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The impact of women representation on boards and female directors’ characteristics on CSR performance: a study of STOXX600 Companies

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1.Introduction

Women form more than half of all university graduates. For decades, women actively participated in their country's labor force. Nevertheless, women still face difficulties getting to the top of the hierarchy in companies, even if more and more women are moving towards the top of the career ladder (Smith & Parrotta, 2018). Moreover, improvements are very slow. In 2013, only 18% of all directors in European companies were women[1]. Nowadays, numbers are still not satisfactory, even if more comforting than before (today women on boards amount to 33%)[2]. Low percentages of women in leadership positions mean a loss of talents, which, in turn, imply a loss in efficiency.

Recent times witnessed firms undergoing more and more intensified levels of both ethical and social expectations. Zaleśna (2017) confirms that companies are increasingly asked to provide for a proper employee selection and evaluation process, extra support and care for employees' time off, complete information disclosure to the general public and investors, transparency, donations to charities, massive respect for the environment, and more. By paying attention to CSR matters, firms expect to increase their attractiveness as businesses, improve brand reputation, enhance stakeholders' trust, create a loyal community, and increase profits.

The literature has primarily dealt with the consequences certain firm variables have on CSR. Among them, the impact of company size, sector, or shareholders' pressure on sustainability issues has been extensively debated (da Monteiro et al., 2010; Fernandez-Feijoo et al., 2012). Regarding gender diversity, literature shows an interesting phenomenon about the influence of gender equality on CSR and a subsequent effect of CSR on gender equality. The literature theorized that women, being more risk-averse and displaying more altruism, can influence CSR performance (Ciocirlan and Pettersson, 2012). At the same time, company gender diversity can benefit from increased CSR concern because of the increased number of women involved in the decision-making process.

Stemming from past literature, it is straightforward to state that women on boards positively impact strategic activities, such as CRS practices and performance, due to the benefits of diversity in decision-making processes and the unique characteristics that make women a better candidate to promote socially responsible activities. These characteristics relate to the female natural aptitude to be concerned with others and women's increased likelihood to be exposed to CSR matters when earning supplementary credentials they need to race in male-dominated professions. Extant research investigated the relationship between board gender diversity

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[1] Jourova, V. (2016). Gender balance on corporate boards: Europe is cracking the glass ceiling. *Brussels: European Commission*.

[2] https://europeanwomenonboards.eu/wp-content/uploads/2020/01/Gender-Equality-Index-Final-report-vDEF-ter.pdf

on firm financial performance (Campbell, & Mínguez-Vera, 2008; Collins-Dodd et al., 2004; Farag & Mallin, 2017) and CSR disclosure (Said et al., 2009; Golob & Bartlett, 2007). However, no studies - excluded meta-analyses (Post and Byron, 2015) - explore the relationship between gender diversity on boards and CSR for different companies in more than one country. This work fills the gap by taking a snapshot of the European situation of board gender diversity from 2014 to 2018. This study examines the representation of women on European boards, female directors' unique characteristics and how they impact CSR performance.

The following research question was developed in order to extend the existing literature on CSR: "are board gender diversity and women directors' unique characteristics impacting CSR performance for firms included in the STOXX600 index?". Besides, some more questions explore the moderating roles of the investor protection index and the gender parity index of European countries on the relationship analyzed.

In order to answer these questions, descriptive statistics and a few panel regression analyses have been performed on a sample composed of 314 companies derived from the list of Europe's largest capitalization companies from 2014 to 2018. In particular, the research is structured as follows: the first chapter investigates extant management literature in order to extrapolate relevant theories and the topics on which to construct the theoretical framework. Both corporate social performance and board gender diversity are presented, and the connection between the two is deeply examined. The second chapter relates to the empirical research: its design, structure, and methodology are discussed. Moreover, the second chapter explains how data was collected to construct the final database and analyze it. The third and last chapter's primary concern is interpreting the results and drawing conclusions from chapter two findings. Moreover, the limits of the model are described, and a guide for further research is outlined.

1.Literature review

1.1 Corporate social responsibility

According to the World Economic Forum[3], social issues - such as climate change, gender parity, poverty, population growth, and new challenges regarding natural resources depletion - are among the most urgent global challenges for economic actors. McElhaney & Mobasseri (2012) state that both companies and regulators are evaluating deeply these issues' operational consequences in order to get theit potential positive and negative implications. The increased pressure on firms to comply with new needs makes more frequent the appearance of terms as "corporate shared value" in companies' statements, websites, meetings, and boardroom conversations. Corporate governance has a say in the matter through the power directors can exercise over CSR themes (Maon, Lindgreen, & Swaen, 2009).

Diverse motives drive the new urgency of CSR matters: global firms are becoming more and more influential, generating reticence and resentment versus their actions. At the same time, frequent corporate scandals have shared a negative view of the business world, diminishing trust in companies' management and governments, which have failed to demonstrate their ability to avoid scandals and address social issues. Hence, firms that do not care about social issues face reputational risks that may jeopardize the robustness of their brand. Lastly, a critical factor in fostering increased interest in CSR is that Social Responsible Investments witnessed significant monetary value increases (Zattoni, 2020).

CSR in its purest form is the corporations' responsibility towards society. It was defined by Hopkins (2016) as a rule concerning the ethical treatment of all company stakeholders, where "ethical" means treating them in a form judged acceptable according to international norms. Researchers and practitioners assert corporations should not be evaluated just on their capability to make profits (Carroll 1979; Jamali et al. 2008; Shahin and Zairi 2007) as they are no more only contributors to the economy but rather they are also contributors to the society that bring into harmony multiple bottom lines to satisfy all stakeholders' needs (Jamali et al. 2008).

Stakeholders are not only present inside the perimeter of a company: the firm should consider the interests of its managers, staff, suppliers, as well as customers, Government, media, and the broader society. The outcome that companies want to produce by fostering social responsibility is creating higher and higher norms of sustainable living while preserving their economic success. Extant research confirms corporate social performance to be positively linked with commitment (Brammer, Millington, & Rayton, 2007), employee satisfaction (Bauman & Skitka, 2012), and stakeholder happiness (Carroll, 1999) – all of which are connected

[3] http://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2021.pdf

to the bottom line. Because of their beneficial impact on companies, it comes as no surprise that scholars and practitioners are conducting more and more attention to corporate social performance activities (Kakabadse, 2007). Notwithstanding the increasing concern for the topic, research still shows that CSR performance among companies as well as countries varies significantly (Chen and Bouvain 2009; Golob and Bartlett 2007). The likely reason for this phenomenon is both the difference among countries and variance in decision-makers' ability or willingness to make proper decisions in terms of CSR. It is necessary to examine corporate governance mechanisms - in particular, board composition – to understand their impact on CSR and the rationale behind differences among countries.

1.2 Board gender diversity

Much is made of the board gender diversity, and, although researchers agree the board of directors is a crucial determinant of the governance structure of corporations, the laissez-faire approach of the state toward board composition authorized substantial variance among boards' characteristics around the globe.
Members of the board room collectively have the authority to hire, fire, remunerate senior management, and support the resolution of disagreements as well as of conflicts of interest. Such power is given to the board to economize transaction - or agency - costs arising from the detachment of ownership and control. Notwithstanding the importance of the Board of Directors as a fundamental mechanism in an organization's performance (Baysinger & Butler, 1985), both theories and laws are largely silent in expressing a precise direction for its composition, compensation, and dynamics.

Gender diversity on boards attract significant interest and research attention from scholars worldwide. The crisis of 2008 and previous big firms' collapses have served as incentives for a re-evaluation of corporate governance practices. In particular, the male-dominated nature of corporate boards has been mooted as a reasonable contributory factor to the failure of companies of the caliber of WorldCom and Enron (Erhardt, Werbel, & Shrader, 2003). Moreover, recently enacted gender quotas fostered the debate on gender diversity on boards: the increasing number of female directors has promoted the analysis of its consequences. Evaluating the performance and effectiveness of the board of directors of a company is an helpful strategic action, being it concern from a stakeholder, financial performance, and business ethics perspective (Reddy & Jadhav, 2019).

As Carver (2002) uphold, past literature makes a case for greater board diversity, affirming it is unethical for equally qualified groups of people to be denied access to societal power based on individual traits that are intrinsically disjointed from talent. The performance argument against homogeneity in the board room is one of foregone talent and, by association, diminished efficacy. Cassel (2000) strengthen the previous argument stating that if a portion of society's expertise is systematically barred from board directorships, not because of lacking skills but personal characteristics, the board is "suboptimal". Furthermore, scholars and practitioners provided reasons for board gender diversity legitimacy: Wolfman (2007) advanced that women are the influence or veto power behind 80% of all purchases. Therefore, even if a woman is not physically paying for a product herself, she was able to shape the purchase decision significantly. Powell (1999) added that having women in leadership positions means showing role models to younger women in a company: this is a vital contribution to the workforce as employees can be more determined in their work if they feel there is a path they can realistically follow, recognizing a better reflection of themselves in leadership positions.

1.3 Hypotheses development

1.3.1 The impact of women directors' representation on CSR performance

Extant research on gender diversity in corporate boards is empirical in nature, plunging its roots and theoretical underpinnings from management literature. Studies on board gender diversity focus on two main aspects: some theories deep dive on investigating the rationale behind gender diversity's positive influence on corporate boards. Another group of researches instead scrutinize whether a numerical threshold exists for which women's representation on boards is a game-changer. Among the theories that examine the rationale for board gender diversity, we find the human capital theory, social identity theory, resource dependence theory, and agency theory: the last two being the most relevant theories on the topic (Reddy & Jadhav, 2019). The theories investigating the impact of numerical representation on board performance are the Upper Echelons Theory and the Critical Mass perspective.

Human Capital Theory

Human capital theory - advanced by Becker in 1985 - examines the effect of an individual's cumulative repository of knowledge, expertise, skills, and wisdom - named the "human capital" of the employee - in developing cognitive capabilities that benefit both the employee and the company for which they work. Human capital theory illustrates that labor capital is not homogeneous, therefore attributing value to diversity. In the context of corporate governance, the diverse and unique human capital attached to each director is viewed as a strategic resource for the company: for this reason, diversity is valorized, and women representation on boards is legitimated.

Social Identity Theory

As described by Turner and Tajfel (1986), social identity theory explores how human characteristics indirectly affect the perception of an individual's identity. Moreover, it investigates how these human characteristics shape the creation and confer strength to group boundaries. Traits capable of creating boundaries are race, class, gender, occupation, and similar. Due to familiarity bias, members of a group are pushed to better evaluate those they feel are similar to themselves; however, this phenomenon reinforces barriers for the out-group members. Real cases may involve a male-dominated board that, because of familiarity, may strengthen in-group boundaries and exclude out-group members - that is, women - from board directorship. Because of this phenomenon, the percentage of women in board rooms is critical for understanding their possibility of being listened to and have a say in the decision-making process.

Resource dependence theory and agency theory are the most relevant theories as they mirror the two critical functions of the Boards of directors: providing resources and monitoring management on behalf of shareholders.

Agency Theory

Agency theory matures from the realization that much of private and business life is wedded to self-interest. In this view, agents are inclined to adopt opportunistic behaviors to pursue their interest at the expense of the counterpart (Zattoni, 2020). In particular, agency theory examines the mutually dependent relationship between principals and agents in a company and the intrinsic differences in perspective they have due to information asymmetry and divergent interests. Given the natural misalignment of objectives between managers and shareholders, the former - the agent - may not chase the outcomes that are in the interests of the latter – that is, the principal (Jensen & Meckling, 1976).

The Board of directors should be a source of reliable information for shareholders. However, the control managers intrinsically have over critical information complicates the problem between the parts (Fama & Jensen, 1983). For this reason, the structure of boards is a key factor to consider in understanding the strength of the power it exercises over the top management team. Some of the metrics used to quantify board characteristics are its board subcommittees, the number of board members with managerial or industry experience, the number of board members with long tenure, the frequency of meetings, and the number of board members representing *minorities* (Reddy & Jadhav, 2019).

Resource dependence Theory

Although agency theory is the prevailing perspective applied in analyzing the board of directors, it is the resource dependence theory's most significant influence sphere (Zahra & Pearce, 1989; Johnson, Ellstrand, & Daily, 1996; Dalton et al., 2007).

Resource dependence theory was diffused in 1978: from that time on, it was one of the most compelling perspectives on organizational design and strategic management. The theory claims that a corporation - and consequently organizational behavior - is dependent on the external environment. Boards are thought of as the tools firms have to minimize dependence on the external environment or gain resources from it. Directors are historically viewed as fulfilling two roles: monitors of the top management team and resource providers. In particular, directors provide resources to the firm through linkages they established with the external environment (Pfeffer, 1972; Pfeffer & Salancik, 1978; Zahra & Pearce, 1989; Boyd, 1990; Daily & Dalton, 1994; Johnson, Daily & Ellstrand, 1996; Gales & Kesner, 1994; Hillman, Cannella & Paetzold, 2000). According to Pfeffer and Salancik (2003), directors fulfill their role as resource providers by helping access information through advice and counsel, increasing company access to communication channels, providing more accessible pathways to talents, and building legitimacy. Concerning legitimacy, public opinion requests organizations to mirror the population served: a call that has put pressure on enterprises to add women and racial minorities to their boards (Hillman, 2003).

Hillman (2003) specifies that board capital leads to the procurement of resources, where board capital refers to both human capital - experience, expertise, reputation - and relational capital - network of ties to other people, firms, or external contingencies. Therefore, more diversity on boards means diverse board capital, which means more resources, which - in turn - means better economic outcomes.

Among the theories that envisage and foresee the influence women can have on company performance based on their numerical number there are Upper Echelons Theory and Critical Mass theory.

Upper Echelons Theory

The Upper Echelons Theory develops from the realization that executives' past experiences, beliefs, and personalities impact the interpretations of situations directors encounter and, in turn, influence their decisions (Hambrick, 2007). The underlying premise of this argument is that directors' cognitive structures – due to their prior experiences, education, and values – inform strategic decision-making and, in turn, corporate strategy. In particular, UET advises that the board cognitive frame configuration is determined, in part, by how many women are on it: data suggest that women and men tend to bring different educational and professional backgrounds as well as values to the boardroom, implying the two groups should be represented in order to have a heterogeneous and complete board cognitive configuration (Hambrick, 2007). Therefore, one may expect the decisions of boards around corporate social responsibility to differ as a result of the different board gender compositions.

Critical Mass Theory

The critical mass theory finds its reason why behind Kanter's token idea.

Kanter's Token theory estimates women's efficacy in a company to be limited by their numerical representation. It defines "solos" as single members of a social group in a workplace and "tokens" as underrepresented members. The token perspective claims that solos and tokens experience increased visibility, performance pressure, and negative evaluation bias due to their numerical rarity, which fosters the inevitably present barriers between in- and out-groups due to the familiarity bias. The enhancement of barriers is the starting point of a loop for which, at the end of the story, solos and tokens are more and more distant from in-group members. As a result of increased distance, exclusionary practices targeted at numerical minorities become stronger and more frequent (Kanter, 1977).

Exclusionary activities and increased distance between in- and out-groups impede solos and tokens to fully commit and provide a valuable contribution to the board decision-making process. First, performance pressures often spark reticence and prudence in solos and tokens, who may fear adverse reactions from in-group members. Moreover, the fear of revenge for being a 'troublemaker' can limit out-group members' efforts to push organizational change proposing new ideas and practices (Kanter, 1977). Second, prejudices limit the resources that solos and tokens can gather to hear their voice and opinions from other group members. Not considered members usually respond by assimilating their viewpoints to the group ones, therefore not elevating the quality of board debates. This process results in social invisibility: a strategy carried on by out-group members who limit the effectiveness of their vision and values. The outcome is solos and token usually excluded from others and self-isolated within their work settings, with no possibility of having access to key networks, socializing activities, or mentoring opportunities.

Moving away from numerical rarity, Kanter and the Critical Mass Theory implicitly states that the more women are represented, the more groups will benefit from their presence. Bear et al. (2010) postulate that more balanced groups enjoy more cooperation. Moreover, researchers agree that balanced settings nurture more consideration, trust, and support of the group majority in favor of the minority because numerical minorities are more likely to be seen as individuals rather than members of the out-group (Bear et al., 2010; Konrad et al., 2008; Etzkowitz et al., 1994). The Critical Mass Theory departs from token idea developing it further. The Critical Mass theory states that the presence of at least *three* women on the board of directors improves board performance. In accordance with it, Torchia et al. (2011) found that three or more women on the Board strengthen firm innovation, while Joecks et al. (2013) examined that the having at least three women on Boards improves returns on equity.

This dissertation wants to draw conclusions analyzing how female directors' representation and characteristics impact outcomes associated with CSR. Therefore, the following hypotheses were formulated.

Hypothesis. 1a. Female directors' representation in the board room positively impacts corporate social performance.

Hypothesis 1b: The presence of three or more women on the Board of directors - a “critical mass” - positively impacts corporate social performance.

1.3.2 Women directors’ characteristics influence over CSR performance

Organizational scholars have recognized consistent gender differences in knowledge, wisdom, and values, leading to the belief that female directors to display a greater commitment to CSR practices with respect to male directors.

According to Acker (1990), differences between males and females sprout out of the cultural limitations and gender stereotypes that exist within companies and society at large. Social role theory advances the "gender role expectations" concept, distinguishing between agentic attributes and communal ones. Agentic characteristics are documented as assertiveness, ambition, tendency to compete for attention, enhanced problem-solving capabilities, risk-prone behavior: all these attributes are generally ascribed to men. Communal behaviors have been described as the ability to support and relieve others, tendency to risk-aversion, being caring, helpful and thoughtful: these attributes are typically ascribed to women. (Eagly and Johannesen-Schmidt, 2001; Suh et al., 1994). Similar to gender, leadership has been associated with specific traits. Alimo (1998) observes common thinking to believe that the leadership role is naturally male. Moreover, social role theory argues that the leadership potential of women is evaluated more negatively than men because leadership ability is perceived as more distinctively male. The belief that women belong to communal roles while the leadership role is asked for agentic attributes creates a no-win situation for female leaders. If a woman behaves in conformance to their gender role, this can produce a failure to meet the expectations of her leadership role. On the contrary, if she acts in conformance to her leadership role, she can fail to meet the requirements of her gender role (Eagly et al., 2001).

According to developmental psychologists, notwithstanding unique personal differences, genders differ in moral reasoning (Chodorow et al., 1974): past research confirms this belief through empirical evidence of sex differences in moral orientation (Jaffee & Hyde, 2000) and social as well as ethical tendencies (Gilligan, 1982; Borkowski & Ugras, 1998). Moreover, women tend to be more worried about social performance issues and be more benevolent and inclusive compared to men. (Backhaus, Stone, & Heiner, 2002; Adams and Funk, 2012). Data exist demonstrating that female leaders are more inclined than men to commit to social inclusion, equity, fairness, and collaboration (Eagly and Johannesen-Schmidt, 2001; Konrad et al., 2008). To the degree that CSR reflects leaders' commitment and concern to fairness and relevant strategic areas, the previously mentioned arguments may prove increased CSR commitment among female directors than male ones, hence demonstrating female directors can positively impact CSR performance.

Education

For women and other minorities, education is a key mechanism for ensuring widespread recognition of individual expertise.

Because of the mismatch between gender- and leadership-role expectations, women likely need more credentials to get and progress in leadership positions: recruitment and career advancement are more challenging and demanding for women than men (Weyer, 2007). As a result, female leaders are more likely than male counterparts to gain advanced degrees such as Master of Business Administration (MBA) and doctorates. Through education, women and all members of a minority group can publicly demonstrate their skills, softening the effects of long-term stereotypes and prejudices that may reduce their appeal to director selection committees. Consequently, educational credentials may level the playing field in job positions which are typically occupied by men, like leadership positions. As Kanter (1989) explained, in these cases, education provides access to more opportunities.

Status characteristics theory may also be insightful in exploring the effects of education for minority group members: it predicts that skills standard requirements are higher for low-status groups (such as women) than for high-status groups. That is, for a female to be perceived as talented, she must have more evidence of ability than the evidence required to judge a male talent. Conversely, status characteristics theory asserts that standards for lack of skills are higher for high-status than low-status individuals (Biernat & Kobrynowicz,1997; Foschi, 1992). That is, for a female to be perceived as lacking skills, lower evidence is enough. Status characteristics theory echoes the "twice as good to be considered half as good" diffused sentiment. Thus, achievement standards may be higher for females than for males, implying that female as well as minority directors will have relatively more substantial evidence of talent (such as advanced educational degrees) to be selected.

Higher educational qualifications are more exposed to cutting-edge business applications, including those practices associated with CSR (Hillman et al., 2003; Zweigenhaft and Domhoff, 2011). Elm et al. (2001) and Rest et al. (1994) confirm that individuals with advanced degrees tend to develop broader perspectives and learn how to consider multiple viewpoints. A comprehensive outlook on the world is a multiplier of effectiveness when discussing corporate social responsibility: people gaining such abilities are more effective in making decisions around social performance matters and promoting them. Findings from Kesner (1988) and Bilimoria and Piderit (1994) confirm this belief by analyzing places occupied by women on boards. Authors found that women are not just token board members but are commonly placed on important board committees, indicating that while legitimacy may be a critical directors' contribution to the Board, it is not the only rationale behind selecting women directors. Well beyond legitimacy, if women directors take place in crucial subcommittees, they are expected to bring helpful resources to boards. To conclude, due to the need for greater credentials to access and advance in leadership positions, women are more likely to hold advanced degrees, which is likely to grow their effort in promoting corporate social performance (Cook & Glass, 2011). Hence, the following hypothesis is proposed:

Hypothesis. 2a. Female directors' years of education positively impact corporate social performance.

Professional experience

Professional experience is a critical variable impacting female directors' contribution to CSR because the longer the professional experience, the more awareness directors develop of the effects companies have on society. Directors with long-accumulated wisdom have richer points of view on how corporate strategy can impact the environment, people, and all company stakeholders. (Alonso-Almeida et al., 2015, Aguinis & Glavas, 2012).

Resource dependence theorists claim that business and industry experts import essential skills, strategies, and knowledge to the board from their periods working with other companies (Bear et al., 2010; Hillman et al., 2000). In addition, executives are often appointed to directorships in firms competing in sectors where they gained experience and are familiar with norms and practices (Campbell et al., 2007). Concerning CSR engagement, directors' long work experience may provide intriguing insights into the extent to which other firms invest in socially and environmentally viable projects. Business experts are also better able to delineate the threats and challenges – as well as the opportunities - posed by the external environment and provide opinions on potentially beneficial corporate strategies (Bear et al., 2010). Furthermore, directors with many years of experience and an established reputation act as a tool to improve company standing by assimilating directors' status and building relationships with their network (Mallin and Michelon, 2011).

Past researches on professional experience length – CSR performance relationship show mixed results: while Eweje et al. (2010) confirm that ethical concerns grow in proportion to the size of working experience for women at the beginning of their professional path, Arlow (1991) found no correlation between the two aforementioned variables. Moreover, there are limited empirical studies on the impact of board professional expertise on the company CSR engagement. Given that the institutional literature indicates that boards with more significant business expertise should positively impact CSR engagement to mitigate institutional pressures, this study expects a positive relationship between board expertise and CSR engagement strategies. Therefore, the following hypothesis is proposed:

Hypothesis. 2b. Female directors' years of professional experience positively impact corporate social performance.

Independence

One key directors' characteristic that is agreed to strengthen the Board's effectiveness on CSR matters is independence.

The presence of independent directors is considered an efficient corporate governance mechanism from distinct scholars: coming from outside the firm, independent members of the Board can progress the faculty of the Board of monitoring of the management team and avoid agency problems (de Andres & Vallelado, 2008). At the same time, independent members were found to foster board effectiveness (Rao, Tilt, & Lester, 2012; Said, Zainuddin, & Haron,2009; Khan et al.,2013). De Andres & Vellelado (2008) found that independent members of the Board contribute to help guarantee corporate strategy, follow the best interests of its shareholders, and help overcome conflicts of interest. Moreover, independent members of the board also ensure compliance with the law because of their role (Fama & Jensen,1983) and motivate companies to join CSR projects as well as increasing the number of their social responsible actions (Haniffa & Cooke, 2005; Khan,2010). Another point is the standing of independent directors, which is usually linked with the behavior of the firms in which they are working. According to Zahra and Stanton (1988), this is one of the reasons why independent directors are especially interested about the behavior of their companies. As a result, boards with more independent directors are more likely to ensure that their companies follow a behavior that is socially and environmentally responsible (Rao et al., 2012). Given this argument, the following hypothesis is tested:

Hypothesis. 2c. Independent female directors' representation in the board room positively impacts corporate social performance.

Tenure

Researchers establish board directors' tenure to be positively associated with corporate social performance considerations, as tenure impacts directors' performance as both decision-makers and tool for the monitoring of the top management team. The more directors spend time within the firm, the more they gather industry- and company-specific knowledge that increases their value in contributing to the Board's decision-making process (Castro et al., 2009). However, the more directors spend time inside the Board, the less they are likely to have an arm's length relationships with the top management team and the CEO, putting stakeholders' interests at risk. The trade-off between experience growth and loss of independence associated with director tenure endangers CSR performance.

CSR involvement, in fact, requires a long-term view of business activities that, in turn, depends heavily on the firm- and industry-specific knowledge that accumulates with tenure (Baron, 2001; Burke & Logsdon, 1996; Wang & Bansal, 2012) but diminishes with the loss of independence. Research confirms that independence from the top management team decreases as tenure increases, as long-serving directors may be reluctant to promote long-term CSR activities, especially when such responsibilities conflict with the company's short-term financial goals.

Hence, this work wants to analyze the influence tenure of female directors has on improvements in corporate social performance, and the following hypothesis is formulated:

Hypothesis. 2d. Female directors' tenure - expressed in years - positively impacts corporate social performance.

1.3.3. Country- and Firm-level moderators of female directors' influence over CSR

Yet, the outcomes from empirical investigations examining the link between board gender diversity and corporate social performance are mixed: some studies have observed a positive relationship (Post et al., 2011; Skaggs et al., 2012); others have encountered negative or no relationship (Rao, Tilt, & Lester, 2012).

The mixed results found across research can be attributed to each study focusing on one country or industry. Institutions and the country's perception of gender parity may influence the extent to which female directors can and do affect corporate social performance (Aguilera & Jackson, 2003; Aguilera, Williams, Conley, & Rupp, 2006). Diversity is not valued the same in all countries and contexts. Therefore it is essential to consider that country-level and industry-level unique characteristics may modify the intensity of the relationship between diversity in the board room and company CSR outcomes. (Adams, 2012) In the real world, it is unlikely that companies operating in countries with different cultures and norms will respond in the same way to a high representation of women on boards because country-specific characteristics interfere with the strength of this impact.

Upper Echelons Theory advances two moderators fine-tuning the relationship between women representation on boards and CSR: country gender parity, which increases board power distribution and therefore increasing the degree to which women's voices are listened to in board rooms, and the country degree of investor protection, which increases board behavioral integration and therefore increases directors' willingness to ponderate their decisions. (Hambrick, 2007)

Degree of Country Gender Parity

The distribution of power among members sitting in boards depends on many factors and varies among countries, even if it is likely biased towards men. Relative to men, women hold fewer positions in the C-suite and directorship, they reach later in time these positions and therefore accumulate less managerial experience, and they are statistically less likely to have considerable resources to spend in equity ownership (Burgess & Fallon, 2003; Ragins & Sundstrom, 1989; Ridgeway & Smith-Lovin, 1999; Rudman & Glick, 2012). Notwithstanding the limitations mentioned above, the power women can accumulate on boards also depends on other factors which are not related to equity ownership or human capital.

Institutional and social contexts raise issues in handling the power dynamics between male and female directors on boards (Ridgeway, 2009). As Glick & Fiske (1999) specified, in societies with more significant gender gaps - in wages, health, and political influence - men are more tempted to exploit the higher status countries confer on them by exercising more say in the decision-making process.

Scholars suggest the degree of gender parity in a country can be a good proxy for the degree of intra-board power distribution because, in countries where gender parity is higher, women directors are provided with increased reputation and greater perceived reliability; as a result, their voice is more esteemed in the board room (Harrigan, 1981; Wright et al., 1995). Moreover, in societies where women and men can equally access education, job offers, health, economic and political opportunities, the above-mentioned relative power dynamics become more balanced and easier to handle (Ridgeway, 2009). Aguilera et al. (2003) stressed that formal institutions as well as informal ones could influence behaviors of actors inside and outside the company: ideologies, stereotypes, countries' and companies' cultures and values can moderate the relationship between female board representation and corporate social performance. Given the aforementioned arguments, the expectation is that countries with narrower gender gap score – that is, countries where women and men are almost equally valued and treated - will experience a more balanced power distribution. Consequently, women will be more able to influence CSR matters as their beliefs, knowledge, and wisdom will be more appreciated and valued by members of the board.

Hypothesis. 3. Masculinity moderates the impact that women's representation in board rooms have on corporate social performance: the relationship is more positive in countries with higher gender parity scores.

Degree of Country Shareholders' protection

The second theory-derived mediator is the country's degree of shareholder protection.

De Dreu et al. (2006) and Scholten et al. (2007) have suggested that groups of people who are motivated to deeply comprehend and address issues they face tend to make better and more reliable decisions. Precisely, high shareholders' protection - reaching its maximum where directors may be held personally liable for not upholding their fiduciary responsibility - is likely to increase board behavioral integration - that is, seriously consider the varied knowledge and perspectives of all directors, for example, around social responsibility issues. Stronger shareholder protections are likely to motivate boards to deeply travel, interpret, and blend divergent information and experience held by board members (Post & Byron, 2015).

In "Law and Finance" - the famous paper by Porta et al., the authors examine legal rules treating corporate shareholders' and creditors' protection. Moreover, the authors cross how investor protection rules have originated as well as their enforcement quality and rigor in 49 countries. Countries diverge in directions ad rules enforcement, leading to different outcomes for the relationship analyzed in the current study. Under the Common-law systems, judges are entitled to rule in alleged shareholders' abuse by applying basic rules and legal precedent. Civil law, by contrast, asks judges to rule their decisions on what the law exactly states, following each sentence. Because of Common Law system is more flexible in applying rules, it is less easy to circumvent the law. Instead, civil law strictly follows what is written in codes, hence giving insiders room for bypassing the law and getting off scot-free. Accordingly, Porta et al. found out that common-law countries generally have the most robust legal investor protection, and French- civil-law countries the weakest, with German- and Scandinavian-civil-law countries being located in the middle.

Hypothesis. 4. Shareholders' protection strength moderates the impact women's representation on board rooms has on corporate social performance: the relationship is more positive in countries displaying stronger investor protection.

Theoretical framework

Therefore, based on existing literature – in particular, on the analysis conducted by Post and Byron (2015) as well as the one advanced by Cook and Glass (2018), the previously described framework was developed and afterward tested in order to answer the dissertation research question:
Are board gender diversity and women directors' unique characteristics impacting CSR performance for firms included in the STOXX600 index?

In order to sum up, given the pre-established theoretical framework, in the tables below – respectively Tables 1 and 2, all the variables involved in the analysis are listed together with their expected impact on the response variable.

Explanatory Variables	*Expected Impact on CSR Performance Index*	*Main Theoretical Background*
Board Gender Diversity	*Positive*	Becker, 1985; Turner and Tajfel, 1986, Ibarra 1995; McDonald et al. 2008; Sorenson and Stuart 2008; Hillman, 2002)
Critical Mass of women in the board	*Positive*	Torchia et al. (2011)

Education	*Positive*	(Hiillman et al., 2002; Singh, 2008; Zweigenhaft and Domhoff, 2011; Elm et al., 2001; Rest et al.,1994)
Work experience	*Positive*	(Aguinis & Glavas, 2012; Alonso-Almeida et al., 2015, Lämsä et al., 2008, Segon and Booth, 2009)
Tenure	*Positive*	(Bonini et al., 2017; Castro, La Concha et al., 2009; Celikyurt et al., 2012; No direct empirical evidence).
Independence	*Positive*	(Haniffa & Cooke, 2005; Khan,2010; Zahra and Stanton,1988)

Table 1: Theories supporting the explanatory variables and their expected impact on CSR

Moderating Variables	Expected Impact on CSR Performance Index	Main Theoretical Background
Country degree of gender parity	**Positive**	Harrigan, 1981; Glick & Fiske, 1999; Wright, Baxter & Birkelund, 1995Dalton & Dalton, 2010;
Country degree of investor protection	Positive	De Dreu et al. (2006) and Scholten et al. (2007), Post & Byron, 2015

Table 2: Theories supporting the moderating variables and their expected impact on CSR

2. Research methods

2.1 Sample

The analysis relies on an Author-constructed database that includes data for 314 Eurostoxx 600 firms from 2014–2018. The list of STOXX Europe 600 Index companies over the five years is derived from stoxx.com. The STOXX 600 index comes from the STOXX Total Market Index. The STOXX600 index is composed by six hundred companies with largest capitalization operating in seventeen European countries; they are Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, United Kingdom.[4]

Relevant data is retrieved from different online sources in order to construct the dataset. Personal data and biographical information for women on the board of directors was collected using several reference websites, such as LinkedIn, people.forbes.com, company websites, and others. Firm financial data and data for CSR performance was collected from both BoardEx by Wharton Research Data Services (WRDS) and Thomson Reuters Datastream by Refinitiv.

[4] https://www.stoxx.com/index-details?symbol=SXXP

BoardEx is a global leadership database used worldwide for academic research. It was founded in 1999 and it incorporates the most accurate and thorough board and relationship intelligence data curated over twenty years.[5] Thomson Reuters instead allows for the exploration of one of the most comprehensive ESG datasets, incorporating more than six thousands companies, and over forty hundreds distinct ESG metrics. Datastream was deemed to be one of the largest and most comprehensive sources of CSR performance information.[6] Accordingly, it has been used in major archival studies (Cheng et al., 2014; Luo et al., 2017; Schons et al., 2016).

Panel data

Longitudinal, *cross-sectional time-series*, also named *panel* data, is a database in which the behavior of companies – that is, members of the panel - is watched over years. A panel data analysis allows controlling for variables that change over time. That is, it accounts for individual heterogeneity (Torres-Reyna, 2007).

This study aims at modeling the effect of a given set of explanatory variables X1, X2,.., XK - also called regressors or independent variables - on a variable Y of primary interest - also called the response or dependent variable -, which is CSR performance. The various models differ mainly through the type of variables, which can be continuous, binary, or categorical. A principal characteristic of regression models is that the relationship between the response variable Y and the independent variables is not a deterministic function f, but rather it displays random errors. This implies that CSR performance is a random variable whose distribution depends on the explanatory variables.

2.2 Variables

Dependent variable

Corporate Social Performance

One measure which is internationally recognized as a good proxy for CSR performance is the ESG score - that is, the Environmental, Social, and Governance score. (Wang et al., 2012; Han et al., 2016; Yoon et al., 2018). ESG measurements' objective is to catch supplementary dimensions of corporate social performance that cannot be found in financial statements. The ESG Combined Score presents a complete evaluation of a company's CSR performance based on the reported information obtained for each E, S, or G pillar and calculating a weighted average of the three. The ESG scores provided by Thomson Reuters are so designed to "transparently and objectively evaluate a company's relative ESG performance, commitment, and effectiveness" (Thomson Reuters ESG Scores, February 2019). Information gathered to form the ESG Score

[5] https://www.boardex.com
[6] https://www.refinitiv.com/en/financial-data/company-data/esg-data

is collected from various publicly available sources such as CSR reports, company websites, annual reports, proxy filings, NGOs, and media information[7].

Practically, the ESG score is one of the major indexes in the identification of CSR efforts: through the score it is possible to gain insights on the overall CSR activities, CSR disclosure, and how corporations develop their goals and short-term strategies for CSR long-term improvement (Han et al., 2016). ESG Score is comprised on a scale from 0 to 100. Higher scores indicate more remarkable CSR achievements. In this study, the ESG Score is used as a proxy of CSR performance.

Independent variables

Women's Representation on Boards

Data for women's board representation was retrieved from the Thomson Reuters Datastream database. Datastream provides for a measure of Board Gender Diversity, which, multiplied for the measure provided for Board Size, gives as a result the number of women directors sitting in the Board Room. Board Gender Diversity (BGEND) is used as an independent variable to understand its force on Corporate Social Performance.

Stemming from the Number of Women on the Board, it was possible to compute if a specific firm displayed a critical mass of women on the board (WOMEN_CM), which means at least three female directors have a voice in the company decision-making process. WOMEN_CM is a yes or no variable: 1 stands for the actual presence of more or equal to 3 women on the board, 0 stands for 0, 1 or 2 women on the board.

Female directors' characteristics

For what concerns female directors' characteristics - female directors' education (EDUCATION), work experience (WORK_EXP), independence (%_INDEP), and tenure (TENURE) - data were manually collected from Company websites, people.forbes.com, LinkedIn or personal websites.

In particular, an excel file was constructed for each Company. Through data available, it was possible to determine how many - as well as and the single identity - of each female director present on the board during the five years. Some female directors stayed on the board for one year, others the whole period.

After having recognized their identity, it was possible to search for their unique characteristics. Data was retrieved about how many degrees they earned, how many years of experience they had before entering the Board room, and how long they were sitting on the board (that is, their tenure in the year taken into

[7] Thomson Reuters ESG Scores, February 2019.

consideration). A table was constructed with information gathered for that year's relevant women, and consequently, it was possible to compute an average for relevant data for each year.
Therefore, for each year from 2014 to 2018, a computation was made to get the average of years of education, experience, and tenure for women present on the board at that point in time. For example, if a female director entered the Board in January 2016, her gathered data would have been relevant only for the last three years of analysis. In the years 2014 and 2015, her data are not considered for computing the mean values. The same for a female director whose mandate ended in March 2015: her gathered data would have been relevant only for the first year of analysis. Concerning months, data were considered suitable for analyzing one year only if the female directors stayed on the board for a minimum of 6 months. Otherwise, data was not included in the analysis of that particular year.

Data for independent women's representation was retrieved from the Thomson Reuters Datastream database. Datastream provides for a measure of Independent Board members Gender Diversity. The Independent Board Members Gender Diversity (%_INDEP) measure is used as an independent variable to understand its impact on Corporate Social Performance.

Control variables

Control variables are those ingredients that researchers seek to keep constant when directing an analysis. In a typical research design, to properly measure the relationship between a dependent variable and many independent variables, other variables - the control ones - must be neutralized or standardized (Sage, 2018)

The control variables needed in the current study relate to both the Company and the external environment. First, it is crucial to control firm size because it is directly connected to enterprise visibility and accountability (Arthur and Cook, 2009). In particular, larger firms are more notable and, consequently, tend to draw more attention from consumers, the media, and the general public, which may oblige them to look good. Accordingly, big companies might be more worried about their CSR performance with respect to small firms because of the heightened repercussions they may suffer. In this case, the firm size is determined by the log of the number of employees. Also, the firm's financial performance is a critical control variable as shareholder pressures may change during profitable versus non-lucrative times (Cook and Glass, 2011). To control for current financial performance, Tobin's Q is the most appropriate proxy. Tobin's Q is computed as the ratio of total debt plus the market value of equity divided by total assets. The popular use of Tobin's Q in CSR focused researches stems from the fact that the effects of CSR are likely to occur in the medium to long term, hence, a measure of companies expected long-term growth possibilities have to be controlled. Data for variables SIZE and TOBINSQ is found on BoardEx database by WRDS. Third, Board size - that is, the total number of board members - may represent the overall importance assigned to the board. Past studies underscore that as boards get larger, they are hampered by intensifying disorganization and difficulties. At the same time, following the resource dependence perspective, as boards get larger, they benefit from greater access to information and resources (Westphal & Fredrickson, 2001; Kassinis & Vafeas, 2002). Therefore, the variable BSIZE should be controlled. Moreover, CEO/Chair duality suggests a potential for more significant influence and power of the CEO, and, as such, should be controlled (Finkelstein and D'Aveni, 1994). Information for BSIZE and CEO_D has been retrieved from Thomson Reuters Datastream for each Company from 2014-2018.

For what concern the external environment, it is appropriate to control the firm sector. The Author constructed database represents companies operating in almost twenty different sectors: Automobiles and parts, Banks, Basic Resources, Construction, Consumer Goods, Energy, Financial Services, Food & Beverage, Health Care, Industrial Goods, Insurance, Media, Personal Care, Real Estate, Retail, Technology, Telecommunications, Travel & Leisure. For clarity reasons, a dummy variable is considered for SECTOR.

In particular, among sectors considered, it is relevant to control if a company operates or not in the energy sector for different motives. First, companies operating in the energy sector are the second most represented ones in the database, accounting for 11% of all companies - that is, 34 companies are working in the energy sector. This fact may bias the results as women only account for 22% of the traditional energy sector labor force. For women in the C-Suite, numbers are even lower. Women reach senior roles in the energy sector more sporadically than in the wider economy, with striking differences among sub-sectors. In particular, European Union witness most of the senior positions held in the sector by women in Water, Manufacture of Chemicals, Mining or Refined petroleum products (<15%)[8]. Moreover, even if women face similar barriers elsewhere in the economy, the Energy sector's challenges are the most urgent since the industry is undergoing a significant transformation. In particular, clean energy transitions will require adopting innovative solutions and business models and greater participation from a diverse talent pool. Practitioners confirm that gender diversity in the energy sector is critical for encouraging more cutting-edge solutions for clean energy transformations worldwide (International Energy Agency, 2020). The control variable SECTOR is a dummy variable: one is assigned if the Company operates in the energy sector, zero if not.

Lastly, as Hillman et al. (2007) stated, based on resource dependency theory, it is expected that more women directors will be present in countries where there is a higher percentage of women in the workforce. For this reason, it is appropriate to control the country's female occupation rate. Data on each country's female employment rate for the period are derived from Eurostat. The female labor force participation rate is calculated as the percentage of women aged 15 - 64 working divided by the total active population.

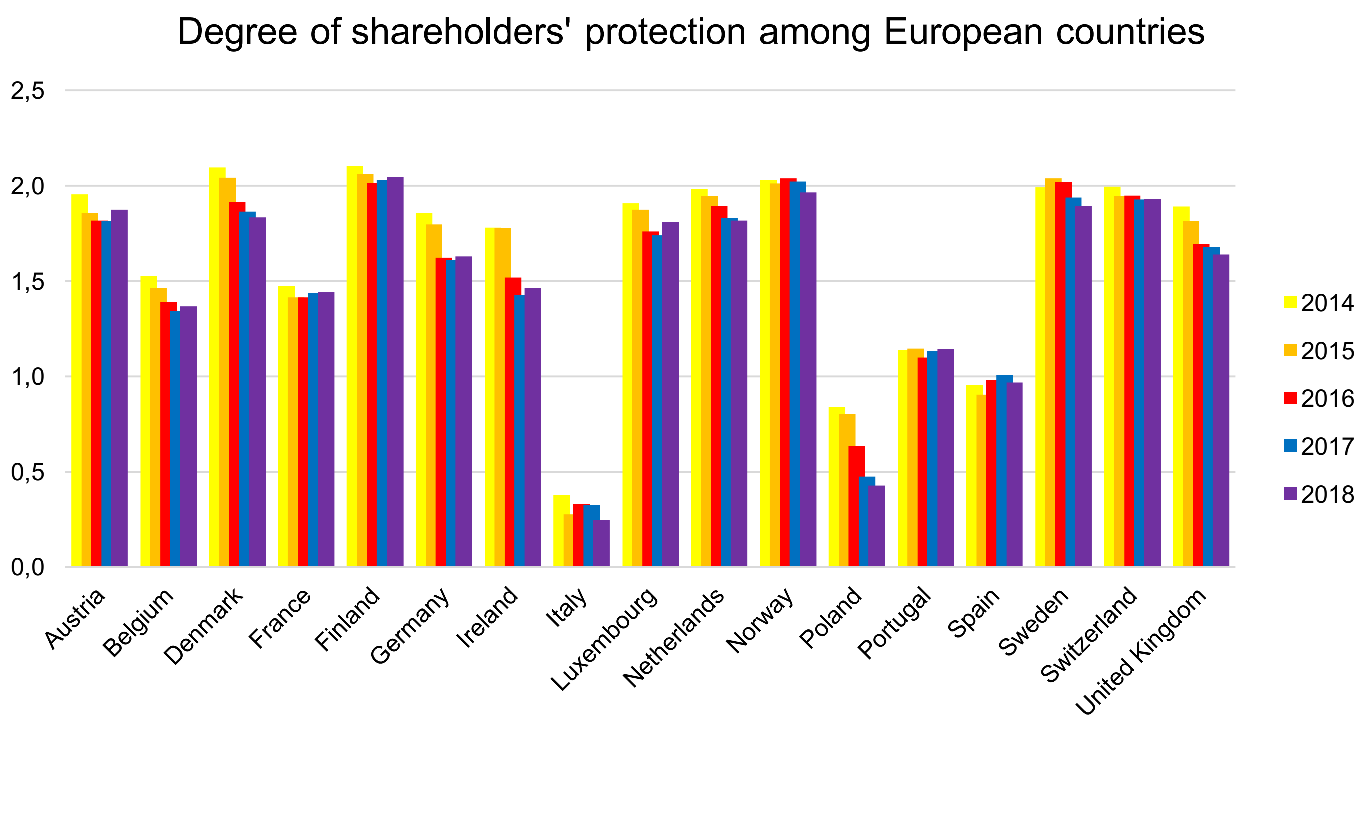
[8] International Energy Agency, 2020

Moderators

Shareholder Protection Strength

Rule of law estimates are used to proxy the shareholder protection strength. Its relevance in the current analysis is confirmed also from the fact that rule of law was used as a proxy for shareholders' protection in several past researches on the topic (Porta et al., 1998; Dam, 2007; Goltz et al., 2015; Katelouzou & Siems, 2015). Rule of Law seizes opinions of the extent to which agents rely on and abide by the laws. In particular, rule of law estimates consider opinions on the quality of law enforcement, property rights, judges' work, as well as the probability of crime and violence. Rule of law estimate delivers each country's score on the aggregate outcomes for all the pillars, extending from -2.5 to 2.5. (World Bank, 2021).

Rule of law estimates for all countries all over the world are provided by World Bank Data. The World Index ranges from -2.5, which stands for the weakest shareholders' protection, to 2.5, which stands for the maximum one. As the current study analyses European countries, the rule of law index ranges from 0,246 (Italian index for investor protection) to 2,100 (Finland index) For the current analysis, only data for 19 countries were relevant. Graph 1 specifies the values for shareholders' protection strength among countries involved in the study.



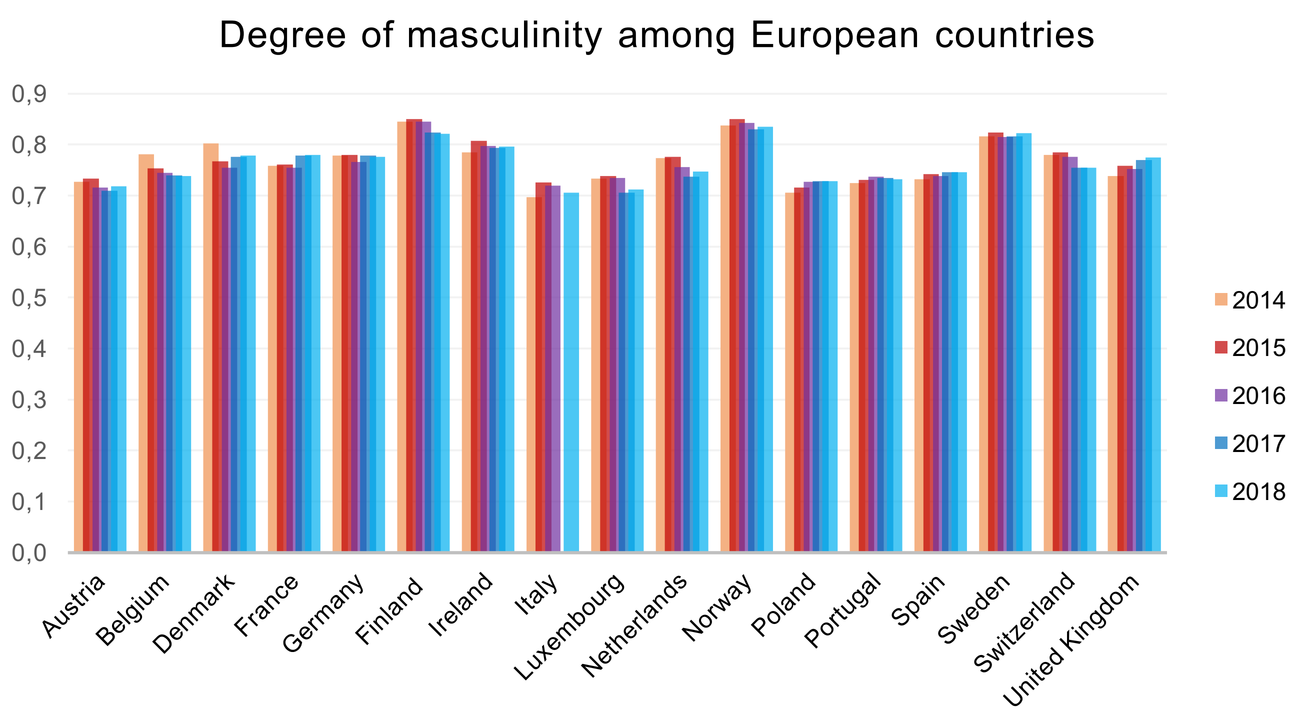
Graph 1: Degree of shareholders' protection.
Source: World Bank Data

Gender Parity

As before mentioned, countries vary in how much they offer women and men equal access to opportunities (Hausmann et al., 2012). In order to capture the differences among European countries, the current work exploited the World Economic Forum's Global Gender Gap Index, which has been used extensively in previous studies (Hausmann et al., 2012).

The World Economic Forum first introduced the Global Gender Gap Index in 2006 as a framework for catching the degree of gender-based inequalities and hunting their progress over the years. Editions from 2014 to 2018 benchmark almost 150 countries on their journey towards gender parity on a range from 0 - which means full disparity - to 1 - which means full parity.

The gender gap score by World Economic Forum is used as proxy for Masculinity. The score is measured over four sub-dimensions: Participation to the economy, Educational Attainment, Health, and Political Empowerment. Besides, the methodology for computing the index has endured consistent since its original design in 2006, providing a foundation for robust cross-country and time-series analysis. The actual range among all countries in the current study is .6973 (i.e., Italy) to .8450 (i.e., Finland) in 2014, which is the year where the European Gender Gap was the tightest in the period 2014 - 2018. Graph 2 specifies the values for each country gender parity score.



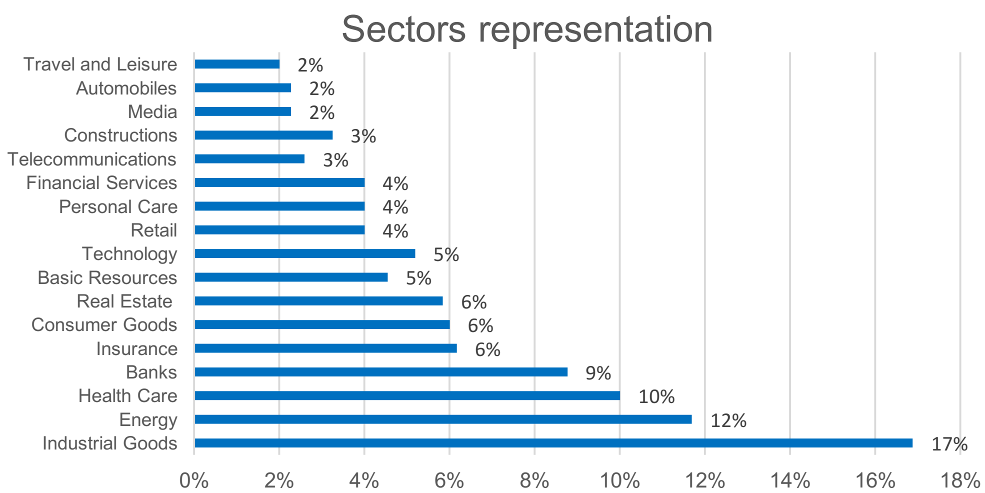
Graph 2: Degree of masculinity.
Source: World Economic Forum Global Gender Gap Index

2.3 Analysis

Starting from the list of companies in the STOXX 600 Index, data was gathered for each company. When a piece of information was missing for some variables, that specific company was removed from the dataset, in order to end up with a balanced panel without missing values. A balanced panel is a database in which every member (i.e., each company) is analyzed each year. Therefore, even if a company had only one missing value for one year of the period taken into consideration, all the company observations were deleted from the dataset. This diminished a lot the population of companies included in the dataset. Companies were most likely to display missing values for CSR performance. The current study investigates CSR performance from 2014 – 2018. However, many companies showed no observed values for CSR performance in 2014. After having excluded companies with missing values, the database counted 314 companies with full information for each variable needed to compute the panel regression.

3.Results

The database was created on Excel. After having completed an Excel file with all relevant data for the analysis, it was imported on the Statistical software used in order to conduct the analysis on the database: STATA17. The dataset comprises 314 of the 600 European companies with the largest capitalization. The enterprises considered operate in different sectors. Graph 3 graphically shows sectors represented in the database. There are three sectors which are most represented: Industrial Goods, Energy, and Health Care. The three together form one third of the population of companies analyzed. This endorses the willingness to control for the companies operating in the Energy sector, which is both one of the most represented ones and, at the same time, a critical sector for CSR and for women.



Graph3: Sector representation

For what concerns the analysis of sectors, it is helpful to understand whether some sectors display a significantly high CSR performance with respect to others. In order to do so, companies are divided accordingly to the industry in which they operate, and mean values for CSR performance among sub-divisions are computed. CSR's mean values go to a minimum of 46,6 over 100 for the financial services sector and a maximum of 73,3 for the constructions sector. It is possible to state that, as of now, sectors are still not homogeneous in CSR practices and performance.

Theory supports the difference in CSR scores. The financial community is said to be almost disinterested in CSR until the new century (Lake, 1999). More recently, it was recognized that while companies operating in the financial services sector "do not produce chemicals or discharge toxic pollutants into the air, land or water" (Thompson et al., 2004), their lending choices have consequences on the natural environment. In fact, as "facilitators of industrial activities", the procurement of financial services can impact disparate stakeholders. However, the process to better CSR outcomes seems to be slower than in other sectors that directly impact the E, S, or G pillars. The construction sector has a considerable direct effect on the environment and sustainable development. Not only does it have some of the most prominent direct consequences on water, resources, land use, and greenhouse gas emissions (Pinkse, Domisse, 2008; Pitt et al., 2009), and indirect effects on the environment by influencing transport systems, but it also affects inhabitants and even public health (Sev, 2009; Holton et al., 2007). As Pitt et al. (2009) put it, "the built environment affects all human activity". Parallel to that, construction is a primary contributor to the overall economy. Consequently, the construction sector impacts all three ESG pillars: environment, society, and economy (Pitt et al., 2009).

From the sector analysis, it is possible to note that those sectors that directly impact the three E, S, or G pillars are more incentivized to take care of their short-term CSR performance. On the other hand, those sectors that have an indirect, even if significant, impact on the same pillars, have fewer incentives to focus on short-term results.

3.1 Descriptive statistics

Descriptive statistics are computed for the dataset: they have been used in order to describe data, control for the presence of outliers, and investigating the dataset structure before embarking in the panel regression analysis. Table 3 displays results of summary statistics for variables analyzed.

Variable	Obs	Mean	Std. Dev.	Min	Max
OCC_RATE	1570	.701	.064	.503	.802
BSIZE	1570	11.427	3.957	3	26
N_WOMEN	1570	3.185	1.795	0	13
BGEND	1570	.277	.117	0	.64
WOMEN_CM	1570	.608	.488	0	1
EDUCATION	1570	4.771	1.357	0	11

WORK_EXP	1570	23.803	7.08	0	39.333
TENURE	1570	4.305	2.553	0	26.5
%_INDEP	1570	.224	.119	0	.571
CEO_D	1570	.232	.423	0	1
RULEOFLAW	1570	1.64	.379	.246	2.1
MASCULINITY	1570	.768	.03	.692	.85
CSR	1570	59.967	17.486	0	95.83
SIZE	1570	50034	82117	95	631465
TOBINSQ	1570	1.266	1.558	0	13.996

Table 3: Summary of descriptive statistics computed through STATA

In Table 3, it is possible to see the total number of observations analyzed, their mean, standard deviations and the minimum and maximum value for each variable. It is easily noticeable that the average number of people in the board of director is eleven, which is perfectly in line with what recommended by good governance codes. Of these eleven directors sitting in the board three are women. This piece of information is valuable: on average, a critical mass of women is present in STOXX600 companies' boards.

By exploding the analysis and concentrating on minimum and maximum values, there are clearly companies with no women on the board. They are more than one: Aalberts NV, Acciona, Allreal Holding, ASM International, AUTO Trader Group, Banco BPM, Barry Callebaut, Belimo Holding, Centamin, Clariant, Coloplast, Deutsche Wohnen, Dialog Semiconductor, Fresenius Medical Care, Geberit, Genus, JD Sports Fashion, Jeronimo Martins, and others. This is an issue: European largest capitalization companies should have at least a minimum representation of women in the board, however, this is not true. On the other hand, Engie has thirteem women directors over a total of 24 board members for 2015 only.

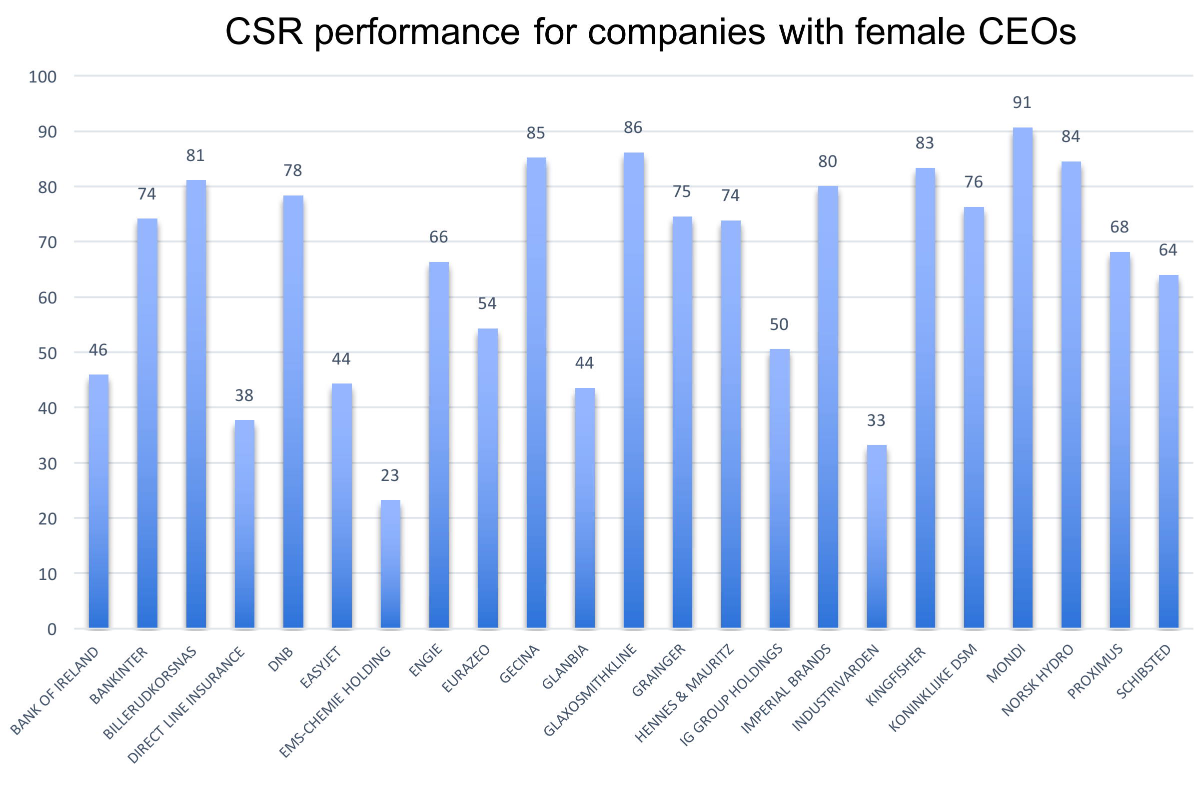
Concerning female directors' characteristics, summary statistics for education, experience, and tenure are also available in Graph 4. Average values for education convey that women in the board usually get a bachelor's degree and a Master's degree, summing up to five years of education. However, results are quite mixed as standard deviation is 1,3 years. Women characteristics' minimum values amount to zero, which means company presented no women in the board and therefore the value for female directors' education, work experience and tenure is null. There are no women on board with zero years of study, work experience or tenure.

Maximum values are instead more reliable. The longer period of time a woman in the board studies, is eleven years: it is the case of KGHM Polska, which shows mixed values for CSR performance. This phenomenon makes it possible to infer that there is no correlation between length of education of women in the board and company CSR performance. It will be better investigated through the regression analysis. For what concerns professional experience, average values tells us that usually a women in the board of directors has gained more than twenty years of experience – specifically, twentythree years – before getting on the board. Minimum values have the same rationale than the ones for education. Maximum values instead shows that the maximum work experience length a female director gained before entering the board room is almost forty years.

Furthermore, tenure adds something to the story: on average, women sit in a board room they are staying in for four years. The maximum a women sitted in the board for the current population of companies is twentysix years.

The variable “CEO is a woman” tells us something new. It explores whether the company taken into consideration had a women CEO from 2014-2018. This variable is a dummy one: it can therefore assume only “0” and “1” values: if the value is 0, that means that year there was a male CEO, otherwise it means the CEO is a woman. The mean value for the dummy variable “CEO is a woman” is 0,059, that means a very low percentage of CEOs are women. By searching in the dataset through the filter, it is quite straightforward to note that only 7% of companies have a female CEO in one or more years from 2014-2018: this number is quite low. Companies with female CEOs are operating in different sectors.

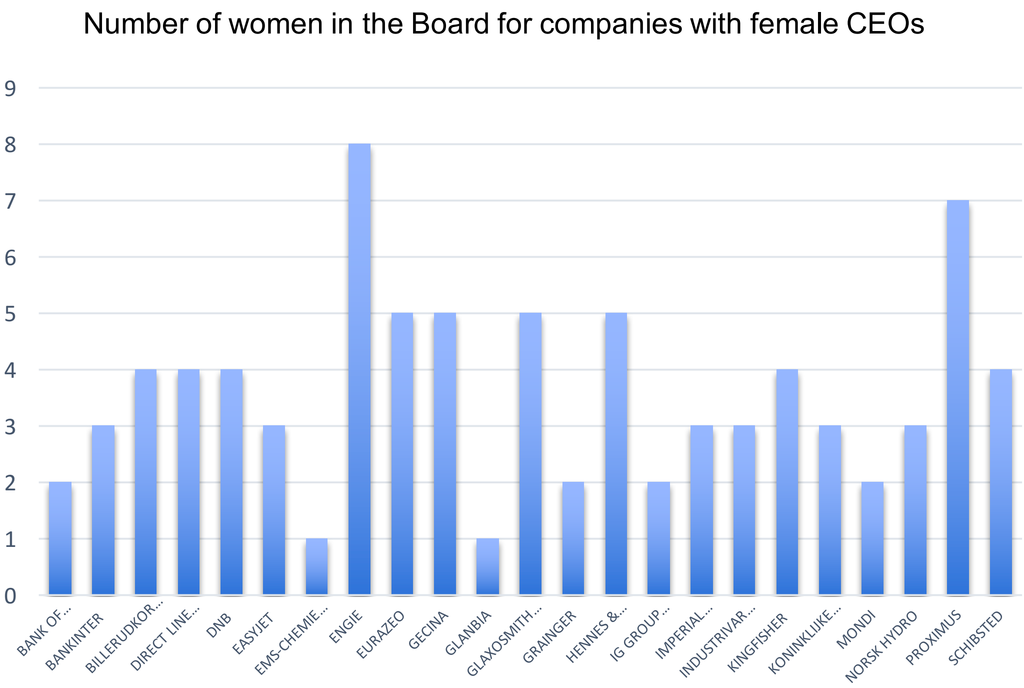
Graph 4 shows how CSR performances for companies with female CEOs are distributed. Note that when a company has a female CEO for more than one year, the CSR performance is the average value for all relevant years.



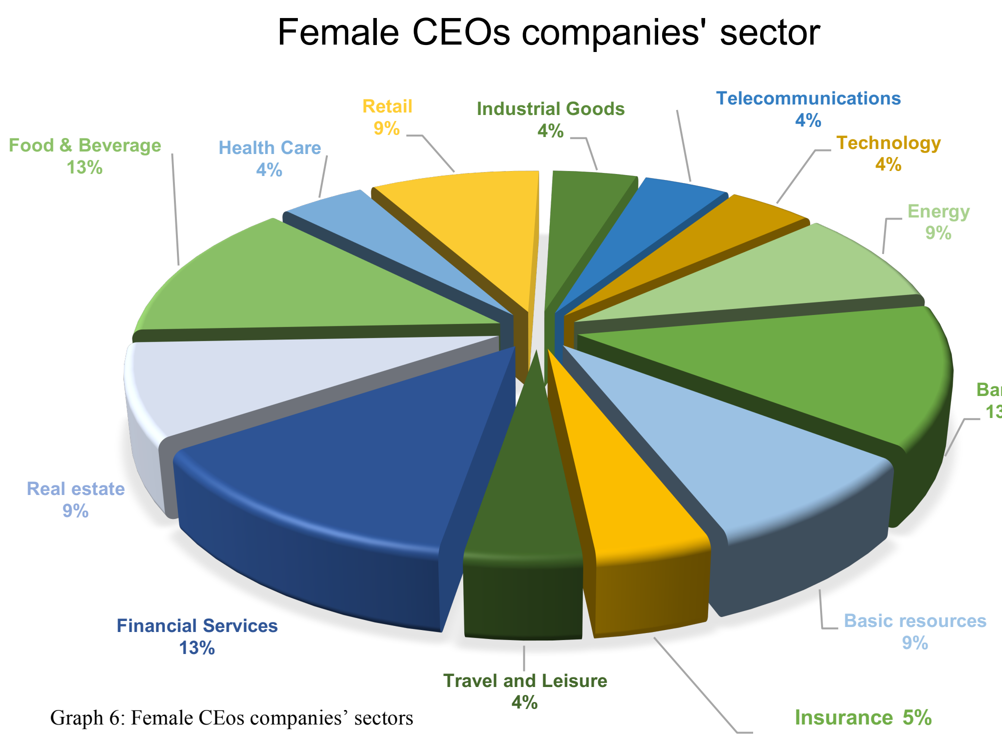
Graph 4: CSR performance in female CEOs companies.

Moreover, Graphs 5 and 6 investigate respectively the number of women on board for female CEOs companies and the sector in which they operate. From the first graph, it is possible to note that, when a woman leads the firm, the average number of women sitting in the board room is relatively high, amounting to four women.

One exception to this trend is a company operating in the Energy sector that has only one woman on the board. It is interesting to search the same company in the CSR performance table: it displays a deficient CSR performance, amounting to a score of 23 over 100: this correspondence can lead to the conclusion that women may have power over CSR performances. However, by looking at companies where female directors are most present, mixed results arise: Engie and Proximus, where there are eight and seven women on the board, do not display the highest corporate social responsibility performance. In order to give an explanation to this phenomenon, it is helpful to compare results with board gender diversity instead of the number of women on boards.

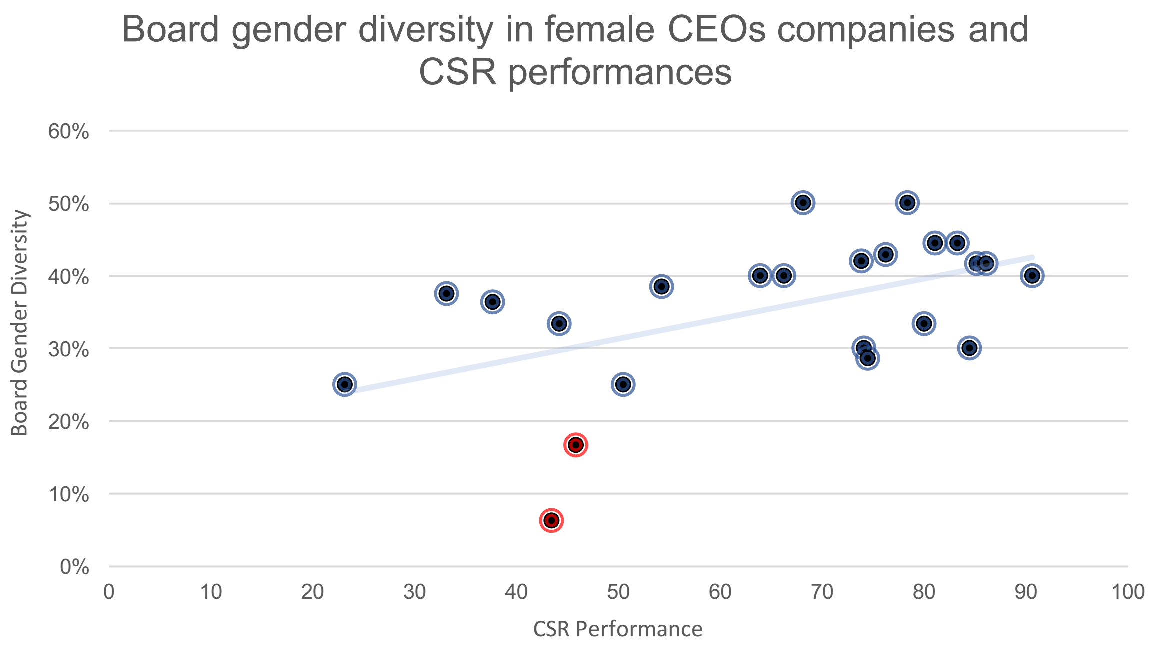


Graph 5: Companies with female CEOs number of women on board.



Graph 6: Female CEos companies' sectors

Graph 7 represents the relationship between board gender diversity and CSR Performance of female CEOs' companies.



Graph 7: Board gender diversity and CSR in female CEOs companies.

From the graph, we can see that – excluded two observations highlighted in red – a slightly upward sloping trend line exists: it means that the higher the percentage of women present on the board, the higher the company's CSR performance. Therefore, we expect the same results from the regression analysis to confirm this trend on the entire dataset. If results for the whole dataset won't reflect these, then the presence or absence of female CEOs could influence this phenomenon. Also, it is interesting to note that there are no companies without female directors or companies with shallow CSR performances inside the subsector of companies with female CEOs.

As we advance with descriptive statistics shown in Table 3, it is possible to analyze mean values, minimum and maximum values for both Rule of law and Masculinity, the moderators of the relationship between board gender diversity and CSR performance.

For the Rule of law estimates, mean values amount to 1,64 in the range from -2.5 to +2.5 worldwide. However, it is easy to note that the minimum value for the variable is 0.64, which means European countries display a relatively high shareholders' protection index than other countries worldwide. The same applies to gender parity, whose mean value is 0,768 in the range from 0 to 1. The minimum gender parity index among European countries is 0,692, which is the Italian score for 2017. Therefore, the current study focuses on countries with a more elevated starting level than the world average. Also, the mean value for the CSR index is above average:

it amounts to 59 over 100. The minimum value for CSR is 0, while the maximum one is 95. CSR performance values are more dispersed than the ones for the Rule of law estimates or Gender parity: this is also confirmed by its Standard deviation, which is 17,49. For what concerns firm size, the number of employees is very dispersed among companies in the dataset: a very high standard deviation confirms this fact. The last variable analyzed is Tobin's Q, the variable identifying the firm financial performance. It has an average value of 1,266 over the dataset: it means that, overall, the companies analyzed are performing well. More specifically, it means the stock is overvalued, because company stock is more expensive than the replacement cost of its assets. The minimum value for Tobin's Q is 0, while the maximum value is 13.

Regression model

According to what stated in the theoretical framework paragraph, we will study the effects of female directors' representation on boards on the CSR performance index within the whole sample of companies. In particular, it is interesting to investigate whether specific directors' characteristics impact the CSR index.

Correlation Analysis

One crucial step before implementing a regression analysis is to understand the level of correlation between the explanatory variables to understand if two variables suffer from multicollinearity issues. Multicollinearity refers to a statistical happening for which two or more explanatory variables are highly correlated. If explanatory variables are highly correlated, they provide for little independent descriptive ability. One indicator of collinearity is correlations of above 0,4 or less than -0,4 between predictor variables. If a certain degree of multicollinearity exists among the factors considered, it means that the two variables aim to explain the same aspect (Alin, 2010).

The below correlation matrix shows the correlation values among all the independent variables included in the model.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1) BSIZE	1.000															
(2) BGEND	0.103	1.000														
(3) WOMEN_CM	0.401	0.390	1.000													
(4) EDUCATION	0.122	0.263	0.096	1.000												
(5) WORK_EXP	0.164	0.210	0.113	0.308	1.000											
(6) TENURE	0.086	0.249	0.168	0.122	0.079	1.000										
(7) %_INDEP	-0.059	0.370	0.393	0.232	0.237	0.098	1.000									
(8) CEO_WOMAN	-0.034	0.146	0.080	-0.004	0.014	0.169	-0.019	1.000								
(9) CEO_D	0.059	0.105	0.094	-0.047	-0.018	0.100	0.021	-0.004	1.000							
(10) RULEOFLAW	-0.330	-0.021	-0.160	-0.059	-0.030	0.064	0.007	0.031	-0.123	1.000						
(11) MASCULINITY	-0.138	0.237	0.111	0.034	-0.065	0.189	0.162	0.094	-0.022	0.376	1.000					
(12) CSR	0.218	0.326	0.277	0.173	0.219	0.090	0.258	0.034	0.085	-0.162	0.025	1.000				
(13) SIZE	0.303	0.121	0.201	0.024	0.076	0.104	0.106	-0.046	0.090	-0.032	-0.032	0.162	1.000			
(14) TOBINSQ	-0.341	-0.081	-0.250	-0.078	-0.072	0.076	-0.015	-0.018	0.002	0.250	0.089	-0.156	-0.154	1.000		
(15) SECTOR	0.164	0.013	0.103	-0.008	0.092	-0.041	-0.002	-0.010	-0.051	-0.289	-0.116	0.134	-0.044	-0.197	1.000	
(16) OCC_RATE	-0.253	0.093	-0.044	-0.029	-0.055	0.123	0.045	0.018	-0.120	0.798	0.610	-0.078	-0.017	0.189	-0.261	1.000

Table 4: Correlation matrix

The correlation matrix does not indicate multicollinearity issues in the first instance as values are inside the acceptable range. In order to check again for multicollinearity, it is helpful to compute the Variation Inflation Factors (VIF), which can be calculated through STATA. A variance inflation factor (*VIF*) quantifies how much the variance is inflated: that is, the VIF explains how well a variable is explained by other independent variables. The results for VIF are displayed in Table 5.

	VIF	1/VIF
Board Gender Diver~y	2.624	.381
Women CM	1.837	.544
Percentage Indepen~t	1.64	.61
Education	1.179	.848
Work experience	1.144	.874
Tenure	1.077	.929
Mean VIF	1.584	.

Table 5: VIF computation through STATA

Criteria for VIF acceptability are structured as follows: VIF equal one means that there is no correlation between the n predictor and the remaining predictor variables, and hence the variance of Y is not inflated at all. The prevailing rule of thumb is that VIFs surpassing four demand further study and refinement, while VIFs exceeding ten are signs of serious multicollinearity requiring revision and improvement of variable choices. As all VIF measures remain under three, it is possible to confirm that there are no multicollinearity issues for variables involved in this study.

Once having checked for the reliability of the model, the panel regression analysis can be structured. A random-effects model is the best suited for this kind of study: unlike the fixed effects model, using the random effects, the variation is assumed to be random and uncorrelated with the explanatory variables implicated in the regression model. As Green (2008) stated, the main difference between fixed and random effects models is whether the unobserved effect incorporates factors that are connected with the Xs in the model, not if these effects are stochastic or not.

If there are reasons to believe difference across entities influences the dependent variable, then the random-effects model is the best option. Another advantage of random effects is the possibility of time-invariant variables, like gender.

3.2 Panel regression analysis

In order to conduct the panel regression analysis, the database was first imported into STATA17 and set up as a panel. Company_ID and ID_Year are inserted as variables on which information is organized to declare the dataset is panel data.

Afterward, different regressions are computed: table 5 shows the results. Each column of Table 5 refers to a different regression analysis for one explanatory variable at the time. The last two columns refer to the interaction between Board Gender Diversity and both Rule of Law and Masculinity.

	Only control variables	BGEND	WOMEN_CM	EDUCATION	WORK_EXP	TENURE	%_INDEP	BGEND RULEOFLAW	BGEND MASCULINITY
BGEND	-	10.38*** (3.496)	-	-	-	-	-	2.99*** (13.253)	2.31** (72.803)
WOMEN_CM	-	-	2.77*** (0.846)	-	-	-	-	-	-
EDUCATION	-	-	-	4.82 (0.278)	-	-	-	-	-
WORK_EXP	-	-	-	-	0*** (0.059)	-	-	-	-
TENURE	-	-	-	-	-	4.72*** (0.179)	-	-	-
%_INDEP	-	-	-	-	-	-	9.38*** (3.573)	-	-
RULEOFLAW	-	-	-	-	-	-	-	-2.5** (2.516)	-
BGEND*RULEOFLAW								-0.56 (2.516)	
MASCULINITY	-	-	-	-	-	-	-	-	2.54** (29.992)
BGEND*MASCULINITY									1.82* (94.6)
SECTOR	3.52*** (3.638)	3.08*** (3.442)	3.28*** (3.566)	3.55*** (3.586)	0.001*** (3.573)	3.29*** (3.625)	3.2*** (3.489)	2.43** (3.46)	3.11*** (3.448)
OCC_RATE	7.25*** (10,137)	3.73*** (10.227)	5.89*** (10.292)	6.68*** (10.099)	0*** (10.072)	5.42*** (10.634)	4.87*** (10.104)	4.78*** (10.454)	2.76*** (11.02)
BSIZE	3.26*** (0,156)	2.58*** (0.151)	2.06** (0.16)	2.71*** (0.156)	0.012** (0.156)	3.28*** (0.155)	3.59*** (0.152)	2.11** (0.151)	2.5** (0.151)
CEO_D	-0.05 (1.38)	-0.46 (1.328)	-0.21 (1.366)	-0.08 (1.367)	0.98 (1.362)	-0.37 (1.374)	-0.12 (1.337)	-0.62 (1.322)	-0.4 (1.328)
SIZE	3.12*** (0)	2.62*** (0)	3.01*** (0)	3.18*** (0)	0.002*** (0)	2.73*** (0)	2.58** (0)	2.62*** (0)	2.67*** (0)
TOBINSQ	-2.57** (0.934)	-1.94* (0.906)	-2.16** (0.932)	-2.44** (0.928)	0.008*** (0.924)	-2.75*** (0.928)	-2.13** (0.911)	-1.7* (0.902)	-1.88* (0.905)

Table 5: Panel regression results for ESG, Board Gender Diversity, Education, Work experience, Tenure, % Independence, Rule of law and Masculinity.
T-values are displayed. Standard errors in parenthesis.
*p < 0.1
**p < 0.5
***p < 0.01

Given the panel regression analysis conducted, it is possible to elaborate on many takeaways.

Stepping back, the panel regression analysis is a statistical model that displays some key measures useful in describing results. Firstly, the p-value, or probability value, represents the likelihood that the null hypothesis is true. The null hypothesis specifies - in the current study - the there is no relationship between the variables being studied; that is, one variable does not affect the other. The p-value is used to express the statistical significance of the variable taken into consideration. It has a value comprised between 0 and 1: the smaller the p-value, the greater the proof that the null hypothesis should be discarded. For the current study, a p-value equal to or lower than 1%, 5%, and 10% are considered statistically significant: however, the 1% cut-off is the most significant one for the model and the 10% cut-off the least significant.

Second, the R-squared (R2) factor is a measure that is widely accepted to explain the model goodness-of-fit (Cameron, 1997). The R-squared changes for each different regression, and therefore each column. It is very low (0.114) for the controls only regression: it is common as control variables are not expected to directly explain the dependent variable. For subsequent panel regression analysis, the R-squared is higher: on average the analyses have R-squared of 0,289: it means that variables in this model can explain 28,9% of the variation in CSR performance. It is coherent with the fact that explanatory variables are directly connected to the dependent one and are therefore more capable of explaining the variation in CSR performance.

The t-value is again a measure of the statistical significance. In particular, the t-value is determined by dividing the estimated regression coefficient by its standard error. That is, the t-value is a measure of how many standard errors the coefficient is from zero. For the current study, it is helpful to assume that t-values higher than +2 or lower than -2 convey statistical significance. The higher the t-value, the more valid the evidence that the null hypothesis should be rejected.

Looking at the first column of the above regression model, we can see that some of the control variables are significant. Indeed, their p-value is lower than the pre-established 1%, 5%, or 10% cut-off. The variables SIZE, BSIZE, SECTOR, and OCC_RATE show three asterisks each as they are statistically significant for the model. Therefore, they imply a positive impact on CSR performance. In particular, the country female occupation rate is the variable displaying the highest t-value and therefore being of most prominent significance, implying that women's access to the labor force makes the difference in ensuring they have a voice in the board room. Also, the sector is a crucial variable impacting the strength of the relationship between female directors and CSR performance: numbers for the variable SECTOR confirms that controlling for firms operating in the Energy sector is an appropriate choice. Board size and firm size are significant but displaying lower t-values.

Consequently, advancing the analysis, the second column of Table 4 shows results for regression model where the relationship between board gender diversity and CSR is studied. Following the same logic applied for control vairables, it is possible to retrieve interesting insights. First and foremost, results confirm that board gender diversity can influence CSR performance. The variable BGEND is statistically significant, as its p-value is lower than the pre-established 1% cut-off. Moreover, the t-value for BGEND is the highest one, confirming the strength of the influence female directors can enforce on CSR activities and performance.

Accordingly, by looking at column three of Table 4, it is interesting to note that WOMEN_CM is still statistically significant. Differently from Board gender diversity, the t-value for the presence of a critical mass is notably lower. It is possible to infer that the number of women in absolute value has a lower influence on their power on the board with respect to women's representation percentage. This finding confirms what specified in the discussion of Table 7: in contrast to Kanter (1977) and its conclusions on the critical mass of women, the current work found out that the most potent issue is not the number of women on boards but their percentage over the total number of directors. For example, having ten female directors on a committee composed of 40 people does not mean they will manage to promote CSR policies (even if ten is a large number with respect to standard practices).

Some key insights can be deduced from the following four columns, that regress CSR performance with women directors' unique characteristics. First, education is not a game-changer in promoting women's voices in board rooms. The variable EDUCATION is not statistically significant. An explanation for this phenomenon is that directors – who take decisions at high levels – rely on their decennial industry- and company-specific knowledge gained through experiences and fieldwork. Having more degrees, and therefore having more years of education, does not change the whole story in terms of CSR. The same is not valid for variables WORK_EXP, TENURE, and INDEPENDENCE: these variables are meaningful and positively associated with CSR practices. Tenure and professional experience are related to the maturation of specific knowledge, which can be well spent in board rooms. Therefore, female directors who are more exposed to company-or industry- knowledge through long professional experience or tenure are more likely to be positively impacting CSR activities. The variable %_INDEP is also statistically significant and displaying a high positive t-value (9.38) that confirms the positive relationship between the variables. Hence, CSR enjoys the positive effect of women independent directors, who are less involved in the company and more capable of taking decisions despite what the top management team wants. Given the high values for board gender diversity and independent members gender diversity, the two are surely variables to be taken into consideration from companies which desire to increase their CSR performance.

Lastly, the effects of moderators on the impact board gender diversity have on Corporate social performance is accounted for in the last two columns of Table 4. To account for the effect of a moderating variable, the 2-full way interaction between BGEND and RULEOFLAW was considered on STATA17. The resulting p- and t- values explain that the moderating variable is critical in defining the strength of the relationship between women on boards and CSR.

To account for the effect of the moderating variables, the 2-full way interactions between BGEND and RULEOFLAW as well as was MASCULINITY were considered on STATA17.

Following the same logic applied previously, investor protection is found to be not significant for the relationship studied. One reason for it could be the fact that European countries are not much differentiated in terms of investor protection (see Graph 1): numbers are quite similar, hence, it is difficult to extrapolate a high significantly relationship. On the other hand, results for the degree of gender parity as moderating variable confirm what was extensively discussed in management literature. The resulting p-value for the interation between BGEND and MASCULINITY is lower than 10%: which means the moderating variable is statistically significant. Moreover, the t-value is 1,82, which means the variable has a quite considerable positive impact: countries higher in gender parity see the relationship between women and CSR increased. Also this result can be explained by differentiation among countries: differently from investor protection, Europe is still very inhomogeneous with respect to gender parity index. Therefore, the degree of a country's gender parity is found to be helpful in moderating the relationship between women on boards and CSR.

4.Conclusions

Even though multiple studies underlined the importance of gender diversity and its positive influence on the company's strategic and financial performance (Brammer, Millington, & Rayton, 2007; Bauman & Skitka, 2012; Carroll, 1999; Post, Rahman, & Rubow, 2011; Skaggs, Stainback, & Duncan, 2012; Rao, Tilt, & Lester, 2012; Golob & Bartlett, 2007), few empirical works study the impact of board gender diversity on CSR performance. Moreover, none of the past research found empirical evidence of the effects of board gender diversity for companies operating in different industries and belonging to different cultures. To create the most homogeneous subset of companies displaying such disparate characteristics it was helpful to select firms by the STOXX600 index list. In this way firms in the dataset are tremendously different in characteristics that this dissertation wanted to test, and, similar with respect to their structure, size, strategy, geographical scope, and so on.

Focusing on the research gap identified in both literature and empirical researches, this dissertation tries to find answers to the question: "are board gender diversity and women directors' unique characteristics impacting CSR performance for firms included in the STOXX600 index?"

Starting from the research question, management literature was examined to find support for hypotheses development. Upper echelons theory and critical mass theory lay the foundations for hypotheses 1a and 1b, that speculate respectively on the presence of women impacting CSR and on the presence of at least 3 women impacting CSR. Upper echelons theory posits that directors' cognitive structures – due to their prior knowledge, experiences, and values – inform strategic decision making and, in turn, corporate strategy (Hambrick, 2007) while critical mass theory puts the basis for Hypothesis 1b by stating that there exists a numerical threshold – three people – for which minorities on boards do not experience social invisibility and are therefore constrained to express their opinion (Kanter, 1977). Through regression results, it is possible to address hypotheses discussed in the first chapter: hypothesis 1a - relating to women representation on boards as a % of total participants - is accepted. The same happens for hypothesis 1b - relating to the presence of a critical mass of women – that, even if not significant as women representation in percentage points, is accepted because it has high significance. The first takeaway of the analysis concerns the fact that board gender diversity in board rooms is more powerful than the presence of a critical mass. Companies should therefore focus on having the right balance between men and women in terms of relative representation.

After having discussed the mere existence of women on boards and their numerical number, female directors' characteristics are explored in the work. In particular, characteristics observed are education, professional experience, tenure, and independence. First, higher educational qualifications are proved to be more exposed to cutting-edge business practices, including those associated with CSR (Hillman et al., 2003; Zweigenhaft and Domhoff, 2011). Elm et al. (2001) and Rest et al. (1994) confirm individuals with advanced degrees develop broader perspectives and consider multiple viewpoints. However, this finding is not supported by regression results: education appears to be not significant in explaining CSR performance. For what concerns professional experience, resource-dependence theorists state the duration of professional experience could provide different perceptions of the impact organizations have on the society, leading to improved CSR perception (Aguinis & Glavas, 2012; Alonso-Almeida et al., 2015; Lämsä et al., 2008; Segon and Booth, 2009). Professional experience is found to be positively impacting CSR activities and performance for companies studied. Moreover, tenure influences directors' performance as decision-makers and monitoring of the management team (Castro, La Concha, Dominguez, Gravel, & Periñan, 2009; Celikyurt, Sevilir, & Shivdasani, 2012): the longer the tenure the more knowledge directors develop, hence being more capable of taking decisions aiming at a better CSR performance. This belief is supported by regression results, which show tenure is statistically significant and positively impacting CSR. Overall, findings confirms the fact that tenure and professional experience are related to the maturation of specific industry- and company- knowledge which benefits the directors' capacity to create a more reliable bigger picture of industry- and company-performance. For this reason, long professional experience or tenure are more likely to be positively impacting CSR activities. Besides, boards with more independent directors will drive corporations to involve in CSR activities to benefit the entire society (Haniffa & Cooke, 2005; Khan,2010). Regression results corroborate independence on boards to be a game changer: companies wanting to increase their investments in socially responsible actions could start by hiring more women independent directors, as their presence inside the firm fosters the consideration of all stakeholders' interests as well as positively impacting CSR. Consequently, hypothesis 2a is rejected, while hypotheses 2b, 2c, and 2d are accepted as they are significant for the sake of the current research.

Following past management literature, the current research also wanted to account for the different contexts and cultures of the different European countries involved in the Author-constructed database. As diversity is not equally valued in all countries and contexts, country-level institutions - as well as the country perception of gender parity - influence the extent to which female directors can and do affect corporate social performance (Aguilera & Jackson, 2003; Aguilera, Williams, Conley, & Rupp, 2006). In order to verify it, two panel regressions produced results for the moderating roles of country investor protection index and gender parity index. Results show that investor protection is not significant in moderating the relationship between BGEND and CSR because the p-value is higher than the pre-established cut-off. One reason for that is that European countries being not much differentiated in terms of investor protection (see Graph 1): numbers are quite similar, hence, it is difficult to extrapolate a high significantly relationship. The contrary is true for gender parity results. The resulting p-value for the interaction between BGEND and MASCULINITY is lower than 10%: which means the moderating variable is statistically significant. Europe is still very inhomogeneous with respect to gender parity index. Therefore, hypothesis 3 is accepted while hypothesis 4 is rejected. Moreover, the degree of a country's gender parity is found to be helpful in moderating the relationship between women on boards and CSR.

Summing up, the main findings of the current research - which are in line with management literature - ask for a more balanced board structure where women and men are more equally represented. By increasing the percentage of women on the board of directors – keeping an eye on their professional experience, tenure, and independence - the company can positively impact CSR activities and performance.

4.1 Main work limitations and adjustments for further research

Results and conclusions stemming from the analysis are in accordance with the literature review discussed in Chapter 1. However, the analysis developed in this dissertation presents some critical limits and pitfalls, which may guide future studies and research on the topic.

First, the companies' dataset did not comprehend data for the entire population of companies included in the STOXX600 index. This is due to the scarce availability of data and the difficulty in finding reliable single reports for ESG values. Future works can broaden the set of companies involved in the research by going more in-depth with data collection.

Moreover, another idea to gain more insights is a more comprehensive dataset in order to account for a broader range of companies and countries. In the current analysis, only countries with the largest capitalization in Europe were taken into consideration. However, a more comprehensive dataset would be suitable to study the impact of women directors in smaller firms or in different countries. It would be interesting to explore other countries outside Europe to have a more realistic view of how shareholders' protection moderate the relationship: as previously mentioned, European countries have a good starting point for what concerns this index, therefore being unrepresentative of the world population.

One more guide for further study relates to the fact that, even though multiple academic studies underlined the importance of board gender diversity on CSR performance, none of those analyses had the possibility to study a dramatic global event like the Covid-19 pandemic and its impact on the overall context and the relationship investigated. It was impossible to understand the implications of such an event like Covid-19 – and consequently find relevant data after 2019 - as the pandemic outbreak was too recent to get reliable data on the change it carried on. However, future research may study which effect have had Covid-19 on women in leadership.

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Summary

For decades, women actively participated in their country's labor force. Nevertheless, women face difficulties getting to the top of the hierarchy in companies, even if more and more women are climbing some steps on the career ladder (Smith & Parrotta, 2018). At the same time, companies are more and more experiencing heightened levels of economic, legal, and ethical social responsibilities. They are increasingly asked to provide a fair employee evaluation process, support for additional education, complete information disclosure to investors and customers, donations to charities, and treatment of the environment (Zaleśna, 2017). This explains why Corporate social responsibility is much debated nowadays. CSR in its purest form is corporations' broader responsibility towards society. Also named CSR, it was defined by Hopkins (2016) as the process concerning the ethical treatment of all company stakeholders, where 'ethical' means treating them in a way considered acceptable according to international norms. The literature has primarily dealt with the consequences certain entrepreneurial variables have on CSR. Among them: the influence of size, industry, and stakeholder pressure on sustainability disclosure has been widely approached (Gallego-Alvarez, 2008; Lattemann *et al*., 2009; Broberg *et al*., 2010; Monteiro and Aibar-Guzmán, 2010; Alali and Romero, 2012; Fernandez-Feijoo *et al*., 2012). In terms of gender, literature shows an exciting coincidence in the influence of gender equality in CSR and the subsequent influence of CSR in gender equality. The literature has theorized that women are more risk-averse and display more concern for others' needs, representing these qualities as a closer feeling towards CSR (Ciocirlan and Pettersson, 2012). Consequently, company gender diversity will benefit from increased CSR concern thanks to more women involved in the decision-making process.

Because corporate social performance has such a beneficial impact on companies, it comes as no surprise that scholars and practitioners are directing more and more attention to the topic (Kakabadse, 2007). Even if CSR is becoming increasingly meaningful in recent times, analyses still shows that its activities and performance among companies as well as countries varies significantly (Chen and Bouvain 2009; Golob and Bartlett 2007). The likely reason for this phenomenon is a great difference in decision-makers ability or willingness to make proper decisions in terms of CSR. Therefore, it is necessary to examine corporate governance mechanisms - in particular board composition - and their influence on CSR. Investigation on gender diversity on boards has attracted and continues to attract significant interest and research attention from scholars worldwide. As Carver (2002) uphold, past literature makes a case for greater board diversity, asserting that it is unethical for equally talented and qualified groups of people to be withheld access to societal power based on individual traits disjointed from relevant skills. The performance argument against homogeneity in the board room is one of foregone talent and, by association, diminished performance. Extant research on gender diversity in corporate boards is empirical in nature, plunging its roots and theoretical underpinnings from management literature. Studies on board gender diversity focus on two main aspects: first, it investigates the rationale behind gender diversity's positive influence on corporate boards. Second, it scrutinizes whether a numerical threshold exists

for which women's representation on boards is a game-changer. Among the theories that examine the rationale for board gender diversity we find the human capital theory, social identity theory, social network theory, resource dependence theory, and agency theory: the last two being the most relevant theories on the topic (Reddy & Jadhav, 2019). The theories that investigate the impact of numerical representation on board performance are instead the Upper Echelons Theory and the Critical Mass perspective. The resource dependence theory claims that a corporation - and consequently the organizational behavior - is dependent on the external environment. Boards are seen as the tools firms have to minimize dependence on the external environment or gain resources from it. Theoretical underpinnings come from Pfeffer and Salancik's (1978) work on resource dependency. The authors noted that "when an organization appoints an individual to a board, it expects the individual will come to "support the organization, concern himself with company problems, and try to aid it." Agency theory develops from the realization that much of private and business life is wedded to self-interest. In this view, agents are inclined to adopt opportunistic behaviors to pursue their interest at the expense of the counterpart (Zattoni, 2020). In particular, agency theory examines the mutually dependent relationship between principals and agents in a company and the intrinsic differences in perspective they have due to information asymmetry and divergent interests. The Board of directors should be a source of reliable information for shareholders. However, the command managers intrinsically have over critical information complicates the problem between the parts (Fama & Jensen, 1983). For this reason, the structure of boards is a key factor to consider in understanding the strength of the power it exercises over the top management team. Some of the metrics used to quantify board characteristics are the number of board subcommittees, the number of board members with managerial or industry experience, the number of board members with long tenure, the frequency of board meetings, and the number of board members representing minorities (Reddy & Jadhav, 2019). The underlying premise of the Upper Echelons Theory is that executives' past experiences, beliefs, and personalities impact their interpretations of situations they encounter and, consequently, influence their decisions (Hambrick, 2007). Upper echelons theory, also known as UET, posits that directors' cognitive structures – due to their prior knowledge, experiences, and values – inform strategic decision making and, in turn, corporate strategy. In particular, UET advises that the board cognitive frame configuration is determined, in part, by how many women are on it, based on data suggesting that directors bring varied educational and professional credentials to the boardroom. Therefore, one may expect the decisions of boards around corporate social responsibility to differ as a function of the gender composition of members. The critical mass theory instead finds its reason why behind Kanter’s token idea. Kanter’s Token theory estimates women's efficacy in a company to be limited by numerical representation: in particular, it defines "solos" as single members of a social group in a workplace, and "tokens" as underrepresented members of a group and states that, by virtue of solos' and tokens' numerical rarity, they experience increased visibility, performance pressure, and negative evaluation bias. Their scarcity in a group increases the intrinsically present barriers between in- and out-group, leading to an increase in the distance among groups. Consequently, exclusionary practices targeted at out-group members - both voluntary or not - increase (Kanter, 1977). Exclusionary activities and increased distance between in- and out-groups impede solos and tokens to fully commit and provide a valuable contribution to the board decision-making process. Due to sharpened inspection, pressures on performance, and the fear of revenge for being a 'troublemaker' out group members can feel limited in pushing organizational change (Kanter, 1977). Moreover, prejudices limit the resources that solos and tokens can gather to let their voice and opinion be heard from other group members. This process results in social invisibility: a strategy carried on by out-group members who limit the effectiveness of their vision and values. Also past researches support the positive influence critical mass theory has on board composition and performance results: Torchia et al. (2011) find that three or more women on the Board strengthen firm innovation. In the same way, Joecks et al. (2013) found that the presence of three or more women on the Board improves returns on equity.

Moreover, this work wants to study how unique personal characteristics impact female directors' power in promoting CSR activities. Female directors' characteristics analyzed are education, professional experience, tenure, and independence. First, because of the mismatch between gender- and leadership- role expectations, women likely need more credentials to get and progress in leadership positions: recruitment and advancement of career are more demanding for women than for men (Weyer, 2007). As a result, female corporate leaders are more likely than their male peers to gain advanced degrees such as Master of Business Administration (MBA) or doctorate degrees. For women and other minorities, education is a key mechanism for securing widespread recognition of individual achievement and expertise. Higher educational qualifications are proved to be more exposed to cutting-edge business practices, including those associated with CSR (Hillman et al., 2003; Zweigenhaft and Domhoff, 2011). As a result, due to the need for greater credentials to access and advance in leadership positions, women are more likely to hold advanced degrees, which is likely to grow their effort in promoting corporate social performance (Cook & Glass). *Second, professional experience* is a critical variable impacting female directors' contribution to CSR. The duration of professional experience could provide different perceptions of the impact organizations have on the society, leading to improved CSR perception (Aguinis & Glavas, 2012; Alonso-Almeida et al., 2015, Lämsä et al., 2008, Segon and Booth, 2009). Resource dependence theorists argue that business experts import essential skills, strategies, and knowledge from their experiences working with other firms (Bear et al., 2010; Hillman et al., 2000). In addition, business experts are often appointed to directorships in firms competing in industries where they gained their experience or in sectors in which they are familiar with norms and practices (Campbell et al., 2007). Past researches on the influence of work experience length and CSR show mixed results. Researchers have also proved board directors' tenure to be positively associated with the boards' consideration of social performance issues. Tenure influences directors' performance as decision-makers and monitoring of the management team. On the one hand, the more directors spend time with the firm, the more they gather industry- and company-specific knowledge that increases their value in the Board decision-making process. (Castro, La Concha, Dominguez, Gravel, & Periñan, 2009; Celikyurt, Sevilir, & Shivdasani, 2012). On the other hand, directors who spend several years inside the Board are less likely to have the kinds of arm's length relationships with the top management team and the CEO, putting stakeholders' interests at risk. This trade-off between experience growth and loss of independence associated with director tenure endangers CSR performance, as it requires a long-term view of business activities that, in turn, depends heavily on the firm- and industry-specific knowledge that accumulates with tenure (Baron, 2001; Burke & Logsdon, 1996; Wang & Bansal, 2012). One more key directors' characteristic that is agreed to strengthen the Board's effectiveness on CSR matters is independence. The presence of independent directors is considered from diverse scholars an efficient corporate governance mechanism: coming from outside the firm, independent members of the Board can improve monitoring of the management team (de Andres & Vallelado, 2008). Boards with more independent directors will increase the probability that companies will engage in CSR activities and benefit the entire society (Haniffa & Cooke, 2005; Khan,2010). Moreover, the standing of independent directors is usually linked with the behavior of their firms. Yet, the outcomes from empirical investigations examining the link between board gender diversity and corporate social performance are mixed results: this contrast can be attributed to each study focusing on one country or industry. Country-level institutions - as well as the country perception of gender parity - may influence the extent to which female directors can and do affect corporate social performance (Aguilera & Jackson, 2003; Aguilera, Williams, Conley, & Rupp, 2006). According to existing theoretical frameworks and past research, country-level factors moderate the women's board representation - corporate social performance relationship. In particular, the Upper Echelons Theory advances two moderators: the extent to which board members engage in "mutual and collective interaction" or board behavioral integration (Hambrick, 2007), and the extent to which the relative power of directors on a board is balanced or intra- board power distribution (Finkelstein & Mooney, 2003; Hambrick, 2007).

Therefore, based on existing literature – in particular, on the analysis conducted by Post and Byron (2015) as well as Cook and Glass (2018), the previously described framework was developed and afterward tested in order to answer the dissertation research question: are board gender diversity and women directors' unique characteristics impacting CSR performance for firms included in the STOXX600 index?

The analysis relies on an Author-constructed database that includes data for 314 Eurostoxx 600 firms from 2014–2018. Relevant data is retrieved from different online sources in order to construct the dataset. Personal data and biographical information for women on the board of directors was collected using several reference websites, such as LinkedIn, people.forbes.com, company websites, and others. Firm financial data and data for CSR performance was collected from both BoardEx by Wharton Research Data Services (WRDS) and Thomson Reuters Datastream by Refinitiv. Data is organized as panel as it allows to control for variables that change over time, for example national policies, international agreements, etc.. That is, it accounts for individual heterogeneity (Torres-Reyna, 2007). One of the most diffused variable used to proxy CSR is the Environmental, Social, and Governance (ESG) score (Han et al., 2016; Wang et al., 2012; Yoon et al., 2018). ESG measurements aim to capture dimensions of CSR performance which are not easy to be found in accounting data. ESG Score is comprised on a scale from 0 to 100. Higher scores indicate more remarkable

CSR achievements. In this study, the ESG Score is used as a proxy of CSR performance.Hypotheses are formulated for the impact that variables board gender diversity (BGEND), the presence of a crtical mass (WOMEN_CM), years of education (EDUCATION), work experience (WORK_EXP), tenure (TENURE) and percentage of independent female directors (%_INDEP) have on CSR performance.

In particular, an excel file was constructed for each Company. Through data available, it was possible to determine how many - as well as and the single identity - of each female director present on the board during the five years. After having recognized their identity, it was possible to search for their unique characteristics. Data was retrieved about how many degrees they earned, how many years of experience they had before entering the Board room, and how long they were sitting on the board (that is, their tenure in the year taken into consideration). Also, data are retrieved for control variables: those elements that researchers seek to keep constant when conducting analysis The control variables needed in the current study relate to both the Company and the external environment. First, it is crucial to control *firm size* (as the log of the number of employees) because it is directly connected to enterprise visibility and accountability (Arthur and Cook, 2009). Also, the firm's *financial performance* is a critical control variable as shareholder pressures may differ during profitable versus non-lucrative times (Cook and Glass, 2011). To control for current financial performance, Tobin's Q is the most appropriate proxy. Third, *Board size* - that is, the total number of board members - may represent the overall importance attributed to the board. *CEO/Chair duality* suggests a potential for more significant influence and power of the CEO, and as such, should be controlled (Finkelstein and D'Aveni, 1994). For what concern the external environment, it is appropriate to control the *firm sector*. The Author constructed database represents companies operating in almost twenty different sectors. For clarity reasons, a dummy variable is considered for SECTOR. In particular, among sectors considered, it is relevant to control if a company operates or not in the energy sector. The control variable SECTOR is a dummy variable: one is assigned if the Company operates in the energy sector, zero if not. Lastly, as Hillman et al. (2007) stated, based on resource dependency theory, it is expected that more women directors will be present in countries where there is a higher female workforce. For this reason, it is appropriate to control the country's *female occupation rate*. Moderators are the degree of investor protection and masculinity. Rule of Law, which is the proxy for shareholders' protection, captures thoughts of the extent to which agents trust and believe in the rules of society. The index of gender parity, which is the proxy for masculinity, is retrieved by the Global Gender Gap Index. Gender parity score ranges on a scale from 0 - which means full disparity - to 1 - which means full parity. The actual range among all countries in the current study is .6973 (i.e., Italy) to .8450 (i.e., Finland) in 2014. According to what stated in the theoretical framework paragraph, we will study the effects of female directors' representation on boards on the CSR performance index within the whole sample of companies. In particular, it is interesting to investigate whether specific directors' characteristics impact the CSR index.

In order to conduct the panel regression analysis, the database was first imported into STATA17 and set up as a panel. Company_ID and ID_Year are inserted as variables on which information is organized to declare the dataset is panel data. Given the panel regression analysis conducted, it is possible to elaborate on many takeaways. First and foremost, results confirm that board gender diversity can influence CSR performance. The variable BGEND is statistically significant, as its p-value is lower than the pre-established 1% cut-off. Moreover, the t-value for BGEND is the highest one, confirming the strength of the influence female directors can enforce on CSR activities and performance. It is also interesting to note that WOMEN_CM is still statistically significant. Differently from Board gender diversity, the t-value for the presence of a critical mass is notably lower. It is possible to infer that the number of women in absolute value has a lower influence on their power on the board with respect to women's representation percentage. This finding confirms what specified in the discussion of Table 7: in contrast to Kanter (1977) and its conclusions on the critical mass of women, the current work found out that the most potent issue is not the number of women on boards but their percentage over the total number of directors. For example, having ten female directors on a committee composed of 40 people does not mean they will manage to promote CSR policies (even if ten is a large number with respect to standard practices). Other key insights can be deduced. First, education is not a game-changer in promoting women's voices in board rooms. The variable EDUCATION is not statistically significant. An explanation for this phenomenon is that directors – who take decisions at high levels – rely on their decennial industry- and company-specific knowledge gained through experiences and fieldwork. Having more degrees, and therefore having more years of education, does not change the whole story in terms of CSR. The same is not valid for variables WORK_EXP, TENURE, and INDEPENDENCE: these variables are meaningful and positively associated with CSR practices. Tenure and professional experience are related to the maturation of specific knowledge, which can be well spent in board rooms. Therefore, female directors who are more exposed to company-or industry- knowledge through long professional experience or tenure are more likely to be positively impacting CSR activities. The variable %_INDEP is also statistically significant and displaying a high positive t-value (9.38) that confirms the positive relationship between the variables. Hence, CSR enjoys the positive effect of women independent directors, who are less involved in the company and more capable of taking decisions despite what the top management team wants. Given the high values for board gender diversity and independent members gender diversity, the two are surely variables to be taken into consideration from companies which desire to increase their CSR performance. Lastly, the effects of moderators on the impact board gender diversity have on Corporate social performance is accounted for in the last two columns of Table 4. To account for the effect of a moderating variable, the 2-full way interaction between BGEND and RULEOFLAW was considered on STATA17. The resulting p- and t- values explain that the moderating variable is critical in defining the strength of the relationship between women on boards and CSR.

To account for the effect of the moderating variables, the 2-full way interactions between BGEND and RULEOFLAW as well as was MASCULINITY were considered on STATA17. Shareholders' protection is found to be not significant for the relationship studied. One reason for it could be the fact that European countries are not much differentiated in terms of investor protection (see Graph 1): numbers are quite similar, hence, it is difficult to extrapolate a high significantly relationship. On the other hand, results for the degree of gender parity as moderating variable confirm what was extensively discussed in management literature. The resulting p-value for the interaction between BGEND and MASCULINITY is lower than 10%: which means the moderating variable is statistically significant. Also this result can be explained by differentiation among countries: differently from investo protection, Europe is still very inhomogeneous with respect to gender parity index. Therefore, the degree of a country's gender parity is found to be helpful in moderating the relationship between women on boards and CSR. Summing up, the main findings of the current research - which are in line with management literature - ask for a more balanced board structure where women and men are more equally represented. By increasing the percentage of women on the board of directors – keeping an eye on their professional experience, tenure, and independence - the company can positively impact CSR activities and performance.