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UNIVERSITY OF VAASA

Iiris Mähönen

The impact of board gender diversity on ESG scores in Finnish listed companies

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Author:	Iiris Mähönen
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ABSTRACT:

The growing awareness of sustainability has prompted companies to adapt their practices to respond to these emerging concerns, encouraging them to integrate sustainability into their organizational strategies and long-term goals. Investors and stakeholders are increasingly demanding greater corporate responsibility, while the EU's Corporate Sustainability Reporting Directive (CSRD) aims to enhance sustainability reporting by requiring companies to disclose Environmental, Social, and Governance (ESG) data. As a result, greater attention is being given to the factors that drive ESG performance. One key factor gaining prominence is the composition of corporate boards, particularly the role of women in shaping ESG outcomes.

Women have been underrepresented on boards of directors, yet there is growing pressure for companies to address gender disparities and foster more inclusive governance structures. Over the years, companies have continued to rely on traditional recruitment practices for board appointments, often favoring similarity, while the potential benefits of diverse boards remain underappreciated or unknown. This too is heading for change, with the EU's growing commitment to closing the gender gap in leadership roles and raising awareness of the well-established benefits of gender diversity at the board level, including enhanced board effectiveness and improved company performance.

This thesis explores the relationship between the percentage of women on boards and ESG scores to determine whether women contribute positively to ESG performance in Finnish listed companies. This is accomplished by conducting correlation and regression analyses using data from companies of all sizes—small-cap, mid-cap, and large-cap—covering the years 2013 to 2023.

The findings reveal a statistically significant relationship between women on boards and improved ESG scores, although the impact is relatively modest. The significance level of the results indicates a highly significant relationship, with a minimal likelihood of random chance, though other factors also play a substantial role in shaping ESG performance. This suggests that promoting gender diversity on boards could be an effective strategy for improving ESG performance in Finnish listed companies. Beyond its evident business advantages, the inclusion of women on corporate boards is not only a matter of moral and ethical responsibility but also a fundamental step toward creating a more just corporate environment.

KEYWORDS: Women on board, board gender diversity, ESG, CSR, sustainability reporting

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1 Introduction

Given that the board of directors has a pivotal role in a company's success (Northcott & Smith, 2011), it is unsurprising that board gender diversity has become a subject of growing interest among scholars, policymakers, and the media (Brunzell & Liljeblom, 2014; Khatri, 2023; Solal & Snellman, 2019). Beyond moral and ethical arguments, research has shown that women on boards enhance various aspects of corporate performance, including enhanced innovation (Miller & Triana, 2009), increasing the number of patents and novel patents (Griffin, 2021; Phan & Yu, 2022), higher R&D investments (Phan & Yu, 2022), improving board effectiveness (Nielsen & Huse, 2010), raising the level of risk disclosure (Seebeck & Vetter, 2022) and cybersecurity disclosure (Radu & Smaili, 2022), and demonstrating greater commitment to the UN 2030 Agenda (García-Sánchez et al., 2023). Women typically possess amplified awareness of environmental risks, leading to increased support for climate change efforts, and ultimately, women tend to have a positive impact on sustainability-related commitments (Ciocirlan & Pettersson, 2012). Many studies have confirmed a positive link between female representation on boards and improved sustainability reporting, suggesting that greater female representation on boards has a favorable influence on how companies communicate their sustainability efforts (Bear et al., 2010; Birindelli et al., 2018; Fernandez-Feijoo et al., 2014; Jizi, 2017; Tamimi & Sebastianelli, 2017; Velte, 2016). Similarly, research focused on Nordic companies has also revealed a significant positive association between board gender diversity and ESG performance, further supporting this connection (Khatri, 2023; Yahya, 2025).

However, most studies on gender quotas have predominantly focused on firm performance and market reactions, both of which show mixed results (Rixom et al., 2023; Tamimi & Sebastianelli, 2017). In the Nordic context, several studies focus on examining the link between board gender diversity and firm performance (Gregoric et al., 2009; Kjærland et al., 2020). It has been observed that the inclusion of female board members can result in a positive market reaction, unusual market returns around the announcement of female board appointments, leading to increased firm value both in

the short and long term (Campbell & Mínguez-Vera, 2010), along with better return on assets and growth (Gregoric et al., 2009). On the other hand, some research suggests that companies with greater gender diversity on their boards face a market penalty, experiencing a decrease in market value (Solal & Snellman, 2019), and that female CEOs with qualifications identical to their male counterparts, as well as firms with comparable financial performance, are often disadvantaged in raising capital and perceived as less attractive to investors (Bigelow et al., 2014).

ESG scoring, which evaluates companies based on Environmental, Social, and Governance factors, was developed to meet the financial sector's demand for evaluating companies' sustainability performance (Clément et al., 2023) and its integration into investment decisions has become one of the most impactful changes in financial markets in recent years (Christensen et al., 2022). As ESG becomes a more significant part of corporate strategy, it also becomes an important priority for the board of directors, who hold the primary responsibility (Lindman, 2024). With the growing importance of ESG considerations and gender-balanced boardrooms, many countries have introduced regulations to address these issues. The EU's Corporate Sustainability Reporting Directive (CSRD) aims to enhance sustainability information by requiring companies to disclose ESG data, report on climate-related risks and opportunities, and ensure that the information is standardized and comparable (Directive 2022/2464). At the same time, the EU adopted a directive requiring gender diversity on boards to improve gender balance among directors of listed companies (Directive 2022/2381). These regulatory efforts reflect the EU's commitment to enhancing sustainability performance and promoting gender diversity on corporate boards, emphasizing the need for this thesis to explore the relationship between board diversity and ESG performance. Understanding the connection between these factors has become a timely and critical subject for academic and practical inquiry.

This study is conducted in response to scholarly observations advocating for further exploration of this topic. Jizi et al. (2014) emphasize the notable lack of research on the

impact of corporate governance on CSR disclosure, despite the potential influence of CSR reporting on firms' sustainability. Cucari et al. (2018) state that there is a gap in research regarding the impact of corporate governance variables, such as board gender diversity, on environmental, social, and governance (ESG) disclosure. Khatri's (2023) highlights that research exploring the potential relationship between board gender diversity and sustainability performance in Nordic companies is extremely rare. Fernandez-Feijoo et al. (2014) argue that the topic of board gender diversity and its possible contribution to sustainable disclosure has been overlooked in previous studies. Additionally, Bear et al. (2010) and Naciti (2019) suggest broadening future research on examining smaller firms, thus this study responds to that call by including firms of all sizes.

1.1 Objective, research question and contribution

The purpose of this study is to examine whether an increased presence of female board members improves ESG reporting score in Finnish listed companies. Board gender diversity has attracted the interest of scholars, the media, and policymakers (Brunzell & Liljebloom, 2014; Khatri, 2023; Solal & Snellman, 2019) and given the crucial role of boards of directors in strategy formation, including ESG considerations (Lindman, 2024), further research on this topic is highly relevant. The research question for this thesis is

Does the increased presence of female board members lead to improved ESG reporting in Finnish listed companies?

Company-level data is used to address the research question by testing the hypotheses presented below. This study offers valuable contributions to the literature. Firstly, the study aims to contribute to the existing literature on the relationship between board gender diversity and ESG disclosure, an area where research is still limited. Second, countries vary in their approaches to sustainability reporting and the promotion of gender diversity on boards. To the best of my knowledge, this paper is the first to provide evidence of the effects of board gender diversity on ESG disclosure score in Finland.

Fernandez-Feijoo et al. (2014) highlight the unique cultural characteristics tied to country and industry, which supports the decision to focus solely on Finnish listed companies, thereby improving comparability.

1.2 Structure

This thesis is divided into five main chapters and structured as follows. Firstly, it begins with a brief introduction to the subject and the primary motivation. In the second chapter, a more detailed exploration of the topic is provided, introducing existing studies related to board gender diversity, ESG, and their interconnectedness, while also addressing the context of Finland in relation to these topics, providing the foundation for the research framework. The chapter concludes with the formulation of the research hypotheses.

The third chapter marks the beginning of the empirical part of the thesis. It begins with an introduction to the methodology applied for data analysis, followed by a description of the data collection process and the dataset to address the hypotheses. The fourth chapter presents the empirical results, starting with a descriptive analysis of the data sample, followed by correlation and regression analyses. Finally, the fifth chapter critically interprets the results by examining their implications, acknowledging the limitations of the study, and providing recommendations for future research.

2 Literature review and hypothesis development

This chapter presents the previous academic literature related to the subject of this thesis, with a particular focus on the Finnish business environment. It begins by introducing the role of the board of directors and the concept of board gender diversity. It then delves into the critical mass theory, presents the factors contributing to women's underrepresentation, and addresses regulatory frameworks and potential solutions for achieving more equitable representation. Then, the exploration of ESG is introduced, beginning with mandatory ESG disclosure requirements and continuing with the impact of women on this area. The chapter further presents other determinants of ESG reporting performance. Finally, the study's hypotheses are developed based on the previous literature.

2.1 Board of directors

The members to board of directors are elected by the general meeting, and literature on corporate governance illustrates that boards of directors sustain stakeholder relationships, define social agendas, offer critical expertise, and develop strategies (Jizi, 2017). The board appointment process primarily involves the chair of the nomination committee, the candidate, and executive search firms (Doldor et al., 2012). The role of the chairman of the board has become increasingly prominent in recent years, and the board's operations, strategic role, and the long-term success of the company depend significantly on the chairman (Erma, Rasila & Virtanen, 2022, p. 26).

The examination of a diverse board can consider factors such as age, gender, profession, international experience, and educational background, and it supports open discussion, independent decision-making, and good corporate governance (Erma et al., 2022, p. 21). Homogeneous groups often approach company problems similarly, leading to "groupthink" errors that are less likely with a diverse board (Burgess & Tharenou, 2002). However, when selecting the board, it is crucial to ensure that the candidate is qualified and has something to offer to the company and the board, so the concept of quotas does

not promote the company's interests (Erma et al., 2022, p. 21). Board appointments aimed solely at increasing diversity may limit potential positive outcomes, while deliberate appointments that increase diversity can drive substantial improvements in firm innovation (Makkonen, 2022).

The board of directors is responsible for ensuring that the interests of stakeholders are considered in decision-making. Hussain, Rigoni & Orij (2018) found strong support for the complementary theoretical perspectives of agency theory and stakeholder theory, particularly regarding the board's role in enhancing sustainability performance. In line with this, Jizi (2017) argues that effective boards, whose interests are aligned with those of shareholders, produce higher-quality reporting and are more engaged with sustainable activities, thereby gaining stakeholder acceptance and creating a competitive advantage—an essential component of business strategy. Steurer et al. (2005) state that stakeholders contribute to the integration of sustainable development into the corporate sector as they place more importance on these considerations than the corporations themselves.

2.2 Gender composition of boards

In recent decades, studies on board gender diversity have gained attention of scholars, media and policymakers (Brunzell & Liljebloom, 2014; Khatri, 2023; Solal & Snellman, 2019). Nordic countries are considered front-runners in gender equality globally, with Finland ranking third (The Global Gender Gap Report, 2023), and Norway being the first country to introduce mandatory gender quotas for corporate boards in 2008 (Clark et al., 2022). Nordic countries have a large pool of competent women and a high level of gender equality (Directive 2022/2381; Gregoric et al., 2017), and women are more likely to be represented on boards in countries with smaller gender gaps and greater female workforce participation (Griffin, 2021). However, despite these favorable conditions, there is still much room for improvement in Finland, where gender representation on boards still falls short of achieving true equity.

Gender diversity on boards has been studied from various perspectives and is shown to directly support an organization's ability to compete effectively and achieve financial success in the market. From a business case perspective, the primary justification for advocating for women on boards is that diversity contributes to the creation of corporate value (Huse, Nilsen & Hagen, 2009). Greater board gender diversity positively impacts corporate innovation performance, leading to higher R&D expenditures, a greater number of patents, and more novel patents, potentially leading to greater competitiveness and financial success in the market (Griffin, 2021; Miller & Triana, 2009). In addition, a board with a higher percentage of women performs better in strategic control, fosters board development activities, and reduces conflicts, leading to greater overall effectiveness (Nielsen & Huse, 2010).

Perryman, Fernando, and Tripathy (2016) examined gender differences in risk-taking at the top management level, which is a critical consideration in business operations, and whether more gender-diverse TMTs perform better. The results show that firms with more women on TMTs experience lower levels of risk and, as assessed by Tobin's Q, achieve better performance. Despite the advantages of gender diversity, they observe that female executives are paid less than their male counterparts, though the pay gap narrows as female representation grows. Another research found that board gender diversity is associated with improved levels of corporate risk disclosure, and companies that disclosed Brexit-related risks prior to the vote experienced less volatility as bid-ask spreads were tighter right after the referendum date (Seebeck & Vetter, 2022). In addition, cyber risks have become significant threats that boards of directors need to manage, and a higher presence of women on boards is positively correlated with the presence and level of cybersecurity disclosure (Radu & Smaili, 2022).

Yet, board diversity is still mainly pursued to enhance the firm's legitimacy and not the potential benefits diverse boards can bring (Gregoric et al., 2009). In other words, companies prioritize the appearance of being socially responsible and inclusive, rather than gaining in additional perspectives and improved decision-making. If the primary

motivation for appointing women to the board is societal pressure to achieve better equality between genders, it may be perceived negatively and be harmful (Campbell and Vera, 2010). Solal and Snellman (2019) analyzed 14 years of panel data on public US firms and their findings indicate that companies with greater gender diversity on their boards bear a market penalty as a consequence, experiencing a decrease in market value. The suggested rationale behind the penalties is that investors perceive increased female representation on boards as a diversity gesture, driven more by pressure from institutional investors than by merit or other qualifications.

Institutional investments have gained significant prominence in the global economy, with investors playing a crucial role in enhancing governance structures (Alshabibi, 2022) and often holding a seat on the boards of directors (Phan & Yu, 2022). However, the impact of ownership structure on gender diversity on boards shows mixed results. Findings by Alshabibi (2022) on a global scale indicate that institutional investors perceive the costs of gender diversity on boards as outweighing the benefits, and that ownership structure has no influence on board gender diversity. On the contrary, Fu et al. (2023) observed strong evidence from the UK market that institutional investors contribute to more gender-diverse boards, and even under voluntary-based policies, these investors value equal representation on boards and call for action. Phan & Yu (2022) analyzed a large sample of US companies and found that institutional investors actively enhance innovation, with more women on boards being positively correlated with larger R&D investments and an increased number of patents. Despite the positive outcomes, women in top US business executive positions earn 26% less than men, but this difference reduces to 8% when executive and firm characteristics, as well as job title, are taken into account (Keller, Molina & Olney, 2023).

Even when the door to the boardroom opens for women, where decisions are supposedly made, they still face barriers to involvement. Huse and Solberg (2006) found that decisions are prepared in formal and informal arenas outside the boardroom, to which women do not have the same access. They emphasize that, in order to make

meaningful contributions, both men and women must leverage their ability and willingness to form alliances with key actors, actively participate in decision-making arenas, and embrace leadership responsibilities.

In the Nordic countries, the influential belief that female managers “make a difference” has led to increased representation of women in politics, management positions and on boards of directors, but it also creates a problem where women bear the responsibility for achieving positive impacts (Hovden et al., 2011). This belief can lead to unrealistic expectations and additional pressure. The foundation for successful board work lies in the equal perception of all members, their ability to voice opinions and arguments, and their inclusion in the decision-making process. A study of Norwegian firms by Mathisen, Ogaard and Marnburg (2013) concluded that female board members, including chairpersons, typically experience boardroom dynamics similarly to their male counterparts and are welcomed, not viewed as outsiders, enabling boards to benefit from their expertise and skills. However, it was acknowledged that the opinions of majority members (men) are generally given more weight, while suggestions from minority members are more likely disregarded.

According to Gregoric et al. (2009), their findings suggest that Nordic companies often adhere to the minimum diversity requirements, and that diversity may result in increased risks of conflict and indecisiveness in decision-making processes. This can result from what Konrad et al. (2008) observed: the quality of decision-making in boardrooms improved with more women, as they tend to pose difficult questions, emphasize long-term strategic aspects, and challenge the confrontational style often established by men. Hence, conflicts associated with decision-making should not necessarily be considered negative. Instead, broader perspectives and multiple viewpoints contribute knowledge and lead to more informed decisions and improved performance (Miller & Triana, 2009). A more diverse board can offer the firm enhanced resources and drive greater success, as long as the diverse members are not perceived as mere tokens and their input is valued (Rixom et al., 2023).

The argument for gender diversity on boards centers around four dimensions: enhancing performance, attracting a wider range of top professionals, adapting more effectively to market needs, and strengthening corporate governance (Doldor et al., 2012). While the arguments for diversity are strong, the actual progress varies across countries. According to the latest research by Keskuskauppakamari, Finland ranked 10th among EU and EEA countries in 2023 in terms of the percentage of women on the boards of listed companies (Kajala, 2024). Countries ahead of Finland include EU nations such as France, Italy, Denmark, the Netherlands, Spain, Belgium, and Germany, as well as EEA countries like Iceland and Norway. Outside the EU and EEA, the United Kingdom ranks ahead of Finland. Finland's ranking has declined in recent years, as progress has accelerated in countries that have implemented gender quotas, and United Kingdom has seen improvements through a voluntary self-regulatory approach.

The chair of the board plays a significant role in setting strategy, fostering enduring success (Erma et al., 2022, p. 26), and managing the appointment process of board members (Doldor et al., 2012). According to research by Keskuskauppakamari, the representation of women as board chairs has been extremely slow in Finland and other countries (Kajala, 2024). It highlights that among OMXH25-index companies, there is only one female chairperson, and women hold only 11% of board chair positions across all listed companies.

A study by the Finnish Ministry of Social Affairs and Health found that the percentage of women in top leadership positions does not vary significantly between industries (Teräsaho & Kupiainen, 2015). This is partly attributed to the industry classification, as companies within the same categories can differ greatly, and there are relatively few companies in each industry in the Finnish market. However, they observe that the manufacturing sector has fewer women in top leadership positions compared to the average. Keskuskauppakamari had similar findings in their study on the representation of women in leadership positions (Turunen & Linnainmaa, 2018). Their findings also

confirm that the manufacturing and services industries had the lowest representation, while the energy sector had the greatest presence. However, they note that the low numbers in each sector pose a challenge for statistical assessment.

Although in Finland the percentage of women in top leadership positions may not vary significantly between industries, partially due to broad classifications and small sample sizes (Teräsaho & Kupiainen, 2015), other studies suggest otherwise. It is widely recognized that women are underrepresented in domains that are stereotypically considered masculine (Coffman, 2014). For example, women are underrepresented in the manufacturing sector both as employees and in top management positions, with few women entering the field and some transitioning to other industries as they advance in their careers (Giffin et al., 2017). ESG efforts have improved diversity in the energy sector, but challenges persist due to the limited number of women pursuing technical education, difficulties in retaining them as they reach mid-career, and limited opportunities for advancement to senior leadership (Beck & Pánczél, 2023). Male dominance in mining is pronounced, with women facing a wage gap, reporting that maternity leave and having children negatively impact their careers and advancement, and experiencing prejudice and discrimination in the workplace (Valadares et al, 2024). Even with balanced gender parity at the director level within an industry, it may still pose challenges. A large presence of female directors in an industry may indicate a restricted supply of available female candidates, with the most qualified already in positions (Greene et al., 2020).

The heightened public attention and scrutiny regarding corporate boards and governance practices suggest that gender diversity on boards is likely to influence a company's reputation (Bear et al., 2010). The social pressure for gender-balanced boardrooms depends on firm characteristics, with smaller firms tending to experience less pressure (Gregoric et al., 2017) and also having fewer seats at the board table (Roessle et al., 2024). Additionally, the cost of board expansion is significantly higher for smaller firms, while it is minimal for large businesses (Greene et al., 2020). This is

reflected in the more equal representation of women on boards in large Finnish listed companies compared to smaller ones (Kajala, 2024).

2.2.1 Critical mass theory

Kanter (1977) explored a topic on women in corporations that continues to attract scholars' attention, referring to women directors as tokens, as the majority of corporate boards consist of only one or a notable minority of women board members. She exploited critical mass theory in a corporate setting, meaning that as the subgroup reaches a specific threshold, the ability to influence the majority increases. The theory posits that women need to achieve a certain quantity of representation, a critical mass, to effectively encourage organizational changes in male-dominated corporate environments.

Drawing on critical mass theory, Konrad et al. (2008) examined women on boards of Fortune 1000 companies and found that having three women was pivotal in influencing group dynamics. Their insightful interviews revealed that a critical mass of at least three women is necessary for boardrooms to embrace diversity effectively, positively influencing board dynamics and maximizing benefits.

One woman	Two women	Three or more women
Potential to effect but high risk of tokenism.	Situation improves, yet tokenism can persist.	Critical mass.
Being under scrutiny, ignored, underrated, and stereotyped, need to constantly prove their value to others.	Increased validation and comfort, greater sense of partnership, enhanced ability to make an impact, encouragement to express opinions. Yet, some stereotyping remains, need to prove their value to others and women maintained a certain distance to avoid being perceived as conspirators.	Gender no longer hinders acceptance and communication, more accepting atmosphere, increased activity and acknowledged by others, freely associating with one another, remarkably better ability to make an impact.

Figure 1 The significance of quantity (Modified from Konrad et al., 2008).

Konrad et al. (2008) concluded the experience of a solo woman on board that they were able to make significant contributions, yet, they had to prove their value to others. On one hand, they felt extremely visible and different, expected to represent their entire gender, with stereotypical female-related issues considered their expertise. On the other hand, they experienced ignorance, tokenism, underrating and that invisibility hindered their ability to have an impact. It was also noted that the situation differed depending on whether another woman had previously served on the board or if they were the first female member. Adding a second woman to the board improved circumstances. Women provided each other with validation and a sense of partnership, which encouraged them to express their opinions more vocally. However, they maintained a certain distance to avoid being perceived as conspirators, and some stereotyping and tokenism still persisted. Three or more women were reported as the “tipping point” where the dynamic shifts from a masculine contest to enhanced collaborative discussion. This change brought novel aspects to issues, created a more accepting atmosphere, and increased the likelihood of addressing previously undetected subjects. It was also noted that disagreements between women made it clear to everyone that they were independent thinkers.

2.2.2 Underlying reasons for female underrepresentation on boards

The selection of board members is usually controlled by a corporate elite of mostly male chairmen who prefer candidates who share their characteristics (Doldor et al., 2012) although board effectiveness is positively influenced by members who bring diverse knowledge and skills (Huse, Nilsen & Hagen, 2009). Prior research has shown that networks have a significant impact on candidates' career opportunities (Doldor et al., 2012) and the "old boys club" is widely recognized in organizational studies (Kanter, 1977; Khurana, 2002; McDonald, 2011; Huse & Solberg, 2006; Radu & Smaili, 2022). Men who serve on multiple boards are reluctant to appoint women as board members, reflecting a desire to protect the monopoly benefits tied to their elite status (Huang, Diehl & Paterlini, 2020). Thus, understanding the attitudes and behaviors of the homogeneous business elite regarding gender and management is important (Hovden et al., 2011).

According to McDonald (2011), the privileged old boy's network favors men by offering access to social capital, information, influence and status, thereby limiting women's ability to advance in their careers. He also notes that men commonly vouch for other men, while women are also likely to vouch for other women. Consequently, women outside established networks face additional barriers in reaching executive roles, while those who are well-connected receive greater job-finding assistance. Evidence from DAX 30 firms, as highlighted by Huang et al. (2020), points to the disproportionate influence of corporate elites on decision-making. The presence of multi-board men negatively affects women's participation on boards, whereas the presence of multi-board women has the opposite effect, fostering greater gender diversity. In line with this, Biswas et al. (2023) argue that increasing the number of women on boards can have a positive impact on the broader corporate leadership pipeline. They discovered that a higher number of women on boards correlates with more women in senior management positions, and that gender parity is primarily driven by women in non-executive roles rather than executive board members. They suggest that increasing women's representation on

boards is a viable solution to address the imbalance, as it supports women's career paths to board and executive roles.

Motivated by the influence of chairmen in the board appointment process, Brunzell & Liljebloom (2014) examined chairmen's perceptions of gender differences in board work within Nordic listed companies. Their findings suggest that the chairman's satisfaction with female board members decreases as the representation of women in the boardroom increases. A recent study by Lefley, Trnková and Vychová (2024) examined university students' views on the suitability of women for corporate boards, and the results suggest barriers to female appointments in the future. Males exhibited a clear negative bias toward the positive contributions women could bring to boardrooms, and the discrimination did not stem from gender itself but rather from a perceived mismatch between leadership qualities typically associated with men. This type of negative association with women on boards will ultimately affect the willingness of companies to make such appointments, further slowing down the progress towards equal gender diversity.

The preferences of business elites and chairs of the board are not solely to blame, but when combined with gender differences, they provide a more comprehensive explanation. Coffman (2014) argues that self-stereotyping plays a major role in the economic environment and that women are less likely to contribute their ideas in male-dominated domains, even in situations where discrimination is minimized. The findings suggest that the allocation of leadership roles, promotions, and raises increases gender disparity, especially in male-dominated fields. Women may hinder their own possibilities for management positions due to their imagined glass ceiling, as they expect to be discriminated against, as Storvik and Schøne (2008) suggest based on their research. Their evidence from Norway confirms that the initial circumstances are relatively equal. Both genders are equally encouraged to pursue management roles, receive equal organizational recognition, are similarly satisfied with recruitment policies, share similar interests in advancing in their careers, show no significant differences in family priorities,

and experience an increase in job offers when they apply more frequently. Furthermore, there is no evidence of a masculine subtext in management. The one key difference they discovered is that women apply less often for management positions, which consequently delays career progression. This aligns with findings that women are more likely to engage in negative self-steering when it comes to their careers (Fernandez-Mateo & Fernandez, 2016).

Gregoric et al. (2017) studied the rather slow progress in female board recruitment in Nordic economies and identified the following two partly complementary justifications. Firstly, they argue that the limited availability of experienced female candidates, such as CEOs, hinders progress. Secondly, they observe that the boards of directors may be reluctant to increase gender diversity as it has potential to disrupt the established practices of selecting board members and undermine the continuity. Furthermore, these practices and preferences may have become institutionalized over time, with current board members consolidating control and favoring individuals from their own social circle and network. The reluctance to appoint female board members or other leadership positions in firms reinforces the cycle where women are unable to gain the valuable experience that key decision-makers look for.

While some suggest that having more women on boards leads to more women in executive management positions (Biswas et al., 2023), this is not the case in all countries. Norway, Iceland, and France excel in gender equality in both board and executive management comparisons, whereas Italy and Spain perform well only in the board comparison (Kajala, 2024). Still, the route to the board of directors has traditionally been through positions such as CEO (Smith & Parrotta, 2018; Teräsaho & Kupiainen, 2015), and the presence of female role models on boards has been observed to be a crucial motivator for women to pursue higher education in traditionally male-dominated fields, while their absence reduces interest (Beck & Pánczél, 2023). Therefore, it is justified to promote greater gender diversity on boards across all industries, as it not only fosters more balanced representation at the board level but also supports the advancement of

women into executive positions, expanding the pool of qualified candidates who may ascend to board roles.

Smith and Parrotta (2018) analyzed Danish companies and found that the female-led hypothesis was not confirmed, as having a female chairperson was associated with fewer appointments of other non-employee female board members, with clear evidence of tokenism—meaning the likelihood of adding more non-employee-elected female board members noticeably decreased if the board already included one or more women. They observed that the most direct route for women to secure a seat at the board table is through the “pipeline.” Without networks or relevant family connections, women need to attain top executive positions; however, the pipeline effect is weaker for women compared to men, indicating that qualified female directors are still less likely to be selected for board positions. Therefore, they suggest that increasing female representation in top executive roles is the key to achieving balanced boards, rather than the reverse.

Although the use of external executive search firms have been recognized as promoting gender equality, enhancing objectivity, and are becoming increasingly utilized (Teräsaho & Kupiainen, 2015), Doldor et al. (2012) argue that these intermediaries in the elite labor market also base their judgments on how well the candidate fits within the current boardroom. Search consultants were found to value interviews and references when assessing candidate fit, often preferring candidates similar to current board members and placing excessive emphasis on specific experience, such as prior board or executive roles. These findings present an obstacle for women. They point out that due to corporate governance regulations, the board recruitment process is becoming increasingly formal, and while skills and qualifications are certainly valuable, the selection process is also influenced by the extent to which candidates align with the values, norms, and behaviors of current board members. Career path, references, and fitting in are the most influential factors considered by search consultants when determining suitable candidates (Steuer, Abell, and Wynn, 2015).

To support the Finnish government's objective of enhancing gender equality on boards of listed companies, in alignment with the EU directive, The Prime Minister's Office publication investigated the factors that hinder and support the appointment of women to boards and management positions in listed Finnish companies (Sievänen et al., 2023). The key factors that hinder women's career advancement on boards and in other management positions were identified, with the industry sector being the most influential. Certain industries, such as manufacturing and forestry, struggle to find women with the necessary industry and business expertise, yet there is a desire to discover and recruit qualified female candidates. They also observed that ownership structure was influential. Large listed companies typically have diverse ownership, and institutional investors are committed to promoting gender diversity, whereas family-owned businesses tend to favor those with family ties. The potential benefits of a diversified board are not fully understood, especially in small businesses. Other factors mentioned include the uneven distribution of parental leave and family care duties, which can delay career-related networking and business experience, as well as women's critical attitudes towards their own competence.

One common challenge that arises in relation to gender equality in the labor market is balancing work and family. Jyrkinen, Niemistö, and Hearn (2017) state that although the Finnish care system is relatively equal, societal expectations still place the primary responsibility for care, such as taking care of children or the elderly, on women. These tend to restrict and influence women's career advancement. However, they acknowledge that despite temporary interruptions due to care responsibilities, women have still been able to reach top positions. Findings by Kangas and Lämsä (2021) confirm the existence of traditional masculine leadership practices in Finland, with genders being treated differently in top management positions, emphasizing equal fatherhood as an important part of the solution.

Teräsaho and Kupiainen (2015) found that women were also less commonly found in business management roles in Finland, which may act as a barrier to their advancement to top executive roles, such as CEO, and board positions. They note that women who advance to top executive roles typically work in support functions, such as communications, human resources, legal affairs, or financial management. Therefore, Turunen and Linnainmaa (2018) suggest that, in addition to striving for gender-balanced boardrooms, Finnish companies should also focus on achieving a more equitable distribution of leadership roles across both support and core operational functions. They found that women in board positions held 78% of HR director roles and 61% of marketing director roles, while men held 88% of sales director roles and 80% of CFO roles.

2.2.3 From voluntary to mandatory

Regulators, media, and policymakers have been debating the influence of board gender diversity on shareholder value, prompting several governments to implement mandatory gender quotas for corporate boards (Griffin, 2021). Prior to the introduction of the EU directive, several European countries took action to increase gender parity on boards, utilizing two main approaches: corporate self-regulation through governance codes and national mandatory legislation (Doldor et al., 2012). Although there is a strong justification for mandatory gender quotas, the outcome may not be entirely beneficial. Quotas are designed to promote gender equality and ensure diverse representation, but they can also lead to unintended consequences.

Some countries trust in a self-regulatory environment where unmet quotas are not penalized, while in contrast, Norway serves as an example of a penalty-driven, top-down approach (Clark et al., 2022). Quota legislation can quickly increase the number of women on boards, but it does not necessarily lead to more women in other top positions. This was evident in Norway, which has shown that board quotas have not been effective in increasing the number of women in CEO or other executive roles (Turunen & Linnainmaa, 2018). Bøhren and Staubo (2014) found that following Norway's imposition of a law mandating at least 40% representation of both men and women in Norwegian

boardrooms, half of the companies opted to transition into an organizational structure circumvent these legal obligations. The regulatory shock of involuntary board restructuring was costly and exiting to an alternative organizational form had low costs. The characteristics most commonly observed in their research were that the companies making this transition were small, non-listed, well-performing, and had few female directors.

To accelerate progress toward gender parity, the European Parliament adopted a directive on gender balance on corporate boards of listed companies in November 2022 (Directive 2022/2381). The regulation applies to all companies listed on the stock exchange with at least 250 employees and requires them to achieve a minimum of 40% representation of the underrepresented sex in non-executive director positions by June 30, 2026. Member states are also required to impose penalties, such as fines or annulling appointments and elections, if obligations are not met.

The directive must be implemented into national legislation by member states, and in Finland, the law is intended to come into effect at the end of 2024 (HE 60/2024 vp.). Publicly listed companies must meet the obligations by June 30, 2026, and according to the government's proposal, approximately 35 companies fall within its scope based on the financial statements from 2021 and 2022. As per Keskuskauppakamari report, achieving the 40% target within the deadline requires a faster increase in the proportion of women, as the rate observed from 2011 to 2023 is not adequate (Kajala, 2024). The report shows that 52% of OMXH25 companies and 55% of large-cap companies meet the target.

Interviews conducted by the Prime Minister's Office suggest that while selections based on gender quotas may be even harmful and have negative effects on those selected, they could still be the most effective tool for achieving a "new normal" (Sievänen et al., 2023). The respondents were skeptical about regulatory measures being the most effective way to enhance women's representation on the boards of Finnish listed companies, with men

being significantly more critical than women. Nevertheless, the highest levels of equal gender representation on boards are typically observed in firms that operate under punitive quotas, in countries with high levels of gender equality overall, and within organizations that exhibit advanced social consciousness (Clark et al., 2022).

Although the issue is complex. United Kingdom's reliance on a self-regulatory approach has resulted in it surpassing countries like Finland and Sweden in the proportion of women on boards in the most recent comparison (Kajala, 2024). Initially, the UK's Voluntary Code on Search was considered to have rather vague recommendations and did not encourage more innovative actions (Doldor et al., 2012). However, a report by Keskuskauppakamari demonstrates that UK's recent non-mandatory developments in this area can be effective in driving significant improvements (Kajala, 2024). Conversely, the report also notes that Estonia's poor progress with the voluntary approach has done little to advance the equal representation of women on boards.

Gregoric et al. (2009) note that excessive external demands for gender quotas can discourage the organic process to appoint women to board positions. In a merit-based, organic growth approach, women earn board positions based on their achievements and qualifications, fostering a more effective and successful board dynamic. They claim that women who are appointed under a quota may encounter stigma or be perceived less capable, which can diminish their authority and effectiveness. In alignment with this, Rixom et al. (2023) assert that firms must go beyond simply meeting quota requirements. They examined how legislative gender quotas are perceived by US market participants and found that if firms only meet the minimum compliance requirements, investors view the female directors as tokens and consequently invest less in those firms compared to firms that are not subject to such mandates. They note that by exceeding the minimum requirements for female board members, firms can attract more investment. Therefore, the required law should be seen as a baseline rather than the final target. They also state that having three female board members is not sufficient to eliminate the perception of tokenism if the firm only meets the quota requirement.

2.2.4 Advancing gender diversity on boards

Despite growing awareness of the benefits of gender diversity on boards, progress has been slow. Persistent barriers, such as biased recruitment practices, continue to hinder women's representation at the highest levels of corporate leadership. Women in Nordic countries were pioneers in entering the labor market, and today, policies are designed to support them in balancing careers and family responsibilities (Smith & Parrotta, 2018). This is justified, as evidence shows that work-family policies, such as childcare and parental leave, do not support claims of “tradeoffs” or “paradoxes” that harm gender equality (Brady, Blome & Kmec, 2018) and countries with sufficient childcare support are more likely to attain a critical mass of women on boards (Kowalewska, 2021). The gender pay gap at the executive level is less pronounced in female-friendly firms with flexible work arrangements, highlighting the importance of corporate culture (Keller et al., 2023). From a Finnish perspective, a balanced division of family roles is considered essential in advancing gender equality in top management and board positions (Kangas & Lämsä, 2021; Sievänen et al., 2023; Turunen & Linnainmaa, 2018). Still, the gender pay gap is larger in Finland than the EU average (Prime Minister's Office, 2020). The Finnish Ministry of Social Affairs and Health suggests that executive search consultants can play a role in improving gender equality (Teräsaho & Kupiainen, 2015). While executive search firms are often seen as facilitators of career transitions, they can also impose restrictions on these transitions (Hamori, 2010).

The process begins with the search consultant and client outlining the job requirements and ideal candidate characteristics, followed by the search consultant narrowing down the long-list based on candidate fit and interest; once short-lists are formed, the client firm becomes involved to conduct interviews (Fernandez-Mateo & Fernandez, 2016). The critical stage is transitioning candidates from the long list to the short list, which can either be used to promote gender diversity by allowing potential candidates to showcase their expertise to the hiring client (Manfredi, Clayton-Hathway & Cousens, 2019) or be

subject to “social matching”, where social and cultural fit with existing executives outweighs qualifications (Khurana, 2002).

According to Dreher, Lee, and Clerkin (2011), executive search firms act as brokers, connecting executives with potential employers and they offer several benefits to both clients and candidates. For clients, executive search firms provide access to a vast talent pool and expertise in identifying top candidates. For candidates, they offer valuable insights into available positions, networking opportunities, a clearer understanding of their marketability and often a better compensation. Moreover, minority candidates may benefit from search firms, which can negotiate higher initial offers on their behalf than they might achieve independently (Seidel, Polzer, & Stewart, 2000).

Despite observing some positive outcomes, concerns about integrity remain. According to Hamori (2010) and Steuer et al. (2015), executive search firms do not take risks by offering lower-level executives the opportunity to move up the ladder; instead, they seek the most apparent candidates who already hold the position they are filling. The search consultants disproportionately approach white men compared to women or minority men (Dreher et al., 2011). They use various methods, such as psychometric testing and intuitive judgment, to assess candidates; however, search consultants do not claim that the selection process is entirely unbiased (Steuer et al., 2015). The executive recruitment sector has been notably slow to adopt digital transformation, which could enhance accuracy, accountability, and efficiency (Ramakrishnan, 2023), potentially leading to a future hiring process that fosters greater inclusivity in candidate selection.

Some evidence is inconclusive. Fernandez-Mateo and Fernandez (2016) did not fully endorse the notion that demand-side recruiters are the primary drivers of gender inequality in top management hiring. Although women constituted a smaller portion of the candidate pool, they found that executive search firms raised the proportion of female candidates with respect to their rates of application. Once women entered the candidate pool, they were not disadvantaged; however, they were less likely to be

selected for interviews initially. Siegel, König, and Zobel (2020) found no evidence of implicit or explicit biases against women among search consultants. On the other hand, they observed that male headhunters, as the predominant group in the field, showed a stronger implicit association of men with competence, and vice versa. Men also endorsed more traditional gender roles than their female counterparts in the explicit measure.

There is a perception that executive search firms shape the hiring process in ways that disadvantage women by basing their judgments on how well candidates fit within the current boardroom (Doldor et al., 2012). This could be due to observations that they tend to be conservative in their candidate search, as they strive to satisfy client expectations (Fernandez-Mateo & Fernandez, 2016) and can even be “too deferential” in their efforts to maintain client relationships (Manfredi et al., 2019). Steuer et al., (2015) state that boards of directors are often overly conservative when it comes to search firms, and there is a general agreement that the process of appointing top executive positions is inherently conservative. This type of behavior will inevitably lead to favoring familiar profiles and sustaining established recruitment practices, slowing the progress of diversity and contributing to the continued flourishing of the business elite.

Executive search firms should challenge chairmen and nomination committees when setting the criteria, placing greater emphasis on competence, and develop strategies to overcome resistance from board members (Doldor et al., 2012). Creating formal guidelines for nominating committees can prevent the selection of candidates who resemble the current predominantly male incumbents, which often results from the informal recommendation-based and network-driven approach now in place (Burgess & Tharenou, 2002). Especially, when women are represented on nominating committees, it has a strong positive effect on increasing the number of women on boards (Bozhinov, Joecks & Scharfenkamp, 2021). Another effective means of contributing is an external nomination committee (Brunzell & Liljebloom, 2014).

As part of the research by The Prime Minister's Office, a questionnaire survey conducted with Finnish respondents found that they considered nomination committees, the CEO, and the chair of the board to be most responsible for gender equality in the boardroom, while executive search firms were seen as least responsible (Sievänen et al., 2023). Correspondingly, Manfredi et al., (2019) emphasize the responsibility of the client to avoid biased appointments and not use the conflict-averse approach of executive search firms as an excuse to neglect equality perspectives. The conservative preferences primarily stem from the board rather than the search firms (Steuer et al., 2015).

The Finnish Ministry of Social Affairs and Health identified a shift in process that could promote women's advancement to company boards (Teräsaho & Kupiainen, 2015). In the recruitment process, a candidate's expected career progression, such as ascending to a CEO role, has traditionally been a key factor in selection decisions. However, the findings indicate a shift towards seeking board members with specific expertise rather than focusing solely on general managers. This evolving trend is believed to create more opportunities for women on boards, as they are less frequently represented in CEO positions.

In the same study, they found that network-based recruitment, without open and diverse candidate searches, hindered women's career advancement to top leadership positions, while the use of external executive search firms was seen as promoting gender equality (Teräsaho & Kupiainen, 2015). The use of executive search consultants was identified as a common practice and is seen as enhancing objectivity. Although this weakness has been identified, the non-systematic recruitment process remains prevalent, according to a recent study by the Prime Minister's Office, and domestic recruitments often do not utilize executive search firms (Sievänen et al., 2023). Given the aforementioned research, the use of external executive search firms is not likely to have a significant impact unless the board itself shifts to adopting a more inclusive and diverse hiring strategy.

The Prime Minister's Office publication revealed factors that support the appointment of women to boards and management positions in listed Finnish companies (Sievänen et al., 2023). Based on the interviews conducted, men were generally positive and supportive of women on boards, while women felt that female candidates are often held to higher standards for selection. The publication notes that the operational environment is evolving, with shifting values and attitudes, an increasing prevalence of mentoring, and the integration of ESG into key strategies. It also observed an emphasis on substantive factors such as personal competence, experience, and a suitable career path, which can enhance women's chances of selection when assessed objectively.

To conclude the study by The Prime Minister's Office, the pool of competent women remains too small (Sievänen et al., 2023). It suggests that most crucial way to improve women's representation on boards is by enhancing networking so that more female candidates are included on long and short lists, particularly when companies continue to rely on non-systematic recruitment processes. Another proactive measure is for women to make an impact by gaining relevant experience and knowledge through career planning and by being more courageous. Changing values and roles, along with increased equality in the use of parental leave, represent a positive step in the right direction in their study.

To continue the suggested actions in the Finnish labor market, Keskuskauppakamari also proposes ways to address the gender imbalance in executive positions (Turunen & Linnainmaa, 2018). They add that corporations should adopt strategic decisions to improve the situation, set goals, and ensure they are monitored. The recruitment process should treat both men and women equally and recognize potential within the company, supporting employees' career progression. Lastly, work arrangements should accommodate all employees, taking into account family leave, and mentoring programs should be established to help women advance in their careers. Mentors can prevent women with promising leadership potential from opting out of top-tier positions (Wille et al., 2018). As mentioned earlier, Kangas & Lämsä (2021) reported the persistence of

traditional masculine leadership practices and gender inequality in Finnish top management positions. Fortunately, they observed a trend toward less masculine, more inclusive leadership practices, suggesting that changes are occurring in relation to men's work-family balance. In order to encourage gender equality in organizations, they promote modern and equally participative fatherhood, similar to the roles and responsibilities of mothers.

2.3 Exploring ESG

Friedman (1970) argued that, according to shareholder theory, businesses should focus on their core mission of maximizing profits as their role is to serve shareholders and they are not accountable for broader societal responsibilities. Stakeholder theory offers a broader perspective that challenges the narrow focus of shareholder theory, where corporations must balance financial objectives with growing sustainability demands from stakeholders (Steurer et al., 2005). Financial results are a priority for shareholders, but long-term success depends on non-financial measures that highlight the strategic value of stakeholder engagement (Northcott & Smith, 2011).

Throughout the 2000s, businesses increasingly recognized the importance of sustainability, with many integrating it into their models and publishing annual sustainability reports to reduce their carbon footprint, while nations increasingly acknowledged the need for coordinated action to secure a sustainable future. In 2015, growing concern about climate change resulted in the adoption of the legally binding Paris Agreement, along with the unanimous endorsement of 17 Sustainable Development Goals (SDGs) by all United Nations Member States. Alongside the rising commitment to sustainable efforts, the call for transparency in Environmental, Social, and Governance (ESG) disclosures is increasing (Amel-Zadeh & Serafeim, 2018) and sustainability reporting is gaining momentum globally. Since corporate social responsibility (CSR) disclosure policies are determined at the board level, scholarly literature has thus explored how gender influences these decisions (Fernandez-Feijoo et al., 2014).

ESG has inspired a range of studies from diverse perspectives, reflecting its multifaceted impact and the growing interest in understanding its implications across different fields. ESG encompasses topics related to the environment (e.g., climate change, water and energy usage), social responsibility (e.g., human rights, gender parity), and corporate governance (e.g., corruption, shareholder protection), making ESG disclosures an integral part of CSR (Cucari et al., 2018). The company's board of directors plays a significant role in deciding the strategy, which encompasses CSR policies (Fernandez-Feijoo et al., 2014; Jizi, 2017). Active participation of board members in non-financial reporting leads to the adoption of more proactive practices that promote sustainability and demonstrate a greater commitment towards sustainable development (Cosma et al., 2022).

Initially, the financial world's need to assess companies' sustainability performance led to the creation of ESG scoring (Clément et al., 2023). These ratings provide an assessment of a company's environmental, social, and governance practices, which can be used for investment decisions, evaluating potential risks, strategy formation, reputation management, and benchmarking against industry peers. The incorporation of ESG information into investment decisions has emerged as one of the most impactful changes in financial markets in recent years (Christensen et al., 2022). As sustainability becomes increasingly relevant for investors and ESG ratings become more commonly used in debt contracts for sustainability-linked loans, the market for ESG ratings is expanding (Wagenhofer, 2024).

Christensen et al. (2022) studied the issue with ESG ratings, noting that there is considerable variation between rating agencies on individual firms, which can potentially mislead market participants. Their findings revealed that more extensive ESG disclosure led to greater disagreements among ESG rating firms. Wang & Liu (2024) also agree with this, as their research indicates that firms disclose additional environmental information when issuing green bonds, which leads to increased disagreements in ESG ratings but

also significantly improves ESG scores. Clément et al. (2023) state that sustainable aspects, such as the impact organizations have on their communities and the environment, is challenging to measure. They emphasize the need for greater transparency from sustainability agencies regarding the limitations of their ESG measurement methods and advocate for clearly specifying the definitions used when analyzing these concepts. However, Del Giudice and Rigamonti (2020) suggest that rating agencies provide accurate information, as they observed no significant ESG score adjustments after the unveiling of corporate misconduct. They further propose that third-party auditing can improve the reliability of ESG scores.

Tamimi and Sebastianelli (2017) analyzed ESG disclosures in S&P 500 companies, finding that environmental disclosures had the lowest level of transparency, governance disclosures the highest, and social disclosures showed the greatest variability, with some companies providing detailed information on specific policies like child labor, while others disclosed nothing. Additionally, there were notable differences in how transparently companies in different industry sectors reported. As institutional theory suggests, the operational environment influences the activities of companies. This is demonstrated in a study by Hoang, Pham, and Nguyen (2023), which analyzed 14 countries and found that countries with better United Nations Sustainable Development Goals (SDG) performance tend to have companies with higher transparency in ESG disclosures. Women on the board were shown to strengthen the relationship.

Wagenhofer (2024) notes that sustainability reports have been lacking holistic ESG results and performance measures, similar to standardized financial information found in balance sheets or income statements. This has led to incomparable ESG information, inconsistencies in reporting quality, and difficulties in assessing the genuine impact of a company's ESG activities. As part of the European Green Deal package, alongside other governance and finance initiatives, he praises the EU for developing the European Sustainability Reporting Standards (ESRS), which are regarded as the most ambitious and comprehensive in their domain. Companies subject to Corporate Sustainability

Reporting Standards (CSRS) are required to report according to ESRS, which is necessary in order to have comparable and harmonized sustainability information and reporting (Directive 2013/34/EU).

2.3.1 Mandatory ESG disclosure

The shareholder wealth maximization theory argues that a corporation's primary responsibility is to maximize profits for shareholders, while corporate social responsibility challenges this by suggesting that companies also have a duty to contribute positively to society (Oranhirg, 2022). This dual perspective highlights the ongoing debate about the role of corporations in balancing financial performance with social and ethical responsibilities, indicating that more integrated approach may be necessary for sustainable business practices in today's complex environment. In response to the growing importance of ESG considerations in investment decisions, several countries have initiated mandatory regulations on ESG information (Krueger et al., 2024).

As part of the European Green Deal growth and sustainable investment strategy, the EU aims to improve sustainability information for investors, individual citizens, civil society organizations, and other stakeholders with the Corporate Sustainability Reporting Directive (CSRD) becoming effective on January 5, 2023 (Directive 2022/2464). It sets requirements for companies to disclose ESG information, report on climate-related risks and opportunities, and ensure that the information is harmonized, comparable, and based on uniform indicators. In the beginning, large companies with over 500 employees are required to apply the new rules in the 2024 financial year, for reports published in 2025. In the coming years, the obligation will expand to include other listed and unlisted companies, SMEs, and certain non-EU companies if they generate over EUR 150 million in the EU market.

The Corporate Sustainability Reporting Directive emphasizes the role of board of directors and sustainability as an integrated part of strategy (Lindman, 2024). A key

component of sustainability reporting is to disclose business strategy and the resilience of business model and strategy which are to be aligned with sustainable economy (Directive 2022/2464). As ESG becomes a more significant part of the corporate strategy, it also becomes a vital agenda item for the board of directors, who play the leading role (Lindman, 2024).

Similarly to mandatory gender quotas, which were observed to be most effective means (Clark et al., 2022), companies in countries with strict regulatory environments regarding CSR disclosure are more proficient at adopting these standards compared to companies in countries with weak enforcement levels (Fernandez-Feijoo et al., 2014). This is also confirmed by Chen et al. (2024), who analyzed companies worldwide and found that strict regulations regarding ESG reporting in mandate design led to stronger responses, while more flexible ones resulted in weaker responses. Krueger et al. (2024) utilized data on mandatory ESG disclosure worldwide to analyze stock liquidity and found a significant positive effect, particularly when the requirements are set by government institutions rather than informal institutions using a comply-or-explain approach. These demonstrate that the strength of regulatory enforcement is essential for effective policy adoption and beneficial capital market effect.

Wang et al. (2023) observed a negative market reaction of -1.1% among US firms to the mandatory enactment of the Environmental, Social, and Governance (ESG) Disclosure Simplification Act of 2021 by the US House of Representatives, which aims to simplify, standardize, and enhance ESG information. The study also noted that carbon-intensive firms and industries were more vulnerable, while firms with high ESG scores experienced a milder market reaction. The negative reaction may be attributed to the market's expectation that the costs associated with ESG disclosure would outweigh the benefits of increased transparency. The price drift was recovered within 5 days of the enactment. In response to mandated ESG reporting, Chen et al. (2024) studied firms across countries and found that firms adjusted their dividend policies, reducing them by approximately 25% immediately after implementation. The reduction was mainly driven by agency

conflicts, firms with higher levels of information asymmetry, and firms that rely on external financing. In Norway's case, Espen Eckbo, Nygaard, and Thorburn (2022) argue that the valuation effect of the board gender quota was statistically insignificant due to the sufficient availability of qualified female directors.

Non-standardized ESG reporting leads to issues such as inconsistent data quality and enables greenwashing, as companies may exaggerate their sustainability efforts without being held accountable. One commonly observed statement is that non-financial information is complex, broad, qualitative, and unstandardized, leading firms to potentially adopt superficial disclosures to meet the requirements (Krueger et al., 2024). Oranhirg (2022) argues that mandatory ESG disclosure may lead to less CSR activity, rather than achieving the intended goal of increasing it. The reasoning is that excessive ESG disclosure could encourage greenwashing without actually enhancing CSR efforts, and there is also a lack of understanding regarding the costs of imposing such regulations and the measurable benefits they provide.

An opposing finding was presented by Ahmed et al. (2024), who examined the impact of the European Union's Directive on Non-Financial Reporting 2014/95. It required EU-listed companies to disclose ESG information starting in 2017, on ESG decoupling—defined as the discrepancy between ESG reporting and actual performance. The study found that the introduction of the directive led to a reduction in ESG decoupling, with further reductions occurring once it was fully implemented. The positive effects on mitigating ESG decoupling were more pronounced in firms operating in non-controversial industries compared to those in controversial industries. Firms with audited ESG practices did not experience a further enhancement of this effect. Overall, the study provides strong evidence that both normative pressures from the introduction of the directive and coercive pressures from its mandatory implementation were successful in encouraging genuine sustainability actions, not just superficial claims.

In light of the EU's ambitious efforts to lead in sustainable development and its implementation of comprehensive strategies, such as the Corporate Sustainability Reporting Directive aligned with the United Nations Sustainable Development Goals (SDG), Perevoznic and Dragomir (2024) identified contributors to each SDG and examined the integration of corporate sustainability policies. By analyzing 1156 companies headquartered in EU countries, they found that Sweden plays the most significant role in advancing the SDGs, followed by Germany, France, and Italy. The disparities are pronounced, with Bulgaria, Romania, and Luxembourg at the opposite end of the spectrum.

2.3.2 Gender impact on sustainability disclosure

The board of directors is the monitoring body of management's approach to voluntary disclosures, such as ESG disclosure (Khemakhem et al., 2023). Environmental activities, diversity, and corporate governance are growing stakeholder concerns (Tamimi & Sebastianelli, 2017), suggesting the need for supervisory mechanisms to ensure boards possess adequate sustainability knowledge and understand stakeholders' ESG priorities (Birindelli et al., 2018). The general belief is that female and male leaders possess inherently different characteristics, which explain why organizations with more gender-balanced boardrooms tend to perform better (Wille et al., 2018).

Female board members can be linked to enhanced ESG performance due to various characteristics inherent to women. As studies suggest, women may contribute to higher levels of transparency and accountability in addressing sustainability issues, as they are perceived to be more democratic, more dedicated, and less self-centered than men (Menicucci & Paolucci, 2024). Stakeholders such as employees, customers, suppliers, shareholders, and the community place CSR-related pressures that require a response (Tamimi & Sebastianelli, 2017) and help integrate sustainable development into the corporate sector (Steurer et al., 2005). It has been proposed that women have greater empathy regarding stakeholder concerns and sustainability practices, and that female directors are more responsive to sustainability initiatives (Birindelli et al., 2018).

Women's expertise is often confined to certain areas, and this tendency may stem from observations like those of Coffman (2014), who argues that individuals are less likely to contribute ideas that deviate from the stereotypical domain associated with their gender within a group setting. Similarly to previous finding, research by García-Sánchez et al. (2023) suggests that women are often associated with sustainability initiatives because female leaders tend to align with gender role expectations, which involves promoting social and environmental strategies and policies. As women align with traditional gender roles, they are self-steering the direction of their careers and, in doing so, limit their opportunities by focusing on socially expected areas.

This alignment can translate into findings by Jizi (2017) that women are more likely to adopt CSR initiatives, prioritize long-term social activities, and show greater concern for societal and environmental issues, often bringing these topics up in board discussions. This effect can be further amplified by having more women on the board, as Konrad et al. (2008) suggest. They argue that appointing just one woman to the board can make a contribution, but greater benefits are often observed as the number of women increases, leading them to feel more comfortable raising topics that male members may consider “softer”, such as sustainability, diversity, and reputation.

There are relatively few studies examining gender differences in core psychological characteristics at the executive level, which is the focus of Wille et al.'s (2018) research. Their results generally supported the idea that men and women are more similar than different. Both genders at the executive level were more alike in leadership-relevant traits, such as conscientiousness, extraversion and emotional stability, than at the non-executive level. Both male and female executives exhibited a typical “leader personality,” characterized by assertiveness, decisiveness and strategic thinking. The study further revealed that women showed a more pronounced disparity in personality traits between executives and non-executives compared to men. This implies that women may feel

compelled to display a more masculine interpersonal approach to be regarded as suitable for leadership roles.

Several studies have validated the critical mass theory, highlighting that achieving a threshold of at least three women on the board can significantly impact sustainability efforts and reporting. Research by Amorelli and García-Sánchez (2020) supports the theory of critical mass and found that to be effective in influencing the quality of CSR disclosure and higher board human capital enhances the effect. Accordingly, Menicucci and Paolucci (2024) found a particularly strong positive effect on the social pillar. They also identified a critical mass of three women on the board as having a positive relationship with overall ESG performance. Fernandez-Feijoo et al. (2014) endorse the critical mass theory and found a significant correlation between higher CSR reporting levels and the presence of at least three women on boards of directors. Findings from Landry et al. (2016) research reinforce the critical mass theory and indicate that having multiple women on the board increases the probability that the company will engage in socially responsible practices. Evidence from the banking industry by Birindelli et al. (2018) suggests more complex factors that improve ESG performance. The results indicated an initial improvement in ESG performance as the proportion of women increases, but after a certain point, female representation begins to have a diminishing effect. Menicucci and Paolucci (2024) agree with the threshold, stating that three women on the board are necessary.

Jizi (2017) analyzed TSE 350 firms and found that greater female participation positively influences CSR engagement, reporting, and the implementation of social and ethical policies. S&P 500 companies show a significant positive association between ESG disclosure and the percentage of women on boards, as demonstrated in a study by Tamimi & Sebastianelli (2017). Elmagrhi et al. (2019) report that in Chinese listed companies, the representation of women on boards positively affects three components of environmental performance: environmental strategy, implementation, and disclosure. Bear et al. (2010) note that the number of women on the board was found to have a

positive impact on CSR ratings, and higher CSR ratings contributed to a positive reputation. Velte (2016) examined German and Austrian companies and found that management board gender diversity positively correlates with ESG performance but found it surprising that CSR expertise did not have a significant impact.

The Nordic perspective has received little attention in studies. Yahya (2025) studied the relationship between females in leadership positions and ESG performance in publicly listed Nordic firms. The results found a substantial rise in ES (environmental and social) scores of firms where at least one leadership position is occupied by a woman. The social score and the presence of a female CEO were positively correlated, while having a female chair of the board was not influential. He argues that when women attain chairperson positions, they often adopt typical male behaviors regarding voluntary disclosure, suggesting that similarities between genders in leadership styles outweigh differences. Khatri (2023) also investigated board gender diversity and sustainability performance in Nordic companies and found significant and positive association. He also extended the research to critical mass theory and agrees with others that it plays a role in improved level of sustainability.

When the group is small, the absolute number of women may be lower, yet they can represent a larger share of its composition. Therefore, Khemakhem et al. (2023) analyzed the presence of women in committees and on boards in Canadian companies. They found a significant positive connection between both to ESG disclosure, but the influence of women in smaller groups, such as committees, had an even greater contribution. Similarly, this may explain why Bozhinov et al. (2021) found that women on nominating committees increase the number of women on boards. As such, the focus on female representation should not be limited to boardrooms but should also consider different committees. These findings also suggest that smaller boards, where women constitute a relatively larger share, may have a greater impact on decision-making and drive better ESG outcomes.

Monteiro, Cepêda, and da Silva (2024) found evidence that institutional pressure positively impacts gender equality by encouraging organizations to improve their ESG performance to align with societal expectations and enhance their legitimacy. They also confirm a correlation between higher ESG reporting performance and board gender diversity in the European listed healthcare sector. A study by Pucheta-Martínez, Olcina-Sempere and López-Zamora (2020) analyzed two types of female directors on corporate boards representing institutional shareholders in Spanish non-financial listed firms: pressure-sensitive (from banks and insurance companies) and pressure-resistant (from mutual, investment, pension, and venture capital funds). Pressure-resistant female institutional directors positively affect CSR reporting and encourage firms to take responsible actions, while pressure-sensitive female institutional directors did not influence CSR, possibly due to their focus on short-term profit.

Drawing on the tendency of men's overconfidence, which leads to a greater likelihood of taking excessive risks, Issa & Hanaysha (2023) explored whether boards with equal gender balance are less likely to face ESG controversies. Their study of European non-financial enterprises confirms that having more female directors on the board is linked to fewer ESG controversies, supporting the critical mass theory. Similarly, a study by Roessle et al. (2024) of the 200 largest German companies indicated that having more female executives was associated with lower ESG controversy scores and, when measured by economic value, better financial performance. ESG controversies can harm a company's valuation and performance by damaging its reputation or incurring financial penalties, which may result in a lower stock price and decline in customer loyalty (Issa & Hanaysha, 2023).

Additional findings from studies involving women on boards of directors and their impact on corporate performance highlight their role in driving ethical practices, sustainability, and positive organizational outcomes. Landry et al. (2016) gave recognition to female directors for making a positive impact in Fortune 500 companies. Their findings showed that companies with higher representation of women on

corporate boards were more likely to appear on multiple corporate recognition lists, such as the Best Corporate Citizens, the Most Admired Companies, the Most Ethical Companies, and the Best Companies to Work for. In addition to the positive attention from these external recognitions, they argue that having more women on boards increases the likelihood that companies will be more ethical, transparent, and have a better corporate culture. Companies with a female CEO or chair of the board, along with greater overall diversity in their management teams and oversight bodies, are more likely to demonstrate a higher commitment to the United Nations' 2030 Agenda for Sustainable Development (García-Sánchez et al. 2023). Moreover, greater representation of women on corporate boards is associated with a positive and significant impact on sustainable investment (Muhammed & Ali, 2025), as well as increased engagement in charitable giving (Williams, 2003).

There are a few studies that found no influence or negative influence of women on boards of directors on higher sustainability disclosure levels or efforts. Giannarakis (2014) examined companies from the Fortune 500 list and found that women on boards of directors are not a significant variable in CSR disclosure. He proposes that one possible explanation is directors, regardless of gender, often share similar educational backgrounds and approach societal expectations in the same manner. Findings from Italian companies by Cucari et al. (2018) show a negative relationship between women on the board and ESG disclosure, indicating that women do not necessarily have inherently different views. Another finding from Italy by Cosma et al. (2022) reports that gender was not influential in contributing to Sustainable Development Goals. Hussain et al. (2018) report that women on boards were not linked to better environmental performance but found support for the improved social dimension of sustainability.

2.3.3 Additional factors affecting sustainability disclosure

Other factors that affect the level of sustainability disclosures are company characteristics, corporate governance structures and industry type. Fernandez-Feijoo et al. (2014) highlight the unique cultural characteristics related to country and industry.

Giannarakis (2014) examined Fortune 500 companies and found that company characteristics such as size, profitability, multiple listings, and industry were key factors that influenced ESG scores. In addition to these observations, Reverte (2009) points out that media exposure was the most influential factor in CSR disclosure in his study of Spanish companies.

Different industries provide different levels of disclosure, and this has been recognized as the primary factor influencing disclosure (Fernandez-Feijoo et al., 2014). Giannarakis (2014) identified that material, consumer staples, and energy companies have higher median ESG scores compared to other types of industries. Reverte (2009) observed that industries with a negative impact on the environment publish more extensive information on environmental aspects. He categorized industries into two groups: more sensitive industries, such as mining, oil, forestry, and energy, and less sensitive industries, encompassing all others. The results indicate that more sensitive industries tend to have higher CSR ratings.

Company size plays a significant role in the extent of ESG scores. Larger companies are more visible, experience greater pressure from stakeholders, are more exposed to media and are able to bear the additional costs of CSR disclosure, and it is positively associated with improved CSR level (Giannarakis, 2014; Reverte, 2009; Tamimi & Sebastianelli, 2017). This implies that external factors play a significant role in motivating sustainable information efforts, and greater public scrutiny compels companies to adopt better practices, raising the question of whether these efforts are sincere. Regardless of the underlying reasons, organizations and the environment will benefit from such activities (Landry et al., 2016).

The impact of boardroom characteristics on a company's sustainability performance has been explored in various studies but the findings show variation. A wider range of ideas and experiences in the board room seems to contribute to better ESG performance, as larger board size was identified by several studies as one contributing factor (Giannarakis,

2014; Birindelli et al., 2018; Jizi, 2017; Tamimi & Sebastianelli, 2017). Contrary to these findings, Cucari et al. (2018) found that firm and board size were not influential in ESG scores, while market capitalization and the number of employees were. Jizi (2017) and Hussain et al. (2018) observe that a greater number of independent board members has a positive impact on CSR disclosure, as they encourage a higher level of transparency. The results of Naciti (2019) and Birindelli et al. (2018) were the opposite, showing that more independent directors led to lower sustainability performance. Tamimi & Sebastianelli (2017) analyzed CEO duality, a situation where the CEO also holds the position of chair of the board, finding it to be a contributing factor to higher ESG scores. Hussain et al. (2018) and Naciti (2019), on the other hand, found that CEO duality is disadvantageous to environmental performance. The educational background of board directors and members of supervisory boards is also a factor, with advanced degrees exhibiting a stronger commitment to enhancing ESG disclosure (Wan et al., 2023).

Corporate governance mechanisms and practices that influence how a company is directed, controlled, and held accountable affect the way the company promotes transparency and ESG matters. Hussain et al. (2018) observe that more frequent board meetings improve the social dimensions of sustainability, while Jizi (2017) found a significant positive correlation between the frequency of board meetings and CSR disclosure. According to a study by Arcay and Vázquez (2005), a higher proportion of independent directors on the board, the establishment of an audit committee, and directors' ownership of shares and participation in stock option plans—all actions to enhance corporate governance—are positively correlated with voluntary disclosure. The existence of a CSR committee has significant impact on ESG disclosure (Birindelli et al., 2018; Cucari et al., 2018; Hussain et al. 2018).

2.4 Hypothesis development

The following table 1 provides a summary of previous studies, outlining the geographical locations, sample sizes, and primary results of each study.

Table 1. Overview of referenced studies and their results.

Study	Focus	Sample	Country	Results
Jizi (2017)	Board composition and CSR disclosure	1155 observations, FTSE 350 firms	UK	Higher board independence improves CSR engagement, disclosure and ethical policies. Greater gender diversity and independence enhance CSR legitimacy and resource allocation to social projects.
Amorelli & García-Sánchez (2020)	Impact of female directors and board human capital on CSR disclosure	9744 observations from 3594 (non-financial) companies	USA, EMEA, Asia	Gender diversity, with at least three women on boards, improves CSR disclosure. Higher board human capital enhances this effect. Female directors as chairpersons adopt male stereotypes, reducing the impact on voluntary disclosure.
Menicucci & Paolucci (2024)	Board gender equality and ESG performance in European banks	504 observations	Europe	A positive relationship exists between the number of women on the board and ESG performance, but only after reaching a threshold of at least three women. The percentage of female directors positively impacts the social dimension of ESG.
Fernandez-Feijoo et al. (2014)	Relationship between board gender diversity and CSR reporting	2400 companies, Global Fortune 250 and N100 by revenue	Global (22 countries)	Countries with higher proportions of boards with at least three women show higher levels of CSR reporting. Additionally, countries with greater gender equality have more boards meeting the three-women threshold.
Birindelli et al. (2018)	Impact of female directors and board characteristics on ESG performance in banks	404 observations	Europe, USA	A gender-balanced board (not just a critical mass of women) positively impacts ESG performance. ESG performance is also positively linked to board size and the presence of a CSR committee, but negatively related to the share of independent directors.
Jizi (2017)	Board composition and CSR disclosure	1155 observations, FTSE 350 firms	UK	Higher board independence and female participation positively influence CSR engagement, reporting, and ethical policy establishment, enhancing the legitimacy of CSR reporting.
Tamimi & Sebastianelli (2017)	Transparency and ESG disclosure in S&P 500 firms	347 observations with ESG disclosure scores, S&P 500 firms	USA	Governance has the highest transparency, environmental the lowest. Large-cap firms disclose more than mid-cap firms. Higher ESG disclosure is linked to larger, more gender-diverse boards, CEO duality, and ESG-linked executive compensation. Industry sectors show differences in Social and Governance transparency.
Elmagrhi et al. (2019)	Board gender diversity and environmental performance in Chinese firms	383 listed A-share firms, 1674 observations	China	A higher proportion and older age of female directors positively impact overall environmental performance, including strategy, implementation, and disclosure. Female directors' education level has no significant effect.
Bear et al. (2010)	Board gender diversity, CSR ratings, and corporate reputation	51 firms from Fortune's 2009 Most Admired List	Global	More women on boards positively impact CSR ratings, which in turn enhance corporate reputation. CSR mediates the relationship between board gender composition and reputation, but board resource diversity shows no significant effect.
Velte (2016)	Female board members and ESG performance in two-tier systems	1019 observations from Frankfurt and Vienna Stock Exchange	Germany, Austria	Female management board members positively impact ESG performance. CSR expertise has no significant effect, but CSR committees are positively linked to ESG performance.
Yahya (2025)	Female leadership and ESG performance	268 Nordic-listed (Finland, Denmark, Sweden and Norway)	Nordic countries	Women in leadership roles positively impact both environmental and social performance, with female CEOs showing a positive relationship with social scores. The impact is stronger when a woman replaces a man as CEO. Female board chairpersons have no significant effect.

Study	Focus	Sample	Country	Results
Khatri (2023)	Board gender diversity and sustainability performance	205 Nordic-listed firms (Finland, Denmark, Sweden and Norway) with 1648 observations	Nordic countries	A positive and significant relationship exists between board gender diversity and sustainability performance. A critical mass of at least 30% women on boards is required for a significant effect, particularly in carbon-intensive industries.
Khemakhem, Arroyo & Montecinos (2023)	Board gender diversity, committees, and ESG disclosure	Canadian-listed S&P/TSX companies with 642 firm-year observations	Canada	Positive and significant relationship between female representation on both boards and committees and ESG disclosure. Female representation on committees has a higher impact on ESG disclosure than on the board itself.
Monteiro, Cepêda & da Silva (2024)	Gender diversity and ESG performance reporting	207 European-listed healthcare companies	Europe	Board gender diversity positively influences ESG performance reporting. Workforce and sustainability reports also positively impact ESG reporting but do not mediate the relationship between gender diversity and transparency. Institutional pressure enhances gender diversity policies and ESG reporting.
Pucheta-Martínez, Olcina-Sempere & López-Zamora (2020)	Board gender diversity, specifically female institutional directors, on CSR policies	Spanish (non-financial) listed firms with 1018 observations	Spain	Female directors representing institutional ownership positively influence CSR policies, particularly those from pressure-resistant institutional investors. Pressure-sensitive female directors do not affect CSR policies.
Giannarakis (2014)	Corporate governance and financial characteristics on CSR disclosure	366 firms from the Fortune 500 list	USA	Company and board size are positively related to CSR disclosure. CEO duality negatively impacts CSR disclosure, and there are industry-specific differences. The number of women on the board does not significantly affect CSR disclosure.
Cucari et al. (2018)	Board diversity and ESG disclosure	54 Italian listed companies	Italy	CSR disclosure is positively associated with independent directors and CSR committees. Gender diversity on the board is negatively correlated with ESG disclosure, while board age has no significant impact.
Cosma et al. (2022)	Board participation in non-financial reporting and alignment with UN Agenda 2030.	Survey of 184 board members from listed and unlisted Italian companies	Italy	Greater board involvement in non-financial reporting, particularly in materiality assessment, is linked to stronger sustainability commitment. Gender of board members does not influence SDG alignment.

The majority of prior academic literature suggests that gender diverse boards are associated with enhanced sustainability reporting quality, but they focus on other markets or Nordic region as a whole. It is expected that companies with more women on the board of directors will have better ESG scores in Finnish listed companies. Therefore, this thesis investigates the relationship between board gender diversity and the ESG reporting performance by using data of Finnish Helsinki and First North listed

companies. This thesis employs two empirical methods to test the hypotheses and the research hypothesis is formed as shown below.

H_1 : An increased presence of female board members positively impacts ESG scores in Finnish listed companies

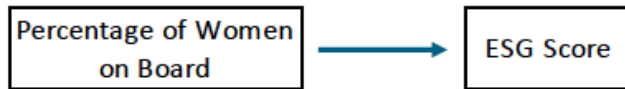


Figure 2. Board gender diversity and its impact on ESG reporting performance.

3 Methodology

In this chapter, the methodology and data used to examine the research hypothesis of this thesis are outlined. Firstly, the research method used to investigate the correlation between board gender diversity and ESG scores is presented, along with a discussion of possible limitations of the statistical model. Secondly, the data collection process is explained, followed by a description of the data and its characteristics.

3.1 Method

To test this hypothesis, similar to previous similar studies (Velte, 2016; Yahya, 2025), both correlation and regression analysis are conducted to measure and analyze the potential relationship between the independent and dependent variables. The correlation analysis will measure the strength and direction of the relationship between two variables, while regression analysis builds on correlation by examining the predictive relationship. This thesis begins with descriptive statistics to summarize the dataset, followed by the Pearson correlation coefficient to reveal the strength and direction of the linear relationship, and a regression model to further analyze the connection between board gender diversity and ESG scores.

Descriptive statistics are used to summarize and organize the main features of a dataset, offering a clear understanding of its fundamental properties without making predictions or drawing conclusions beyond the data. They provide a comprehensive overview of the key characteristics of the dataset, including essential measures such as the mean, standard deviation, minimum, and maximum values for each variable.

The correlation coefficient represents the linear relationship between two variables and is commonly referred to as the Pearson product–moment correlation coefficient (Pearson correlation for short), which is the most widely used measure when both variables are quantitative and fall within the interval or ratio levels of the Stevens measurement system (Hadd & Rodgers, p. 2, 2020). In this study, the Pearson correlation

coefficient is used to assess both the strength and direction of the relationship between board gender diversity and ESG scores.

Linear regression is a widely used method for illustrating linear relationships between clinically significant variables, both mathematically and visually, with simple linear regression being a subtype that involves one dependent variable and one independent predictor (Marill, 2004). This paper will conduct a simple linear regression analysis, which is a statistical model that represents the relationship between two variables. It is considered a suitable model for outcome variables that are continuous and assessed using an interval or ratio scale (Martin, 2024, p. 18), making it an appropriate method for analyzing how board gender diversity affects ESG scores, as ESG scores are measured on a continuous scale. Linear regression is often used with other commonly used statistical methods, such as ANOVA (Altman & Krzywinski, 2015).

Simple linear regression model will investigate if there is a relationship between percentage of women on boards and ESG scores. The method employed in this thesis is as follows:

$$Y = \beta_0 + \beta_1 X + \epsilon$$

Where

Y is the predicted value of the dependent variable, which is the ESG score

β_0 is the constant term, which is the baseline ESG score when the board has no gender diversity

β_1 is the coefficient, which is the change in the ESG score for each increase in board gender diversity

X is the independent variable, which is board gender diversity

ϵ is the error term, which accounts for other variables affecting ESG scores that are not included in the model

Outliers may pose difficulties in analysis. Altman & Krzywinski (2015) note a common misunderstanding when interpreting linear regression results, known as the regression fallacy. It means that the predicted values often tend to be closer to the average (mean) of the data due to the regression line essentially trying to fit the best possible relationship between the variables. Regression to the mean occurs when extreme values of one variable are associated with less extreme predicted values of the other, with extreme values moving toward the mean due to the regression method, rather than a cause-and-effect relationship between the variables. In addition, Montgomery et al. (2012, p. 2n) note that significant variability in the results can affect the model's ability to make accurate predictions and can contribute to a low R^2 value (coefficient of determination) in a statistical model.

3.2 Data collection

To analyze the impact of board gender diversity on ESG scores, this study relies on LSEG database (formerly Refinitiv) on ESG scoring data and information on corporate board composition. LSEG ESG disclosure score has been used in many similar studies, such as Issa and Hanaysha (2023), Menicucci and Paolucci (2024), Monteiro et al. (2024), Perevoznic and Dragomir (2024), Roessle et al. (2024) and it is also considered as one key rating provider in study by the European Commission (Delaney & Stewart, 2021). This thesis utilizes data on board diversity percentage and ESG scores gathered from the LSEG database, accessed on November 8, 2024.

Initially, 194 companies listed on Nasdaq Helsinki or First North were identified. The ESG score and board diversity for 107 of these companies were unavailable in the LSEG database, which served as the source for all required sustainability and board diversity composition data. All in all, the research sample consists of 87 companies and 575 observations. Data was collected over a ten-year period, from 2013 to 2023. The data encompasses a wide range of companies, with no specific industries or sizes defined. The amount of data increases over time, reflecting the growing significance of this topic in recent years.

Montgomery, Peck, and Vining (2012, p. 23) note that retrospective studies using historical data have several disadvantages, including frequent missing data, questionable reliability and quality, the potential unsuitability of the data for addressing the research problem, and the possibility that analysts may attempt to use the data in ways it was not originally intended. One of the challenges in this thesis is missing data from the LSEG database, which may limit the scope of the analysis and introduce bias. Additionally, using a single rating provider introduces the risk of measurement biases, as different providers may use slightly different criteria to assess ESG performance. However, relying on a single provider is expected to ensure greater consistency and comparability of the data.

3.3 Variables

The two variables in this thesis are board gender diversity, the independent variable, and ESG scores, the dependent variable. Their connection is analyzed to determine the role of board gender diversity in influencing ESG performance.

Table 2. Overview of the variables.

Variable	Variable type	Meaning	Scale	Source
ESG reporting performance (ESG score)	Dependent variable	The ESG score reflects a company's relative sector performance in environmental, social, and governance factors, with governance linked to its country of incorporation.	0-100	Refinitiv (2023)
Board gender diversity (%)	Independent variable	The percentage of females on board.	0-100	Refinitiv (2023)

The dependent variable ESG reporting performance is measured by LSEG ESG score. The ESG score, ranging from 0 to 100, represents a company's performance in environmental, social, and governance factors relative to its sector, with governance linked to the country of incorporation (LSEG, 2023). It leverages company-reported data and the most

relevant industry metrics, this approach minimizes biases related to company size and transparency, providing a transparent and objective evaluation of a company's ESG performance, commitment, and effectiveness.

Table 3. LSEG ESG Scores (LSEG, 2023).

Score range	Description
0 to 25	Scores within this range indicates poor relative ESG performance and insufficient degree of transparency in reporting material ESG data publicly.
> 25 to 50	Scores within this range indicates satisfactory relative ESG performance and moderate degree of transparency in reporting material ESG data publicly.
> 50 to 75	Scores within this range indicates good relative ESG performance and above average degree of transparency in reporting material ESG data publicly.
> 75 to 100	Score within this range indicates excellent relative ESG performance and high degree of transparency in reporting material ESG data publicly.

The LSEG database is ideal for this thesis, as it provides extensive, reliable, and consistent ESG data. LSEG (2023) possesses one of the most extensive ESG data repositories globally, featuring multiple ESG measures, continuously updated data, and a blend of algorithmic and human expertise, individually processing data to standardize information for comparability. LSEG evaluates over 870 ESG measures, using a subset of 186 industry-specific and material indicators to assess companies, which are grouped into three pillar scores: environmental, social, and governance. The weights differ by industry for environmental and social categories, while remaining constant for governance across all industries, creating the ESG pillar score, which is a relative sum of the category weights.

3.4 Data Description

The data consists different sizes of companies. According to Nasdaq (2024), the Nasdaq Nordic market caps are segmented as follows: large cap with a market value of 1 billion euros or more, mid cap with a market value between 150 million euros and 1 billion euros, and small cap with a market value of less than 150 million euros. Market value

refers to the total value of a company's outstanding shares of stock and serves as an indicator of the company's size and market presence. The market value data does not perfectly represent board diversity and ESG scores, as data for some companies was unavailable in certain years. This categorization reveals how company size, as defined by market value, may influence the results.

Table 4. Company size categorization from 2013 to 2023.

		Small Cap	Mid Cap	Large Cap	Total	
Year	2013	Count	1	4	24	29
		% per Year	3,4 %	13,8 %	82,8 %	100,0 %
2014	Count	0	6	25	31	
	% per Year	0,0 %	19,4 %	80,6 %	100,0 %	
2015	Count	0	8	23	31	
	% per Year	0,0 %	25,8 %	74,2 %	100,0 %	
2016	Count	0	4	27	31	
	% per Year	0,0 %	12,9 %	87,1 %	100,0 %	
2017	Count	0	4	30	34	
	% per Year	0,0 %	11,8 %	88,2 %	100,0 %	
2018	Count	1	10	30	41	
	% per Year	2,4 %	24,4 %	73,2 %	100,0 %	
2019	Count	2	12	32	46	
	% per Year	4,3 %	26,1 %	69,6 %	100,0 %	
2020	Count	14	33	37	84	
	% per Year	16,7 %	39,3 %	44,0 %	100,0 %	
2021	Count	12	32	40	84	
	% per Year	14,3 %	38,1 %	47,6 %	100,0 %	
2022	Count	15	34	35	84	
	% per Year	17,9 %	40,5 %	41,7 %	100,0 %	
2023	Count	11	26	24	61	
	% per Year	18,0 %	42,6 %	39,3 %	100,0 %	
Total	Count	56	173	327	556	
	% of Total	10,1 %	31,1 %	58,8 %	100,0 %	

The table 4 presents the market values of all companies included in this thesis. The distribution of company sizes by year reveals significant changes in the proportions of small cap, mid cap, and large cap companies over the 2013–2023 period. In the first five

years, large cap companies constituted 74,2% to 88,2% of the sample, but their proportion began to decline from 2018 onwards. Over time, the dataset increasingly includes companies with smaller market values, leading to a greater presence of small and mid cap companies. This shift transformed the distribution from being heavily skewed toward large cap companies to a more balanced representation across all three size categories.

Larger companies tend to have greater gender diversity on their boards compared to smaller companies (Kajala, 2024). In contrast, newer entrants in the dataset may show lower board gender diversity, as they face less external pressure (Gregoric et al., 2017) and have fewer board seats available (Roessle et al., 2024). However, the pressure for more balanced boardrooms has increased across companies of all sizes, and the representation of women on boards is now fairly similar across different company sizes. Keskuskauppaamari reports that in 2023, women comprised 36% of board members in large cap companies, 33% in mid cap companies, and 30% in small cap companies (Kajala, 2024). In contrast, the percentage drops to 25% for companies listed on First North.

The same applies to ESG reporting performance. Larger companies often have higher ESG scores (Giannarakis, 2014) due to regulatory requirements, greater media exposure (Reverte, 2009), and increased public scrutiny (Bear et al., 2010). The inclusion of more small and mid cap companies, which may face less pressure and have less developed ESG policies, could lower the average ESG score over time or introduce greater variability in the results.

Figure 3, using the dataset from this thesis, shows the distribution of ESG scores across the years 2013 to 2023. Boxplots are useful for visualizing the spread and central tendency of data, as well as identifying outliers.

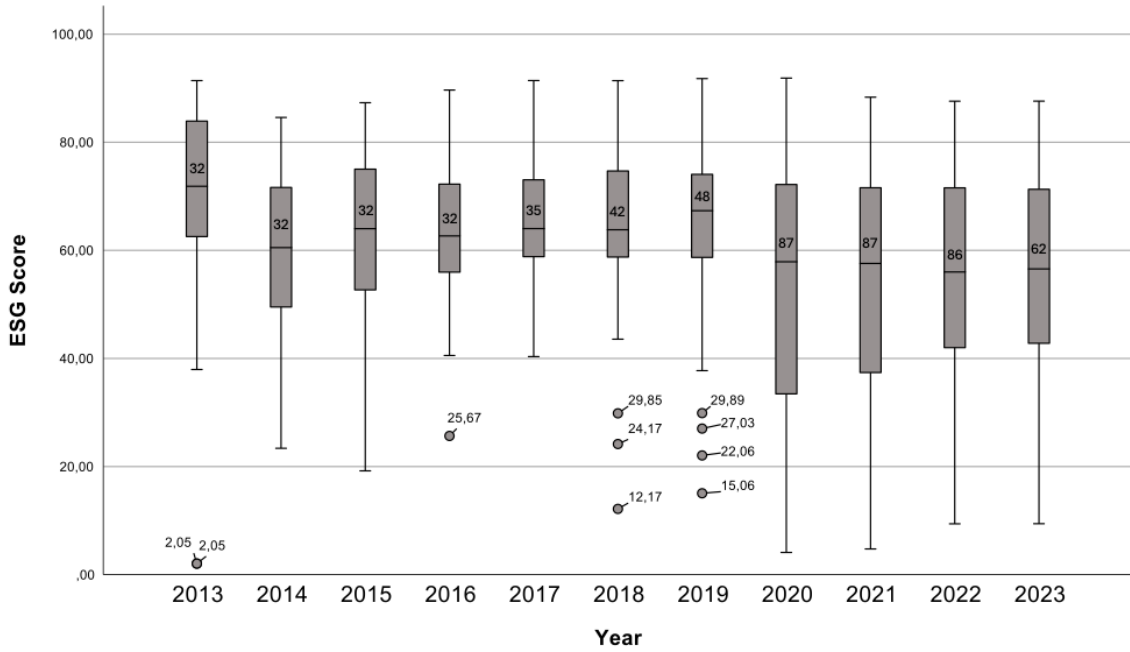


Figure 3. Distribution of ESG scores from 2013 to 2023.

The central box represents the interquartile range (IQR), which contains the middle 50% of ESG scores for each year. The line within the box represents the median ESG score for each year, and the number inside indicates the number of companies for that year. The whiskers extend to show the range of ESG scores within 1,5 times the IQR from the quartiles. The dots are outliers—values that fall outside the range of the whiskers, which are explained in more detail below.

The number of companies is smallest during the first four years, with 32 companies each year, and reaches its highest in 2020 and 2021 with 87 companies. This suggests that the data initially covered only the largest Finnish listed companies and was later extended to include more smaller ones. The inclusion is likely to influence the results of this study. The variation in ESG scores increases in the most recent years. For example, the years 2020 and 2021 show wide ranges, with large boxes and whiskers compared to other years. As the dataset expands with more companies, the ESG scores exhibit wider boxes and longer whiskers, indicating considerable diversity in ESG performance. However, there are no extreme deviations in the most recent years, meaning there are no outliers.

The dots representing outliers in this case are all companies with exceptionally low ESG scores compared to the rest. This suggests that the distribution of ESG scores in these years is more spread out, reflecting greater diversity in sustainability reporting performance among companies. The median ESG score fluctuates slightly over time, but the differences between the median values across years are not significant, implying that overall ESG reporting performance changes moderately. Nonetheless, there is a slight downward trend as more companies are included in the data.

Outliers can have a strong influence on the model, and it may even be appropriate to consider removing them (Martin, 2024, p. 46). Montgomery et al. (2012, p. 2q) recommend a careful investigation in cases of incorrect data or measurement failure, in which case deletion may be advisable. This is because the least squares method minimizes the residual sum of squares and can disproportionately pull the fitted equation toward outliers. They note that the presence of outliers in the data can significantly impact the regression model, influencing key statistics like the regression coefficients, R^2 value and t-statistics. However, strong caution is advised when doing so, as outliers might be unusual but reasonable observations, and removing them could lead to a false sense of precision in estimation. The outliers in this thesis were checked and confirmed to be accurate; therefore, they were not removed from the dataset, as they were neither errors nor the result of measurement failures.

The independent variable in this study is board gender diversity, which is measured by the proportion of women on boards. Figure 4 illustrates the trend in how board gender diversity has evolved within the companies in the dataset.

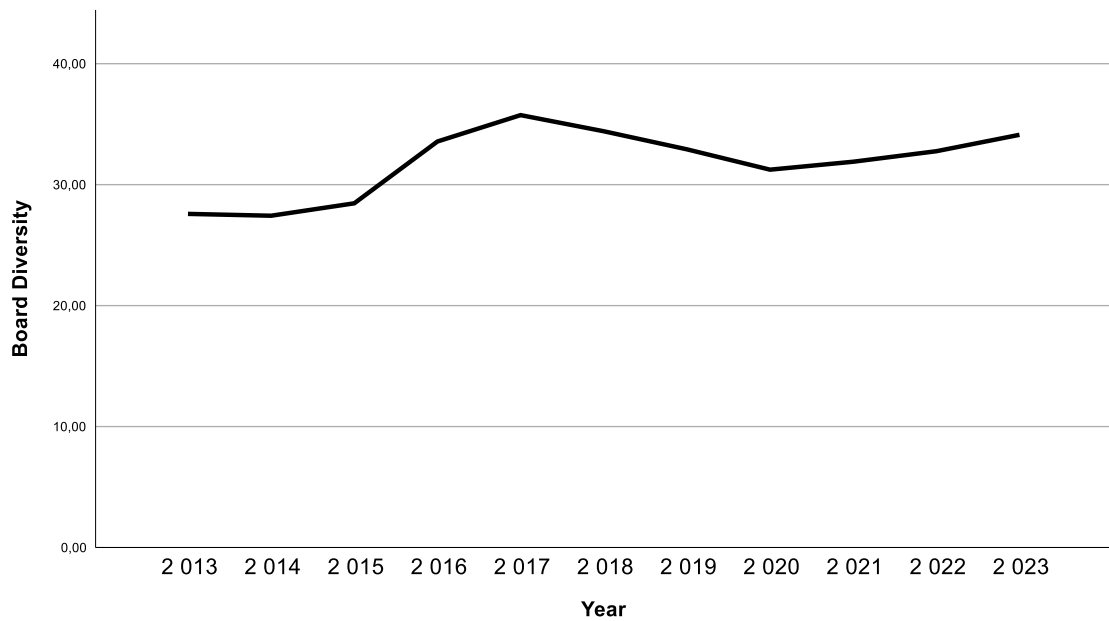


Figure 4. Average board gender diversity from 2013 to 2023.

The period from 2013 to 2023 shows a gradual positive trend in board gender diversity among the sample companies. Similar to the ESG scores presented previously, fewer companies are included at the beginning of the period, with more being added in later years, which is likely to influence the results here as well. As the dataset expands, the averages for board gender diversity reflect a broader pool of companies, which could make the trend appear more stable. The initial companies were larger and more likely to exhibit greater board gender diversity, while the newly added companies were smaller with generally fewer women on their boards. This discrepancy could artificially flatten the trend line, potentially understating the actual rise in diversity.

4 Empirical results

The first section presents the descriptive statistics of the data sample. Next, the Pearson correlation coefficient is used to examine whether the variables move in the same direction, specifically if ESG scores improve as board gender diversity increases. Additionally, a scatter plot visually illustrates the variability and relationship between the two variables. Finally, a simple linear regression is employed to assess the predictive relationship between board diversity and ESG scores, determining whether this relationship is statistically significant.

4.1 Descriptive analysis

The table 5 below illustrates the descriptive statistics of the data sample. These measures help summarize the distribution and variability of the data.

Table 5. Descriptive statistics.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Board Diversity	575	0,00	62,50	32,0828	11,48300
ESG Score	575	2,05	91,87	58,3489	19,82399

The data consists of 575 valid observations for both variables. On average, boards across companies have approximately 32% gender diversity, with a minimum of no female board members and a maximum of 62,5%. The standard deviation of board gender diversity is about 11,48%, indicating a moderate level of variation. Although the variation is considered moderate, the gap between companies with no female board members and those with a majority of women on their boards is significant.

In terms of ESG reporting performance, the average ESG score is 58,35, indicating relatively good and above-average ESG performance according to the LSEG range. The

minimum ESG score is 2,05, reflecting poor sustainability performance, while the maximum score is nearly 92, reflecting excellent sustainability performance. The standard deviation of 19,82 points to considerable level of variability, with some companies scoring significantly higher or lower than the mean ESG score.

4.2 Correlation analysis

The table 6 below presents the results of a Pearson correlation analysis between the two variables, which reveals whether the variables are positively or negatively correlated, along with the statistical significance of these relationships. The correlation coefficient ranges from -1 to 1 . A negative value indicates an inverse relationship between the two variables, while a positive value indicates that both variables move in the same direction. A correlation coefficient near 0 suggests little to no linear relationship between the variables.

The standard method for determining whether the correlation coefficient is statistically significant is to use the p-value in Pearson correlation. It measures the significance of the correlation analysis and represents the probability that the observed correlation could have occurred by chance. In statistics, a threshold of $p < 0,05$ (5%) is often used. If the p-value is below this threshold, it implies that the chance of the correlation happening randomly is very small—less than 5%. A statistically significant result suggests there is sufficient evidence to conclude that a relationship exists between the two variables, making random variation an unlikely explanation.

Table 6. Pearson correlation analysis between two variables.

Correlations

		Board Diversity	ESG Score
Board Diversity	Pearson Correlation	1	0,224**
	Sig. (2-tailed)		<,001
	N	575	575
ESG Score	Pearson Correlation	,224	1
	Sig. (2-tailed)	<,001	
	N	575	575

** . Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficient of 0,224 is small, but it suggests a weak positive linear relationship between the two variables. This means that as the board diversity increases, ESG score tends to increase as well, although the relationship is not strong or dominant. A weak linear relationship implies that while board diversity and ESG scores are related, other factors are also likely to influence ESG scores. The p-value < 0,001 indicates that the correlation is statistically significant, meaning it is highly unlikely that the observed correlation is due to chance.

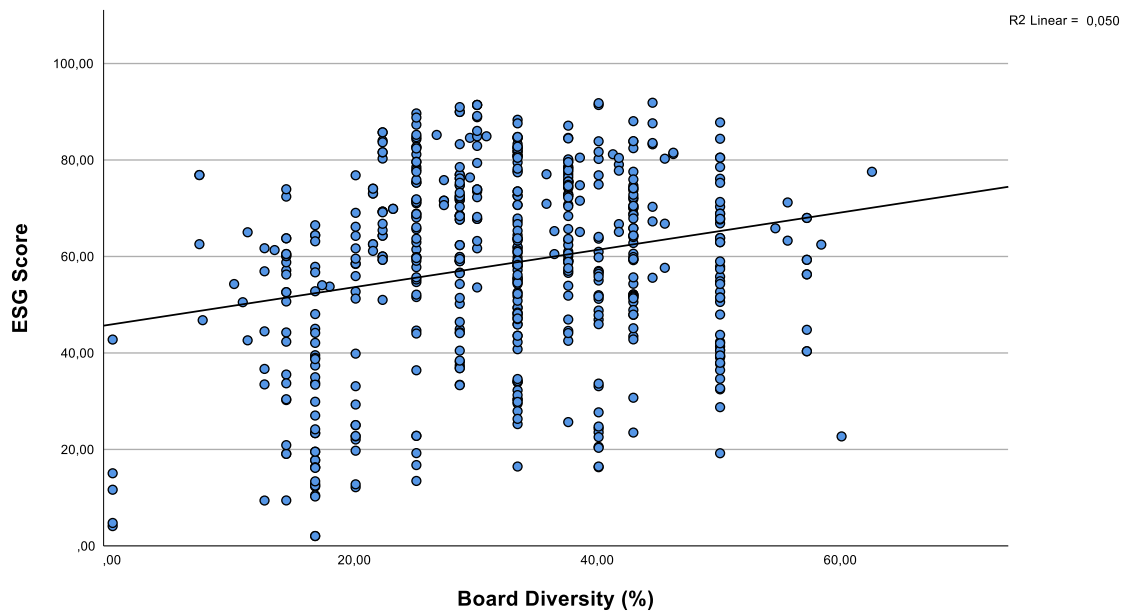


Figure 5. Scatter plot of board diversity and ESG scores for all observations.

Figure 5 shows the scatter plot of board diversity and ESG score and it visually supports the correlation analysis. Each datapoint represents individual company between years 2013-2023 and they exhibit slight upward trend, which is also indicated by the fitted regression line $R^2 = 0,05$. It reveals a weak but positive relationship, which aligns with Pearson correlation results. Correlation measures the strength and direction of the relationship between two variables but does not distinguish between the dependent variable, which is the outcome, and the independent variable, which is the predictor. It does not determine if one variable is influencing or causing the other. However, there is a noticeable spread of data points around the regression line, showcasing the considerable variability. A perfect fit to the model would result in data points lying exactly on the 45-degree line.

4.3 Regression analysis

Regression analysis goes beyond correlation by distinguishing between the outcome variable, which we aim to explain or predict, and the predictor variable. A simple linear

regression was conducted to examine the relationship between board diversity and ESG score. The results are summarized below.

Table 7. Model summary table.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,224	,050	,048	19,3377

a. Predictors: (Constant), Board Diversity

The model summary table 7 shows the correlation coefficient R between board diversity and ESG scores, indicating a weak positive relationship with $R = 0.224$. This suggests that higher board diversity is associated with slightly higher ESG scores. R-squared (R^2), also known as the coefficient of determination, measures the proportion of variance in the outcome variable that is explained by the regression model. The low value of $R^2 = 0,05$ suggests that only 5% of the variance in ESG scores can be explained by board gender diversity. Adjusted R^2 is a modified version of R^2 that accounts for the number of predictors, providing a more reliable measure of model performance and a more accurate reflection of the model's explanatory power. In this case, adjusted $R^2 = 0,048$ is slightly lower than R^2 , which is typical when there is only one predictor, and the model is not capturing much variance. This adjustment helps prevent overestimation of the model's explanatory power by penalizing the addition of irrelevant predictors, ensuring a more reliable reflection of how well board gender diversity explains ESG scores.

The Standard Error of the Estimate (SEE) measures the average deviation of the observed ESG scores from the predicted scores by the regression model. In this case, the SEE is 19,33770, indicating a relatively high level of prediction error. The high SEE suggests that the dataset includes companies with a wide range of board diversity percentages and ESG scores, resulting in greater variability. Additionally, it indicates that other

unaccounted factors beyond board gender diversity likely play a significant role in influencing ESG scores.

Table 8. ANOVA table.

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11305,140	1	11305,14	30,232	<,001
	Residual	214271,483	573	373,947		
	Total	225576,624	574			

a. Dependent Variable: ESG Score

b. Predictors: (Constant), Board Diversity

This tests whether the regression model as a whole is statistically significant. The ANOVA test revealed that the regression model is statistically significant, with $F = 30,232$ and $p < 0,001$, indicating that board gender diversity is a significant predictor of ESG scores. A high F-statistic demonstrates that the model explains a meaningful amount of variance in ESG scores compared to a model with no predictors. The highly significant p-value confirms that the results are unlikely to be due to random chance, establishing the statistical validity of the regression model. While the relationship is weak, as evidenced by the modest R^2 value (0,05), the results suggest that board gender diversity does have a measurable, non-random effect on ESG scores, alongside other contributing factors not captured by the model.

Table 9. Coefficients table.

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	45,950	2,395		19,186	<,001	41,246	50,654
	Board Diversity	,386	,070	,224	5,498	<,001	,248	,525

a. Dependent Variable: ESG Score

The Coefficients table 9 provides detailed insights into the relationship between board diversity and ESG scores. The constant $B = 45,95$ represents the intercept of the regression line, indicating that if board diversity were 0%, the predicted ESG score would be 45,95. A high t-statistic, such as 5,498 in this case, confirms that the coefficient $B = 0,386$ is significantly different from zero and unlikely to be due to random chance. This indicates that the predictor variable has a statistically significant impact on the dependent variable. This coefficient suggests that for every 10% increase in board diversity, the ESG score is predicted to increase by 3,86 points.

The 95% confidence interval for the coefficient, ranging from 0,248 to 0,525, imply that the true effect of board diversity on the ESG score lies between this range with 95% confidence. Since the confidence interval does not include 0, it provides additional evidence that support the correlation. This table confirms that while board diversity has a statistically significant impact on ESG scores, the effect size remains modest, emphasizing that ESG performance is influenced by a broader range of factors beyond board composition.

5 Conclusions

The purpose of this study was to examine whether an increased presence of female board members improves ESG scores in Finnish listed companies. As the demand for greater transparency and accountability in corporate governance rises, understanding the role of board composition in influencing ESG practices becomes crucial for both academic and practical purposes. This study aimed to address this gap by exploring how board gender diversity might correlate with better ESG scores, particularly within the context of Finnish listed companies, where board composition and sustainability efforts have consistently ranked among the best in the world and are evolving in line with global trends.

The theoretical part of this thesis explained the concepts of board gender diversity and ESG, highlighting how gender diversity can impact sustainability efforts and overall ESG performance. The empirical results of this study align with most previous findings and confirm hypothesis (H_1), which posits that an increased presence of female board members leads to improved ESG scores in Finnish listed companies.

The regression analysis confirms a statistically significant relationship between board gender diversity and ESG scores, supporting the hypothesis that greater diversity positively influences ESG performance. The significance level of the results indicates an extremely strong relationship, with 99.9% confidence in support of the hypothesis, and the likelihood of random chance is very low. However, the low R^2 value suggests that a substantial portion of the variability in ESG scores is driven by factors beyond board diversity. A weak correlation can be statistically significant when the sample size is large, as small relationships are easier to detect in larger samples. The analysis indicates that a modest increase in board diversity is associated with a slight improvement in ESG scores. This shows a measurable, yet limited, impact of board diversity on ESG performance. Other factors, not included in this model, play a much larger role in influencing ESG performance.

The analysis is based on data sourced from the LSEG database, accessed on November 8, 2024, and the dataset includes companies with diverse characteristics, which contribute to the wide variation in board gender composition and ESG scores. As demonstrated in the table 4, the distribution of company sizes has shifted over the study period from 2013 to 2023, with smaller companies in small cap and mid cap categories becoming more prevalent in the dataset in recent years. This trend may influence the results, as smaller companies tend to be less advanced in gender representation on boards and may have different ESG priorities and resources compared to larger companies. In addition, smaller companies have yet to face requirements on gender balance but are likely beginning to move towards the same path as larger corporations, anticipating that such requirements will eventually be imposed (Directive 2022/2381). The same applies to sustainability reporting, as regulation will gradually involve smaller companies, yet as of now, the reporting is unconstrained (Directive 2022/2464).

As previously mentioned, outliers can significantly impact the results. In this study, all identified outliers, as shown in figure 3, are ESG scores that fall well below the average. Montgomery et al. (2012, p. 2n) point out that large variability in the results can contribute to a low R^2 value (coefficient of determination) in a statistical model, even when the model itself is significant and there are no obvious issues or indications of model inadequacy. This is evident in the results presented in this thesis. As Altman & Krzywinski (2015) suggest, regression to the mean refers to the statistical phenomenon where extreme values, such as ESG scores, are likely to regress toward the mean in predictions. Outliers with lower ESG scores can skew the regression model, especially if they have disproportionately large residuals. These outliers have likely contributed to the relatively high standard error of the estimate (SEE), suggesting that the model is less precise in predicting the dependent variable and affecting the overall model fit. Overall, the low data points that significantly differ from the rest of the dataset may have led to biased estimates of the regression coefficients, potentially making the relationship between board gender diversity and ESG scores appear weaker or more unpredictable than it actually is.

Another relevant point is that women can effectively influence decision-making and drive meaningful change in ESG performance only when a threshold or critical mass is reached, with multiple studies identifying three women as this critical mass (Fernandez-Feijoo et al., 2014; Konrad et al., 2008; Menicucci & Paolucci, 2024). Companies with little to no female representation may not fully capture the potential impact of women on board decision-making, while those with higher female representation may exhibit stronger effects. As such, the overall effect of female directors on ESG might be less noticeable or diluted by the inclusion of companies with low gender diversity on their boards.

The smaller the boardroom, the more significant the impact of one member's gender on the overall gender composition. As suggested by Khemakhem et al. (2023) and Bozhinov et al. (2021), even a small number of women on a board can have a meaningful influence if the group size is smaller. Keskuskauppakamari notes that Finnish companies typically have smaller boards compared to most other countries, with the average board size in 2023 being 8,5 members for large-cap companies, 6,4 for mid-cap, and 5,4 for small-cap companies (Kajala, 2024). This suggests that having three female board members may not always be necessary to make a notable impact on Finnish boards, as even fewer women on smaller boards can make up a relevant percentage and drive significant contributions.

Finland ranks first in the latest Sustainable Development Report 2024, with Nordic countries consistently leading in previous comparisons (Sachs, Lafortune & Fuller, 2024). This strong regional performance aligns with the dataset in this thesis, where the average ESG score is 58,35. It suggests that many companies achieve high ESG performance regardless of board gender composition. This is further supported by the coefficient table, which shows that even with 0% board diversity, the predicted ESG score would still be 45,95. The influence of regional policies, regulations, and corporate culture in Nordic countries likely outweighs the impact of board diversity on ESG performance.

Studies focusing on the Nordics—Yahya (2025) and Khatri (2023)—both found a significant and positive relationship between board gender diversity and sustainability performance. The Nordic-focused studies both utilized explanatory variables and more robust methodologies, which strengthened their findings. Incorporating relevant explanatory variables that are closely related to the dependent variable can increase the adjusted R^2 . In a study by Yahya (2025) examining female leadership and ES performance in Nordic countries, the adjusted R^2 of 0,430 was significantly higher than the results found in the thesis, where the adjusted R^2 was only 0,048. Also, larger sample size in Yahya's study allows more accurate estimate. With more advanced methods and a larger sample size, the results are similar to those of Khatri (2023), where the adjusted R^2 was 0,43. The p-value of $< 0,001$ in this study indicates a higher level of statistical significance compared to the findings of Yahya (2025) and Khatri (2023), where the p-values were $< 0,01$. All studies offer strong evidence of the statistical significance of the observed effect.

This thesis reveals that gender differences exist at the board level in Finland. Notably, the findings present valuable implications for policymakers, regulators and companies, by emphasizing the influential role of corporate boards in advancing sustainable practices. It suggests that increasing the representation of women on boards may be a valuable strategy for enhancing ESG performance in Finnish listed companies. In addition, firms should recognize the opportunity in appointing women to boards and drawing on leadership qualities often associated with women to meet expanding ESG expectations and benefit from the broader positive contributions women bring, ultimately driving stronger overall performance.

5.1 Limitations and Recommendations for Future Research

This study has limitations, which also present opportunities for future research. First, the analysis is restricted to Finnish listed companies included in the LSEG dataset, meaning that many companies were excluded from the study due to unavailable data. The sample data was not a full representation of the Helsinki and First North listed companies due

to missing data, and the composition changed over the time period from 2013 to 2023. The sample included a variety of industries and company sizes, which are likely to affect the results of this study. This limitation may have resulted in a biased sample, potentially affecting the generalizability of the findings to the broader market.

Second, due to the low number of companies in each sector, this study could not perform a detailed analysis on industry type. Moreover, the study would benefit from incorporating additional explanatory variables, such as specific corporate governance attributes (e.g., board size, CEO duality, and board independence). The study's results suggest that these company characteristics, along with other variables (such as market conditions and financial performance), may play a more substantial role in shaping ESG practices. While bivariate correlations between two variables are useful and scatterplot matrices provide a visual representation, they are limited in their ability to capture the complexity of multivariate relationships among several factors (Hadd & Rodgers, p. 102, 2020). Multivariate analysis adds layers of complexity and nuance, offering a more holistic view of the relationships among variables.

The thesis employed a static model, which only examines the relationship between variables at a single point in time and does not account for past values or how variables evolve over time. As a result, the static model might be more limited in its explanatory power due to its focus on current data. In contrast, a dynamic model considers lagged effects of variables, providing a more comprehensive view of relationships over time, as it recognizes that the impact of one variable may not be immediate.

Future research could address these limitations by utilizing a dynamic model, expanding the dataset, and incorporating these variables into the model to gain a more comprehensive understanding of the factors driving ESG performance. Another aspect future research could consider is exploring the influence of specific positions held by female directors (such as chair of the board, CEO or CFO) to ESG performance or strategy. However, as of now, the number of women in such positions is relatively small, which

poses a challenge in obtaining comprehensive data. Lastly, examining the effect on each individual pillar of ESG would provide more detailed insights.

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