stability. Board characteristics include an average of 3.51 members, with a mean of 0.93 women and 0.95 independent members. Firm size highlights the presence of a significant number of small-sized firms (86.40%). The descriptive statistics highlight the predominance of family firms in the sample and the diversity

in ESG practices, ownership structures, financial performance, and governance.

3.4 | Models

To examine the relationship between ESG practices and firm performance, our analysis follows a two-step approach. First, we compare family and non-family firms in terms of ESG engagement using propensity score matching (PSM) to reduce selection bias and create a fair comparison. Second, we regression models to assess the effect of ESG commitment on future financial and environmental performance. This structure allows us to control for selection bias, firm characteristics, and temporal effects, providing a comprehensive view of ESG impacts.

The analysis first compares FFs and non-family in terms of ESG indicators. To mitigate the selection bias issue, we use PSM, a common technique to compare performance (Climent and Soriano 2011; Reboredo et al. 2017; Barko et al. 2021; Otero-González et al. 2022). Let's consider D as an indicator variable that takes the value 1 if the fund declares its activism in ESG and 0 otherwise. Thus, the differences between family and non-FFs in terms of ESG can be analyzed as the difference between $\alpha_{i1} - \alpha_{i0}$, where α_{i1} is the mean of the dependent variable analyzed for company i with the treatment (FFs), and α_{i0} is the mean of the company without the treatment (non-FFs). This way, the average treatment effect can be estimated as follows:

$$ATT = E(\alpha_1 - \alpha_0 | D = 1) = E(\alpha_1 | D = 1) - E(\alpha_0 | D = 1), \quad (1)$$

where $E(\alpha_0 | D = 1)$ captures the (unobservable) counterfactual effect, representing what the performance of a family firm would have been if it were not a family firm. ATT measures the difference between the observed outcome for FFs and the hypothetical outcome they would have had as non-FFs.

To identify average unobservable counterfactuals, we have used a two-step procedure that works as follows: first of all, we have determined the propensity score or the probability of being treated, conditional on a set of explanatory variables X.

This probability has been estimated using a logit model with the explanatory variables size, growth, solvency and industry; after this, using the propensity score estimated values, and assuming that all differences between treated and non-treated firms are reflected in the observable vector X, we have identified the average unobservable counterfactuals using kernel and nearest neighbor methods.

Second, we analyze, through regression models, the effect that ESG commitment has on future performance, both financial and environmental. This approach allows for the inclusion of temporal effects, controlling for other variables, and has been commonly used in this field (Khan et al. 2016; Kim and Li 2021; Garrido-Ruso et al. 2024). We run the regressions including time fixed effects, lagged variables and standard robust errors to heteroskedasticity:

$$P_{it} = \omega + \beta_1 ESG_{i,t-1} + \theta Controls_{i,t-1} + \varepsilon_{i,t} \quad (2)$$

where the subscripts i and t denote company i in the year t, P_{it} represents the different metrics of environmental or economic performance, ω is the constant and $\varepsilon_{i,t}$ the error term.

Overall, this methodology allows us to attribute observed differences in performance to ESG engagement, rather than to other firm-specific characteristics.

4 | Results

This section presents the tables containing the results obtained for each of the relationships examined in section two.

4.1 | Are Family Firms More Engaged in ESG Practices?

In Table 4 we analyze the involvement of family-owned versus non-family-owned companies in ESG activities, both at a global level (*ESGglobal*) and in each of its dimensions, using the propensity score matching (PSM): environmental (*EnvInd*), social (*SocInd*), labor (*LabInd*) and governance (*GovInd*). Within family businesses, a distinction is made between those companies with a single owner versus those owned by multiple family members (*Familyonly*).

Regarding the analysis between family and non-family businesses, we can see that the differences are positive but not significant for the overall, environmental and social index. However, the same is not true for the labor and governance index. In this last sub-dimension, there are very significant differences (−1.31) between family and non-family businesses. This means that non-family firms outperform FFs in governance-related ESG actions. When focusing solely on family businesses, we observe that those with a single owner have lower scores in *ESGglobal*, though this is only significant in the governance pillar, compared to family businesses with multiple members.

In Table 5 we show the regression models for the total of companies (Model 1 in the table) compared with what happens in companies with a board of directors (Model 2). In the first case, family companies show negative and significant results in the governance dimension, as in the PSM model (see Table 4). However, when we consider only those companies with a board of directors and therefore having a larger size and a management control body, family businesses record positive and significant data in the *ESGglobal* score, due to the social and labor subdimension. The rest of the subdimensions do not show significant results. The effect on the governance dimension results positive but insignificant. In both models, we observe that having a specific sustainability department and the size of the companies have a positive and significant impact on the overall ESG score and on each of the subdimensions, highlighting improved governance. We also note that the greater presence of independent directors on the boards can enhance environmental and social subdimensions.

In general, hypothesis 1 is partially accepted, as there is no evidence to suggest that family-owned firms outperform non-family-owned firms in terms of ESG performance across most

TABLE 4 | ESG Mean differences between family and non-FFs using propensity score matching.

	Family	Non-family	Difference	S.E.	*t*-stat
ESGglobal	32.47	31.46	1.01	1.38	0.53
EnvInd	4.21	4.17	0.04	0.50	0.09
SocInd	5.65	5.39	0.25	0.40	0.64
LabInd	11.19	11.31	−0.13	0.82	−0.15
GovInd	10.44	11.76	−1.31	0.51	−2.54***
	Familyonly	***Singleowner***	**Difference**	**S.E.**	***t*-stat**
ESGglobal	33.29	29.02	4.27	2.83	1.51
EnvInd	4.26	4.49	−0.23	0.63	−0.36
SocInd	5.79	5.37	0.42	0.50	0.83
LabInd	11.48	11.81	−0.32	1.13	−0.29
GovInd	11.09	9.16	1.92	0.84	2.27***

Note: This table shows the average differences with the following variables between (1) family businesses (*Family*), including those with a single owner and those with multiple owners, versus non-family (*Non-Family*), and (2) those families with several owners (*Familyonly*) and those with a single owner (*Singleowner*). For variable definitions see Table 2. * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

models. However, the results obtained support hypothesis 1 only for companies with a board of directors, as family-owned firms with a board of directors (regardless of board size) exhibit higher and more positive ESG performance than non-family-owned firms. Therefore, our results support, as well as previous studies such as those of García-Sánchez et al. (2020), Martín and Aroca (2016), and Esparza and Reyes (2019), the highest ESG performance of family businesses, only for those with bigger size and ESG department. In addition, we observed that family-owned companies present negative data on the governance dimension when we analyze all the sample. However, FFs with a board of directors present positive but not significant data in this dimension. This is also the case suggested by Viviers (2022), who recommends that such companies should be more involved in ESG activities related to governance; for example, the board of directors should also include non-family members, and not be limited to a family presence. Regarding the other subdimensions, hypothesis 2 is partially accepted; moreover we observe that family-owned firms perform better in the social subdimension, and in the case of those with a board of directors, also in the labor subdimension. The improved performance of FF in social and labor-related areas, especially for those with a board of directors, can be understood through SEW theory. This theory underscores how FFs focus more on the well-being of their employees and their social impact, setting them apart from non-family businesses.

4.2 | Is ESG More Effective in Family Firms?

In this section (Table 6), we analyze whether the effect of ESG implementation on family businesses, differentiating between those with a single owner and those with several owners, is superior in terms of economic performance and risk. To evaluate this effect, we used the interaction variables between the ESG score and the subcategories of FF, *ESGglobal* × *Singleowner* and *ESGglobal* × *Familyonly*. It is necessary to include an interaction related to the size factor (*ESGglobal* × *Small*) because small family businesses often face greater challenges in monetizing the results of ESG activities. Therefore, the inclusion of this interaction may significantly alter the results.

The level of ESG involvement on performance is not significant, except for small companies, where the effect is negative. Single-owner family firms do not show a different performance compared to non-family firms. However, the interaction variable *ESGglobal* × *Familyonly* shows positive and significant coefficients in most variables, indicating that family firms owned and managed by multiple family members achieve better financial results than non-family firms when implementing ESG strategies, partially supporting our hypothesis 3. These results align with Stock et al. (2024), who justify the higher performance in terms of improving reputation and increasing consumer satisfaction and loyalty. Our findings are also consistent with those of Lamb et al. (2017), who suggest that family businesses more committed to ESG will perform better. Additionally, the same trend is observed in the 10 studies identified by Mariani et al. (2023) that link ESG and family firms, including the works of Singal (2014) and Gavana et al. (2018). However, our research reveals that this enhanced ESG impact is not observed for single-owner family firms.

In Table 7, we conducted the analysis by considering the different dimensions into which the ESG score is subdivided. We compare the results for family businesses, differentiating between those with a single owner (*Singleowner*) and those with several owners (*Familyonly*). This was done by creating interaction variables with each of the pillars of ESG: environmental, social, labor, and governance. We hypothesized (H4) that the implementation of Environmental, Social, Labor, and Governance strategies has a greater effect on the financial performance of family-owned businesses compared to non-family-owned businesses. However, in contrast to the previous results for the global ESG metric, the interaction variables of the four dimensions with the two types of family businesses generally do not show positive and significant parameters. The exceptions are

TABLE 5 | Estimated models about the level of ESG activity implementation by the companies in the sample.

Model 1. Models for all companies					
Variables	***ESGglobal***	***EnvInd***	***SocInd***	***LabInd***	***GovInd***
Family	−0.9333	−0.1345	0.4478**	0.3707	−0.8899***
ESGdepartment	9.4744***	2.4776***	3.0804***	4.7317***	0.8839**
Size	2.1767***	0.4864***	0.3491***	0.9815***	0.6294***
Growth	0.1187	0.0121	0.0042	0.1832	0.0133
Solvency	0.9389	0.6130*	0.1401	0.0237	0.3765
Sector	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
_cons	2.4826	−3.4242***	0.5632	−2.1802	3.5717***
N	631	486	525	709	628
r2	0.3091	0.2326	0.25	0.2893	0.156
Model 2. Models for companies with board of directors					
Variables	***ESGglobal***	***EnvInd***	***SocInd***	***LabInd***	***GovInd***
Family	3.1843***	0.6589	1.2534***	1.3345**	0.0747
ESGdepartment	8.3118***	2.0720***	3.1247***	3.6921***	0.3023
Boardsize	−0.4748	−0.0632	−0.0468	−0.1801	−0.0193
Womenboard	1.0774	0.2001	0.1226	0.1971	0.6155***
Boardindependents	0.5175	0.2460**	0.2592**	−0.0612	0.1498
Size	2.1124***	0.5933***	0.3310***	0.9723***	0.4960***
Growth	1.1836	0.1485	0.1547	0.9738	0.3779
Solvency	−2.4293	−0.698	0.4995	0.2848	−0.7582
Sector	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
_cons	5.1983	−3.8335	0.2937	−2.5322	5.2790***
N	237	180	181	236	249
r2	0.4536	0.3339	0.3986	0.394	0.2512

Note: This table shows the ESG pillar estimate for all companies and those with a board of directors. For variable definitions see Table 2. *Sector* and *Year* are dummies for fixed effects; _cons: constant; *N*: sample size; r2: coefficient of determination. This table shows the estimates of the models using panel regression models (see Equation 2). * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

the *Growth* performance metric and the interactions *EnvInd* × *Singleowner* and *LabInd* × *Singleowner*. Regarding the effects of the ESG dimensions on performance, without referencing the type of company (family vs. non-family), it is observed that the labor subdimension consistently shows positive and significant effects on performance across different metrics. The previous result suggests that it is not sufficient for companies to act in isolation on the different ESG pillars. It is necessary to consider joint actions, as the individual pillars do not have significant effects on performance, but when considered together, they show a positive impact.

4.3 | ESG During the Pandemic

To test whether FFs with a higher level of ESG show greater resilience during periods of crisis than non-family businesses, we introduce a new variable, *Pandemic*. This is a dummy variable that takes the value of 1 for the year 2020 and 0 for other years. Table 8 presents the results of re-estimating Table 6 with the new interaction variables ESG × *Singleowner* × *Pandemic* and ESG × *Familyonly* × *Pandemic* to analyze the effects during the pandemic. In the case of FFs, the coefficients remain significant for the variable ESG × *Familyonly*, indicating that a higher level of ESG for companies with multiple owners positively impacts performance. However, during the pandemic, there is a slight reduction in *ROE* for these enterprises. For the other performance variables, the effect is insignificant. The same holds true for the parameters of ESG × *Singleowner* × *Pandemic* with no effects on performance. This suggests that a higher ESG commitment for family firms with multiple owners continues to be relevant for performance during the pandemic supporting partly our hypothesis 5. However, we did not observe that family firms performed better than non-family, contrary to the findings of

TABLE 6 | ESG in family businesses and performance (with single owner and several owners).

Model for all companies						
Variable	***ROE***	***ROA***	***CashflowTA***	***Growth***	***ROAadj***	***ROEadj***
ESGglobal	−0.0012	−0.0001	−0.0002	0.0036	0.0092	0.0111
ESGglobal × *Small*	−0.0009*	−0.0006***	−0.0004*	−0.0033**	−0.0238***	−0.0255***
ESGglobal × *Singleowner*	0.0019	0.0004	0.0004	0.0021	−0.0124	−0.0005
ESGglobal × *Familyonly*	0.0031***	0.0008*	0.0007**	−0.0022	0.0180**	0.0185**
Singleowner	−0.0679*	−0.0154	−0.0252	−0.1574	0.5998	0.2053
Familyonly	−0.0995***	−0.0320**	−0.0204*	0.0579	−0.4289	−0.6531**
Size	−0.0166**	−0.0072***	−0.0063**	−0.0482**	−0.0371	−0.0777
Solvency	−0.0655**	0.0211***	0.0208***	−0.0441	−0.2513	0.4404*
Growth	−0.0022	−0.0015	0.0008		−0.0593*	−0.0103
Sector	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
_cons	0.4341***	0.1701***	0.1744***	0.7517**	2.2334***	2.0716**
N	710	728	729	761	729	717
r2	0.0688	0.0597	0.0679	0.0162	0.0737	0.0743

Note: This table shows the estimates of the models using panel regression models for global ESG and each dimension of the index. For variable definitions see Table 2. *ESGglobal* × *Small*: interaction of *ESGglobal* with the *Small* business dummy; *ESGglobal* × *Singleowner*: interaction of *ESGglobal* with the *Singleowner* business; *ESGglobal* × *Familyonly*: interaction of *ESGglobal* with the *Familyonly* companies; *Sector* and *Year* are dummies for fixed effects; *N*: sample size; r2: coefficient of determination. * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

TABLE 7 | Coefficients of the interaction between ESG pillar and family.

Variable	***ROE***	***ROA***	***CashflowTA***	***Growth***	***ROAadj***	***ROEadj***
Environment dimension						
EnvInd	0.0058*	0.0015	0.0007	0.0023	0.0189	0.0152
EnvInd × *Familyonly*	−0.003	−0.0009	−0.0008	−0.0087*	0.0014	−0.0066
EnvInd × *Singleowner*	0.0022	0.0000	0.0007	0.0188*	0.0088	0.0223
Social dimension						
SocInd	−0.0018	−0.0003	−0.0011	0.0057	0.0196	0.0052
SocInd × *Familyonly*	−0.0017	−0.0009	−0.0008	−0.0033	−0.0076	−0.0167
SocInd × *Singleowner*	0.0061	0.0015	0.0018	0.0115	0.01	0.0432
Labor dimension						
LabInd	0.0043**	0.0011*	0.0010*	0.0056*	0.0241**	0.0249**
LabInd × *Familyonly*	−0.0017	−0.0005	−0.0006	−0.0050***	−0.0069	−0.0123
LabInd × *Singleowner*	0.0009	0.0005	0.0005	0.0096**	−0.0173	−0.0078
Governance dimension						
GovInd	0.0027	0.0019**	0.0016**	−0.003	0.0173	0.0242
GovInd × *Familyonly*	−0.0025*	−0.0010*	−0.0008	−0.003	−0.008	−0.0142
GovInd × *Singleowner*	−0.0016	−0.0013	−0.0011	0.0046	−0.0281	−0.0176

Note: This table shows the estimates of the models using panel regression models for global ESG and each dimension of the index. For variable definitions see Table 2. *EnvInd* × *Familyonly*: interaction of *EnvInd* with the *Familyonly* companies; *EnvInd* × *Singleowner*: interaction of *EnvInd* with the *Singleowner* business; *SocInd* × *Familyonly*: interaction of *SocInd* with the *Familyonly* companies; *SocInd* × *Singleowner*: interaction of *SocInd* with the *Singleowner* business; *LabInd* × *Familyonly*: interaction of *LabInd* with the *Familyonly* companies; *LabInd* × *Singleowner*: interaction of *LabInd* with the *Singleowner* business; *GovInd* × *Familyonly*: interaction of *GovInd* with the *Familyonly* companies; *GovInd* × *Singleowner*: interaction of *GovInd* with the *Singleowner* business. Controls (logTA, *Solvency*, and *Growth*), sector and year dummies for fixed effects, constant, sample size, and coefficients of determination are omitted for simplicity. * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

TABLE 8 | Effect of the degree of ESG implementation during the pandemic period.

Variable	*ROE*	*ROA*	*CashflowTA*	*Growth*	*ROAadj*	*ROEadj*
ESGglobal	−0.0012	−0.0001	−0.0002	0.0036	0.0093	0.0111
ESGglobal × *Small*	−0.0009*	−0.0006***	−0.0004*	−0.0032**	−0.0235***	−0.0253***
ESGglobal × *Singleowner*	0.0018	0.0003	0.0004	0.0017	−0.0155	−0.0035
ESGglobal × *Familyonly*	0.0036***	0.0009**	0.0008**	−0.0021	0.0175*	0.0183*
ESGglobal × *Singleowner* × *Pandemic*	0.0000	0.0002	0.0001	0.0018	0.0088	0.0085
ESGglobal × *Familyonly* × *Pandemic*	−0.0013**	−0.0003	−0.0003	0.0008	0.0026	0.0021
Singleowner	−0.0673*	−0.015	−0.025	−0.157	0.6117	0.2164
Familyonly	−0.1003***	−0.0324**	−0.0208*	0.0507	−0.4361	−0.6618**
Size	−0.0164**	−0.0072***	−0.0063**	−0.0493**	−0.0383	−0.0791
Solvency	−0.0662**	0.0217***	0.0212***	−0.0267	−0.2364	0.4591*
Growth	−0.0026	−0.0017	0.0007		−0.0607**	−0.0118
Sector	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
_cons	0.4262***	0.1718***	0.1747***	0.8409***	2.3165***	2.1793**
N	710	728	729	761	729	717
r2	0.0738	0.0658	0.072	0.0419	0.0785	0.0786

Note: This table shows the estimates of the models using a panel regression model for the global ESG index during the pandemic period. For variable definitions see Table 2. Controls: variables of control have been included in the regression model but are omitted for simplicity in presentation. *ESGglobal* × *Small*: interaction of *ESGglobal* with the *Small* business dummy; *ESGglobal* × *Singleowner*: interaction of *ESGglobal* with the *Singleowner* business; *ESGglobal* × *Familyonly*: interaction of *ESGglobal* with the *Familyonly* companies; *ESGglobal* × *Singleowner* × *Pandemic*: interaction of *ESGglobal* for single owners in the year 2020; *ESGglobal* × *Familyonly* × *Pandemic*: interaction of *ESGglobal* for family owners in the year 2020; *Sector* and *Year* are dummies for fixed effects; _cons: constant; *N*: sample size; r2: coefficient of determination. * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

Espinosa-Méndez et al. (2024), who conducted a study analyzing the impact of the COVID-19 crisis on family-owned companies.

4.4 | Internal and External Reporting

This section aims to test our final hypothesis. Nekhili et al. (2017) show that family-owned companies present less information on ESG activities than non-family-owned. To examine whether ESG disclosure has a more positive impact on the financial performance of FFs compared to non-FFs, we focus on both external (dissemination of ESG activities through sustainability reports, *ESGreporting*) and internal reporting (the existence of specific ESG committees within the company, *ESGcommittee*; the use of stakeholder information in the global strategy design, *InfoESGuse*). We analyze these variables for family businesses, including both single-owner and multi-owner firms. Table 9 focuses on the coefficients of those variables of interest and their interactions.

In general terms, the use of ESG information in global strategy design and the dissemination of ESG activities through sustainability reports have a positive and significant effect on several performance metrics. However, when we analyze the interaction of the use of ESG information with different types of FFs, we see that, for those with multiple owners, the use of ESG information (*InfoESGuse* × *Familyonly*) has a negative and significant impact on the risk-adjusted measures (*ROE* and *ROA* adjusted to volatility) and cash flows. For single-owner FFs, the results are not significant. Regarding ESG reporting, no significant effects are found between family and non-family firms, except for *ESGreporting* × *Singleowner*, which has negative effects on *ROA* adjusted for volatility.

The presence of an ESG committee refers to whether a company has a dedicated team or group within the organization responsible for overseeing and managing its ESG initiatives. In general, its presence does not impact performance. However, particularly in the case of family firms with a single owner, its presence is positive and significant in *ROA* and cash flows. Therefore, we reject hypothesis 6, as ESG disclosure has a similar impact on the financial performance of family firms (FFs) compared to non-family firms (non-FFs). The only observed advantage applies to single-owner family firms with a dedicated ESG department, where performance outcomes show a positive impact.

5 | Robustness

This section evaluates the robustness of the model employed, incorporating quadratic effects and analyzing its behavior in periods subsequent to those considered in this study.

Given that recent studies, such as Siddiqui et al. (2024), suggest a potential non-linear relationship between ESG and performance, this section includes an additional variable to capture

TABLE 9 | Effects of ESG use, committee and ESG reporting.

Variable	*ROE*	*ROA*	*CashflowTA*	*Growth*	*ROAadj*	*ROEadj*
Use of ESG information in the global strategy						
InfoESGuse	0.0113*	0.0037	0.0005	−0.0084	0.1620**	0.0607
InfoESGuse × *Familyonly*	−0.0082	−0.0025	−0.0037*	−0.007	−0.1318**	−0.1142**
InfoESGuse × *Singleowner*	0.0039	0.0077	0.0065	0.0095	0.0416	0.1242
The presence of an ESG committee						
ESGcommittee	−0.0269	−0.0162	−0.0196	0.043	0.1438	−0.1813
ESGcommittee × *Familyonly*	0.0107	0.0036	0.0028	−0.0895	0.0195	0.232
ESGcommittee × *Singleowner*	0.0388	0.0589***	0.0562***	0.1225	0.1122	0.1811
Sustainability reporting						
ESGreporting	0.0317	0.0210**	0.0141	0.0606	0.5813**	0.3572*
ESGreporting × *Familyonly*	−0.0175	−0.008	−0.0054	−0.0126	−0.0864	−0.0102
ESGreporting × *Singleowner*	0.0275	0.0071	0.0072	0.0952	−0.7359**	−0.414

Note: This table shows the estimates of the models using panel regression models considering ESG committee and reporting. For variable definitions see Table 2. *InfoESGuse* × *Familyonly*: interaction of *InfoESGuse* with the *Familyonly* companies; *InfoESGuse* × *Singleowner*: interaction of *InfoESGuse* with the S*ingleowner* business; *ESGcommittee* × *Familyonly*: interaction of *ESGcommittee* with the *Familyonly* companies; *ESGcommittee* × *Singleowner*: interaction of *ESGcommittee* with the *Singleowner* companies; *ESGreporting* × *Familyonly*: interaction of *ESGreporting* with the *Familyonly* companies; *ESGreporting* × *Singleowner*: interaction of *ESGreporting* with the *Singleowner* companies. * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

TABLE 10 | Estimated model with quadratic effects.

Variable	*ROE*	*ROA*	*CashflowTA*	*Growth*	*ROAadj*	*ROEadj*
ESGglobal	0.0003	−0.0016	−0.0005	0.0116**	−0.0966***	−0.0428
ESGglobalsq	0.0000	0.0000	0.0000	−0.0001*	0.0015***	0.0008*
ESGglobal × *Small*	−0.0010*	−0.0005**	−0.0004*	−0.0038**	−0.0167***	−0.0220***
ESGglobal × *Singleowner*	0.0018	0.0005	0.0005	0.0013	−0.0011	0.0058
ESGglobal × *Familyonly*	0.0032***	0.0008*	0.0007**	−0.0021	0.0181*	0.0187**
Singleowner	−0.0647	−0.0217	−0.0264	−0.1271	0.191	−0.0177
Familyonly	−0.1020***	−0.0320**	−0.0204*	0.0581	−0.4413	−0.6611**
Size	−0.0167**	−0.0070***	−0.0063**	−0.0493**	−0.0222	−0.0711
Solvency	−0.0651**	0.0217***	0.0209***	−0.047	−0.2023	0.4581*
Growth	−0.0022	−0.0014	0.0008		−0.0569*	−0.009
Sector	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.4161***	0.1881***	0.1781***	0.6580**	3.4529***	2.7170***
N	710	728	729	761	729	717
r2	0.0691	0.0621	0.068	0.0171	0.0918	0.0796

Note: This table shows the estimates of the models using panel regression models with quadratic effects. For variable definitions see Table 2. * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

this aspect. The quadratic effects of the ESG score are captured by *ESGglobalsq*, which is the square of the *ESGglobal* variable. The analysis reveals the existence of a quadratic relationship for the variables *Growth*, as well as *ROAadj* and *ROEadj* (Table 10). The impact of ESG on growth is positive at low levels of ESG and decreases as ESG levels increase. The impact of ESG on adjusted *ROA* and adjusted *ROE* is negative at low levels and positive at high levels of ESG. These findings improve the estimated model, suggesting that for low and intermediate levels of implementation of ESG activities, there is a negative effect on adjusted performance and growth is positive but non-linear. Considering that the highest level is achieved mainly by large companies, it appears that the main benefits are derived only when the company deploys intense ESG activity, and the effect is more negative for

TABLE 11 | Estimated model for the period 2022–2023.

Variable	*ROE*	*ROA*	*Growth*	*ROAadj*	*ROEadj*
ESGglobal	−0.1455	0.0239	0.1474	−0.0053	−0.0028
ESGglobal × *Small*	−0.0638	−0.0319	0.1241	−0.0032	0.0081
ESGglobal × *Singleowner*	0.4943***	0.0499	−0.1715	0.0286	−0.0057
ESG × *Familyonly*	0.1228	−0.0126	−0.0884	0.0268**	0.0177
Singleowner	−12.3622**	−0.8877	8.1377	−0.491	0.8108
Familyonly	−7.5423**	−0.5838	0.342	−0.6911	−0.5165
Size	−0.5776	−0.1946	0.4502	0.059	0.0657
Solvency	−12.2755***	3.6980**	−0.2507	0.8774**	0.8997**
Growth	−1.4806**	−0.2741	1.9465	0.0161	−0.0183
Sector	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
Constant	39.8194***	9.7368	4.7387	0.4504	−0.0069
N	457	485	489	482	482
r2	0.1023	0.0401	0.0431	0.0584	0.0591

Note: This table shows the estimates of the models using panel regression models with quadratic effects. For variable definitions see Table 2. * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

intermediate levels. In the case of FFs managed by several family members, the positive effect (variable *ESGglobal* × *Familyonly*) on performance is maintained for those with higher ESG scores, impacting all variables except growth.

We have also analyzed the effects of the ESG indicator for periods further (2022–2023) from the time of measurement, considering that its validity diminishes over time due to changes in companies' ESG strategies and, consequently, their ESG scores. As shown in Table 11, most of the indicators cease to be significant, calling into question the use of ESG measures to evaluate effects distant from the time of measurement.

6 | Discussion

In this section, through Table 12, we have summarized all the information according to the hypotheses and results, analyzing the financial performance and risk among family businesses, differentiating those with a single owner or with several, and unfamiliar with the conduct of ESG activities, and in each dimension separately.

In relation to Hypothesis 1, the findings do not support the hypothesis for the whole sample. However, for family firms (FFs) with a board of directors, we find that they are more likely to engage in ESG activities than non-family firms (non-FFs). These findings align with studies such as García-Sánchez et al. (2020), Martín and Aroca (2016), and Esparza Aguilar and Reyes Fong (2019), which show that FFs perform better in ESG activities compared to non-FFs, but this is not found for single-owner companies. This supports the socio-emotional wealth (SEW) theory, which suggests that FFs, driven by generational goals and community engagement, are more likely to engage in ESG activities, leading to better performance and long-term survival (Berrone et al. 2012, 258; Bernhardsen and Ligard 2022; Sun et al. 2024), making them attractive to investors (Espinosa-Méndez et al. 2024). The results contrast with those of Jian and Dai (2019), who found that a higher concentration of family ownership reduces ESG performance in companies.

Also, results partially support Hypothesis 2. By analyzing the regression models, social aspects are found to be positive in favor of FFs. In the specific case of the labor dimension, it becomes significant only when the family companies have a board of directors. In the governance dimension, the results for FFs are negative and significant, but for FFs with a board of directors, this effect becomes positive, though insignificant. The results obtained are in line with those of Viviers (2022), who concluded that family-owned enterprises should undertake activities to improve their governance. As a result, it is suggested that the governance dimension in family-owned enterprises tends to be weaker (Chrisman et al. 2005), and that the involvement of family members may have negative effects on this dimension (Mashele et al. 2024).

Regarding Hypothesis 3, the findings partially support the hypothesis, as family firms (FFs) with multiple owners show better results than those with a single owner and non-FFs. No positive effects are found for single-owner family firms. Family firms, but not single owners, with a higher level of ESG achieve better performance, both risk-adjusted and non-adjusted. Our partial results are in line with those of Gavana et al. (2018), who concluded that FFs that contribute to ESG practices improve their revenues and reputation, and it allows companies to differentiate themselves from competitors and provides competitive advantages (Porter and Kramer 2006). Lamb et al. (2017) also argued that sustainable family businesses achieve better financial results, improve their image, and increase customer loyalty (Stock et al. 2024).

TABLE 12 | Summary of study results.

Hypothesis	Expected sign	Actual result	Decision
H1: FFs are more likely than non-FFs to engage in ESG activities.	Positive	No difference (general) Positive (FF with board of directors)	Accept (FFs with board of directors)
H2: FFs are more likely than non-FFs to engage in ESG dimensions, except in terms of governance.	Positive (Environmental, Social and Labor) Negative (Governance)	No difference (Environmental and Governance-FF with board of directors-) Positive (Social and Labor-for FF with board of directors-) Negative: Governance	Reject: Environmental Accept: Social and Labor (FF with board of directors) Accept: Governance (with qualification for FF with board of directors)
H3: ESG implementation has a higher positive impact on the financial performance of FFs than non-FFs.	Positive	No difference (general) Positive (FFs with several owners)	Reject (general) Accept (FFs with several owners)
H4: ESG dimensions implementation has a higher positive impact on the financial performance of FFs than in non-FFs.	Positive	Neutral	Reject
H5: FFs with a higher level of ESG show a higher level of resilience in periods of crisis.	Positive	Positive	Accept (FFs with several owners)
H6: ESG disclosure has a higher positive impact on the financial performance of FFs than non-FFs.	Positive	Neutral Positive	Reject (general) Accept (Single owner FFs with a ESG committee – some metrics)

Source: Own elaboration.

Hypothesis 4 is generally rejected, as the results obtained regarding performance and risk measures show no significant differences between FFs and non-FFs in relation to the ESG subdimensions. Our result is contrary to López-Pérez et al. (2018) who concluded that FFs influence results, being these sensitive in dimensions: environmental and social. The previous result suggests that it is not sufficient for companies to focus solely on individual ESG pillars in isolation. Instead, joint actions across all pillars are necessary to achieve meaningful impact. While the individual ESG dimensions may not show significant effects on performance when examined separately, research has demonstrated that when these dimensions are considered together, they often have a positive impact on company performance. The combined effect of ESG activities tends to create synergies that boost both financial outcomes, indicating that a unified ESG approach is more beneficial than focusing on an isolated pillar. This aligns with the meta-analytical evidence provided by Friede et al. (2015), who found that integrated ESG practices are consistently associated with stronger financial outcomes, whereas isolated dimensions yield weaker impacts.

In relation to Hypothesis 5, the findings do not support this hypothesis, as during the pandemic, FFs with high levels of ESG scores performed better but not better than non-FFs. This contrasts with the findings of Miroshnychenko et al. (2024), who concluded that family-owned companies perform better in times of crisis compared to non-family-owned companies. Similarly, Conz et al. (2020) argued that FFs are more resilient in crises than non-FFs. Nevertheless, like in Espinosa-Méndez et al. (2024) we found that FFs that invest in ESG are less affected than those that do not. Additionally, the robustness check also shows that the relationship between ESG and performance is non-linear, with positive effects emerging only at higher levels of ESG engagement. This suggests that the benefits of ESG practices are only realized when family firms integrate them deeply into their strategic management, reinforcing the idea that superficial adoption may not yield financial advantages.

Finally, we reject Hypothesis 6, as ESG disclosure does not lead to better performance for FFs compared to non-FFs. The only observed advantage applies to single-owner family firms with a dedicated ESG department, where performance outcomes show a positive impact. Prior literature suggests that FFs tend to disclose less ESG information than non-FFs, as their main focus is often the preservation of socio-emotional wealth rather than financial performance, which may conflict with extensive disclosure practices (Nekhili et al. 2017; Hsueh 2018). In contrast, Campopiano and De Massis (2015) found that FFs report more information about their ESG activities, and Salvato and Melin (2008) concluded firms that disclose more information foster stronger alliances with stakeholders, a finding echoed by Borralho et al. (2022). While ESG disclosure might foster stronger alliances with stakeholders, it does not necessarily translate into superior financial results for FFs (Salvato and Melin 2008; Borralho et al. 2022). In fact, Thahira and Mita (2021) underscore that ESG disclosure does not always translate into superior financial outcomes for FFs. These findings highlight that, for family firms, ESG disclosure may be driven by factors beyond financial performance, such as reputation (McGuire et al. 2012) and stakeholder relationships, without necessarily yielding

better economic results. Overall, this interpretation aligns with stakeholder and the socio-emotional wealth perspective, indicating that family firms prioritize long-term reputation, continuity, and intergenerational trust over immediate economic gains.

7 | Implications

This section presents both the theoretical implications, through the analysis of the contributions made in this study compared to previous research, and the practical implications derived from the results obtained.

7.1 | Theoretical Implications

This study makes several significant theoretical contributions. First, it addresses the research gaps identified by Waldau (2024), who conducted a comprehensive literature review of 127 studies (2000–2024) on the determinants and outcomes of FFs ESG performance. Waldau (2024) notes that most existing studies focus on comparing family and non-family businesses. However, he emphasizes the limited exploration of the heterogeneity within family businesses.

This study not only compares family-owned and non-family-owned firms but also delves deeper by examining differences within FFs, specifically between those with several owners and those with a single owner. This analysis demonstrates significant differences between these two groups, which is a vital contribution to the family business literature. To our knowledge, this is the first study to directly analyze the impact of ESG actions on the performance of FFs distinguishing between ownership structures, which represents an additional step toward a better understanding of this field.

On the other hand, several studies have already commented on the challenges associated with measuring ESG performance (Salam et al. 2020; Bahta et al. 2021). The reliance on methodologies developed by different rating agencies, coupled with the lack of standardization in ESG measurement, complicates the comparison of results across studies. This challenge is further amplified when assessing ESG performance in small companies. In response to these issues, this study aligns with the call by Waldau (2024) to adopt innovative approaches to ESG measurement. By utilizing a newly developed index to assess ESG performance, this study contributes to addressing these methodological challenges and advancing the field.

7.2 | Practical Implications

As for the practical implications of this work, the results obtained serve as support for FFs managers to be able to define their ESG strategies with greater criteria and being aware of the consequences these may have on financial results. Analyzing each subdimensions, FFs should focus on actions related to the labor area. In this sense, the results obtained exceed those other ESG dimensions, therefore, they should leverage the emotional characteristics that distinguish family businesses, and make use of that socioemotional wealth to improve those ties with employees and thus achieve a greater commitment to the company. Furthermore, ESG information reporting has positive effects on performance, making it increasingly relevant for family firms to engage in ESG matters and disclose their sustainability indicators.

8 | Conclusions

In this final section, the conclusions derived from the present study are presented, along with its limitations and potential avenues for future research.

The unique characteristics and the relevance of FFs in both the global and national economy make it essential to give special attention to this type of company in business research. Few studies have been published on the impact of ESG actions on the financial performance of FFs (Mariani et al. 2023; Espinosa-Méndez et al. 2024). Moreover, there have been hardly any studies analyzing the performance of FFs in each of the ESG dimensions individually (Mariani et al. 2023), as has been done previously for SMEs (Garrido-Ruso et al. 2024).

To address this gap in the literature, this paper analyses the influence of both ESG activities (globally and individually) on financial performance and risk within a sample of family-owned companies during the period 2018–2020. We utilize a recently developed index (Garrido-Ruso et al. 2024) that measures the level of implementation of these activities both globally and across individual subdimensions (labor, social, environmental, and governance) for each ESG component. Furthermore, we examine the implications of ESG involvement for these companies during times of crisis, in particular the COVID-19 pandemic, and assess the impact of disclosing ESG actions and having an ESG committee on their performance.

The results obtained in this study confirm, first, that FFs do not generally exhibit better ESG performance than non-FFs. However, separating family firms into single-owner and multiple-owner categories reveals new insights. FFs with multiple owners demonstrate greater engagement in ESG activities compared to single-owner firms. This trend is also observed in the Social and Labor subdimensions, where companies with a board of directors—typically larger in size—continue to outperform non-FFs in terms of ESG performance. Additionally, FFs with strong ESG commitments show higher resilience during the COVID-19 pandemic, although not exceeding that of non-FFs. Finally, ESG disclosure generally has a more positive impact on the financial performance of FFs but not greater than in non-FFs, with the exception of single-owner firms that have an ESG committee, where performance outcomes are more favorable.

The findings of this study carry both theoretical and practical implications. On a theoretical level, they expand the existing literature on family businesses, emphasizing the need for focused research on these companies, as their results differ notably from those of non-family businesses. Additionally, the study reinforces the validity of the index developed to measure ESG performance as objectively as possible for unrated companies (SMEs). From a practical perspective, these results offer valuable insights for

managers of family-owned companies, guiding them on how to enhance their financial performance by identifying the specific ESG actions that merit their investment and attention.

However, this study has certain limitations. First, the sample consists solely of Spanish companies, which restricts the generalizability of the results. Future research could expand the sample to include companies from other countries, allowing cross-country comparisons and the use of longitudinal data, thereby providing a more international perspective. Additionally, because the ESG data is self-reported via surveys, there is a potential for self-assessment bias. To address this, future studies should consider incorporating other verification methods to enhance data reliability.

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Conflicts of Interest

The authors declare no conflicts of interest.

Endnotes

[1] The number of valid responses in our study (509) surpasses that of other surveys employed in similar studies focused on gathering information about the ESG performance level of companies. For instance, Sideri (2023) had 43 responses, Liu et al. (2022) had 304 responses, and Tran and Nguyen (2021) had 280 responses.

[2] The reasons for including the labor dimension as an additional pillar alongside the three traditional ESG pillars are based on Garrido-Ruso et al. (2024). This approach allows for a more detailed assessment of companies' commitment to employees, covering aspects such as working conditions, labor rights, and professional development, which might otherwise be overlooked if integrated solely into the social dimension.

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Appendix I

ESG Index/Sub-Indices Construction

The ESG Score (*ESGglobal*) has been calculated from the sum of 63 dummy variables (Vi), that is, $ESGglobal = \sum_{i=1}^{63} Vi$, which can be included in the 4 sub-factors mentioned in the equation below, where each of them are briefly described in the next table.

$$ESGglobal = EnvInd + SocInd + LabInd + GovInd$$

Environmental score (*EnvInd*)	$$\boldsymbol{EnvInd} = \sum_{i=1}^{13} \mathbf{Vi}$$ The company establishes environmental objectives (V1), if the company establishes environmental objectives, it establishes corrective measures if they are not met (V2), it has indicators that allow it to measure the environmental impact of its activity (V3), it has received a sanction for non-compliance with environmental regulations in the last 2 years (V4), it develops actions or strategies to mitigate climate change (V5), it develops actions or strategies to adapt to climate change (V6), it develops actions or strategies on water and marine resources (V7), develops actions or strategies on the use of natural resources and circular economy (V8), develops actions or strategies on pollution (environmental, acoustic, etc.) (V9), develops actions or strategies on pollution (environmental, acoustic, etc.) protection of biodiversity and ecosystems (loss of biodiversity or impoverishment of ecosystems) (V10), develops actions or strategies on greenhouse gas reduction (V11), has environmental certification (V12), and considers environmental aspects in the business strategy (V13).
Social score (*SocInd*)	$$\boldsymbol{SocInd} = \sum_{i=14}^{24} \mathbf{Vi}$$ The company prioritizes its suppliers according to environmental, labor, social and good governance criteria (V14), collaborates with its suppliers to improve products/services (V15), develops responsible commercial and contractual communication practices (V16), informs its customers about the positive/negative impact of its products/services (V17), promotes CSR among its customers (V18), promotes responsible consumption among its customers (V19), identifies and evaluates the impacts of its activity in the territory in which it operates (V20), has an anti-corruption policy (V21), develops actions in favor of social development (V22), has a customer service department (V23) and uses information on stakeholders as a strategic management tool (V24).
Labor score (*LabInd*)	$$\boldsymbol{LabInd} = \sum_{i=25}^{48} \mathbf{Vi}$$ The company has an equality plan (V25), carries out actions to promote equality (V26), carries out actions to promote the inclusion of people with disabilities (V27), promotion based on previously defined criteria (V28), diversity policy in management/administration bodies (V29), diversity policy with company personnel (V30), promotes permanent contracts as the main option (V31), has a performance evaluation plan (V32), has mechanisms in place to improve employee satisfaction (V33), informs employees of objectives and strategies (V34), has a defined policy on key requirements for access to key positions (V35), has a continuous training policy for staff (V36), has measures to adapt schedules or leave for training (V37), offers online training (V38), has a salary policy in line with the principle of equality (V39), carries out recent studies on occupational risks and health (V40), has protocols to prevent harassment (V41), has training or awareness-raising measures on equality (V42), has a policy on the right to disconnection (V43), has flexible working hours (V44), working hours that coincide with school hours (V45), home office (V46), reduced working hours (V47), extended paternity/maternity leave (V48).
Corporate governance score (*GovInd*)	$$\boldsymbol{GovInd} = \sum_{i=49}^{63} \mathbf{Vi}$$ There is adequate internal regulation of the functions of the administrative body (V49), the dedication of two directors is sufficient to perform the functions entrusted (V50), it is legally established (V51), The administrative body is of adequate size to respond effectively to the needs of the company (V52), The administrative body periodically evaluates the performance of the functions of its directors/managers/managers? (V53), the independence, integrity and objectivity of the management body are guaranteed (V54), there is adequate internal regulation of the duties of managers (V55), directors or officers are chosen on the basis of their technical qualification and professional experience (V56), ethical behavior rules are applied to two directors and two officers (V57), the company's administrators have sufficient information in due time and form to carry out their work (V58), or the administrative body has advisors or, where appropriate, independent advisors and consultants (V59), to reflect the financial and non-financial information to the true picture of the company (V60), the policies (management, financial, accounting, etc.) are subject to evaluations or reports prepared by independent professional advisors and consultants (V61), knowledge diversity criteria are applied for the appointment of two directors, board members and positions of responsibility (V62), gender diversity criteria are applied for the appointment of two directors, board members and positions of responsibility (V63).

Source: Garrido-Ruso et al. (2024).