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Board Gender Diversity and Mergers and Acquisitions: Evidence from Finland

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ABSTRACT:
The purpose of this thesis is to examine the impact of board gender diversity on mergers and acquisitions activity of Finnish firms listed in Helsinki Stock Exchange in 2008–2020. The research is twofold, as it pursues to study the effect of board gender diversity on both acquisitiveness and acquisition size. The previous literature suggests gender differences in risk behavior, and as mergers and acquisitions are seen as risky activities, the gender differences may have an impact on the outcome.

As there are still relatively few female board members globally, many legislators have attempted to correct the imbalance of boardrooms. In November 2022, the European Commission passed a new Directive concerning public firms in all EU Member States. These firms must allocate at least 40 percent of board seats to underrepresented gender by 2026. The new EU Directive will inevitably increase the number of female board members in Finnish public firms during the upcoming years.

This study is conducted before the implementation of binding quotas in Finland. This gives an opportunity to examine the non-enforced effect of board gender diversity, as the Finnish Corporate Governance Code has included a precise recommendation since 2008, that both women and men must be represented in the board of directors of Finnish firms. Due to board gender quotas, studying the impact of board gender diversity on mergers and acquisitions is not only interesting to firms, but it may offer some practical implications.

This thesis contributes to the current literature in several ways. First, the study is conducted on Finnish firms, as previous studies are based on firms in the US, the UK, or Continental Europe. Furthermore, it provides a more recent research period of 2008–2020, as most previous studies are conducted in the early 2000s. Unlike previous studies on the topic, this thesis contributes by including the issue of tokenism to the research. Tokenism relates to, for instance, firms that include one female board member to give an appearance of diverse board, when they are, in fact, making only a symbolic effort towards diversity. Including the issue of tokenism to the study is important, as many female board members in Finnish firms are still considered as tokens.

The empirical findings of the study suggest that board gender diversity has a negative impact of acquisitiveness. This finding is supported by previous empirical studies conducted in other countries. However, the empirical evidence of the study finds no support on the relationship between board gender diversity and acquisition size. This finding is inconsistent with previous studies, as most of them propose that female board members have a negative impact on deal sizes, as well. The findings of the study are obtained by using the Ordinary Least Squares (OLS) method.

KEYWORDS: Gender diversity, Board of directors, Mergers and Acquisitions, Tokenism, Quotas

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TIIVISTELMÄ:
Tämän tutkielman tarkoituksena on selvittää, vaikuttaako yhtiön hallituksen naisedustus sen tekemien yrityskauppojen määrään tai niiden suuruuteen Helsingin pörssiin listatuissa yhtiöissä vuosina 2008–2020. Aiemmat tutkimukset sukupuolten välisistä eroista riskin käsittelemisessä ovat osoittaneet, että naiset ovat yleensä miehiä varovaisempia riskillisissä päätöksissä, ja pyrkivät välttämään liiallista riskinottoa. Yrityskauppoihin liittyvät päätökset ovat riskillisiä päätöksiä, joissa hallituksen sukupuolten välisellä erolla voi olla vaikutusta.

Yhtiöiden hallitusten naisjäsenten vähäinen määrä on saanut monet päättäjät kiinnostumaan aiheesta. Lähivuosina suomalaisten pörssiyhtiöiden hallituksen naisedustus tulee lisääntymään Euroopan parlamentin marraskuussa 2022 hyväksymän direktiivin myötä. Direktiivin vaatimuksena on, että molempien sukupuolten tulee edustaa vähintään 40 prosenttia pörssiyhtiöiden hallitusten paikoista vuoteen 2026 mennessä. Tämä tutkielman tarkoituksena on tutkia Helsingin pörssin yrityksiä ennen velvoittavien EU-kiintiöiden voimaantuloa. Suomessa hallinnointikoodi on sisältänyt vuodesta 2008 täsmällisen suosituksen, jonka mukaan sekä naisten että miesten tulisi olla edustettuna yhtiöiden hallituksessa. Tästä syystä vuosi 2008 on valittu tutkimuksen aloitusajankohdaksi, jotta pystyttäisiin tutkimaan pehmeitä naiskiintiöitä Suomessa ennen pakottavien naiskiintiöiden voimaantuloa.

Toisin kuin aiemmissa tutkimuksissa, tässä tutkielmassa on huomioitu tokenismi, jolla tarkoitetaan väitetyn asian edustamista ilman, että sen eteen tekee konkreettisia toimenpiteitä. Yhtiöt saattavat esimerkiksi lisätä yhden naisjäsenen hallitukseen antaakseen kuvan monimuotoisesta ja tasa-arvoisesta hallituksesta, vaikka todellisuudessa tekevät vain symbolisen eleen kohti hallituksen sukupuolten monimuotoisuutta. Yhden tai kahden naisjäsenen lisääminen yhtiön hallitukseen ei myöskään luo merkittävää vaikutusta sen päätöksentekoprosesseihin, ja täten vaikutus yrityskauppoihin liittyvään päätöksentekoon saattaa myös jäädä vähäiseksi. Tokenismin huomioiminen tutkimuksessa on oleellista, sillä se on erityisesti tutkimusajankohdan aikaan yleinen ilmiö Helsingin pörssiin listatuissa yhtiöissä.

Tutkielman tulokset osoittavat, että yhtiön hallituksen naisedustus vaikuttaa negatiivisesti yrityskauppojen määrään Helsingin pörssiin listatuissa yhtiöissä vuosina 2008–2020. Tutkielman tulokset on saatu käyttämällä pienimmän neliösumman estimointimenetelmää (Ordinary Least Squares, OLS). Saadut tulokset ovat linjassa aikaisemman kirjallisuuden kanssa, jossa on tutkittu muun muassa Yhdysvaltoja, Iso-Britanniaa ja Manner-Eurooppaa. Sen sijaan tutkimuksen tulokset viittaavat siihen, että yhtiön hallituksen naisedustuksella ei ole vaikutusta yrityskauppojen suuruuteen. Tämä tutkimustulos ei ole linjassa aiemman kirjallisuuden kanssa, sillä muut tutkimukset esittävät, että yhtiön hallituksen naisedustuksella olisi negatiivinen vaikutus yrityskauppojen määrän lisäksi myös niiden suuruuteen.

AVAINSANAT: Monimuotoisuus, hallitukset, johtokunnat, yrityskaupat, yritysfuusiot, sukupuolikiintiöt

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Abbreviations

CEO = Chief Executive Officer

CSR = Corporate Social Responsibility

ESG = Environmental, Social and Governance

EU = The European Union

M&A = Mergers and Acquisitions

OLS = Ordinary Least Squares

ROA = Return on Assets

UK = The United Kingdom

US = The United States of America

1 Introduction

The issue of female representation on company boards and its effect on the firm's decision-making has become an increasingly popular topic in the corporate literature. As there is still a relatively low proportion of female CEOs globally, many researchers have focused on board gender diversity, as noted by Chen et al. (2016). The presence of female directors on corporate boards around the world has also remained low, which has resulted in increased pressure of legislators and firms to fix this imbalance.

To correct the imbalance of boardrooms, some countries have implemented binding quotas requiring a certain number of directorships to be distributed to the underrepresented gender. For instance, public firms in Norway have been required to have at least 40 percent of the underrepresented gender to be represented in their board of directors since 2008 (Ahern and Dittmar, 2012). The shift from self-regulation towards binding quotas has happened in the European Union, as well. In November 2022, the European Union enacted legislation, which requires public firms in EU Member States to distribute at least 40 percent of their directorships to the underrepresented gender by 2026 (European Commission, 2022). Consequently, studying the impact of board gender diversity is vital, as the new EU Directive will inevitably concern most public firms and increase the number of female board members in all EU Member States, including those in Finland.

Due to board gender quotas, research on the effect of board gender diversity on firm's processes and strategic behavior is not only interesting, but it may offer some practical implications, as well. Research shows that since 2008, the quota requiring a certain amount of female representation on Norwegian corporate boards has negatively associated with firm performance (Ahern and Dittmar, 2012). Furthermore, Matsa and Miller (2013) argue that the use of board gender quotas may lead to change in the nature of board gender selection and consequently, have direct effects on, for instance, board competence.

Such as other decisions made by the board, also mergers and acquisitions (M&As) are affected by the characteristics of the board. According to DePamphilis (2009, pp. 13–15), a merger is a combination of two or more firms, and typically the shareholders of the target firm exchange their shares for those of the acquiring firm. Acquisition, on the other hand, happens when a company takes controlling ownership of another firm, a legal subsidiary of another firm or its selected assets. Mergers and acquisitions are claimed to be an ideal environment to examine the differences of male and female behavioral traits in the boardroom for several reasons, as proposed by Levi et al. (2014).

First, it is argued that buyouts, which are identified as highly significant economic activities, do not add shareholder value, as proposed by Andradre et al. (2001), and more recently, by Chen et al. (2007). Therefore, it is important to understand why so many of the M&A deals fail, and whether board gender diversity affect the outcome of such deals. This could be due to, for instance, overconfidence of the manager and therefore paying too much in the acquisition.

Furthermore, Lenney (1977) argues that gender differences in overconfidence are dependent on the lack of clear feedback, and when the feedback is available and unambiguous, women do not make lower ability estimates than men. However, when there is a lack of feedback or it is ambiguous, women are found to underestimate their abilities when compared to men. As M&A activities are complex and can be hard to identify, it is expected that men are more confident than women of their ability to make acquisitions. What should be also noted is that M&As require intense board-level discussions and approval, unlike day-to-day operating decisions (Chen et al., 2007). Consequently, individual directors can make a difference on the final decision. Therefore, M&As are an ideal setting to examine whether there are associations between female board representation and acquisitiveness or the financial terms of such acquisitions.

Although there is an increasing number of research on the topic, there is still a gap in the literature on board gender diversity and mergers and acquisitions. Most of the studies

on board gender diversity have focused on its impact on firm risk or firm performance. This has left a gap in the literature in terms of the impact on the M&A activities of a firm. The issue of board gender diversity and M&As is important for both researchers and practitioners, such as different companies and legislators. Moreover, due to the binding quotas of public firms enacted by the European Union in 2022, the issue is also topical and may offer some practical implications for such firms.

1.1 Purpose of the study

The purpose of the study is to examine if the presence of female directors on a company board has an impact on M&A activity of public firms traded in Helsinki Stock Exchange over a 12-year time period between 2008 and 2020. The research is twofold, as it pursues to investigate whether female board representation has an impact on acquisitiveness (number of acquisitions) and acquisition size (deal size).

The year 2008 is selected as a starting point, as since 2008, the Finnish Corporate Governance Code for listed companies has included a precise recommendation on the composition of the board in terms of both genders being represented in the board of directors (The Finland Chamber of Commerce, 2022). These soft quotas give an opportunity to study the non-enforced effects of board gender diversity, as the study is conducted before requiring quotas are implemented in Finland.

The study contributes to the topic by several ways. First, the study is conducted by researching the Finnish market and by providing a more recent research period between 2008 and 2020. As can be seen in the literature review part of the study, most of the previous research on board gender diversity on M&As is conducted in the early 2000s in the US or the UK. Thus, this study provides a more recent period to study the impact of female board members on Finnish corporate boards.

Moreover, unlike most of the other studies on the topic, the issue of tokenism is also included in the study. Tokenism in this context is distributing directorships to women only to make a symbolic effort, and this has been considered in this study. This is important as firms may try to include only one female board member to give a diverse picture of their board of directors, when they are, in fact, making only a symbolic effort in terms of board gender diversity. Additionally, the impact of adding only one or two female board members on board's decision-making process is not highly influential. Hence, one of the contributions of this study is also including the issue of tokenism.

1.2 Hypotheses of the study

The hypothesis development of the study builds on the gender differences on overconfidence and risk aversion. Women are argued to be more risk averse and less overconfident than men (e.g., Croson and Gneezy, 2009; Lundeberg et al., 1994). Consequently, female board members may see M&A deals, which can be considered as risky and difficult, in less favorable terms, which will eventually affect the firm's M&A activity by either having an impact of the number of M&A deals or the deal sizes.

According to Dowling and Lucey (2010), overconfidence may be linked to taking excess risks and making poor financial decisions. When it comes to mergers and acquisitions, Levi et al. (2014) note that female directors, that are generally found to be less overconfident, less overestimate merger gains. Consequently, this may lead to reduced M&A activity since female directors have relatively lower overconfidence in the accuracy of their estimates on acquisition or the expected value of it. Thus, the first hypothesis of the study is:

H_1: Greater female board representation reduces the number of merger and acquisition deals.

Regarding the size of the mergers and acquisitions deals, female directors may be more risk averse and less overconfident (e.g., Groson and Gneezy, 2009; Lundeberg et al., 1994) when estimating the expected value of the acquisition. They are also less motivated by empire-building than their male counterparts, as proposed by Levi et al. (2014). Being more risk averse and less overconfident may result in female board members less over-estimating merger gains, which may lead to smaller M&A deal sizes. Therefore, the second hypothesis of the study is formed as:

H_2: Greater female board representation reduces the size of merger and acquisition deals.

1.3 Structure of the study

The structure of the study is as follows. First chapter introduces the topic and argues its importance and relevance. The hypotheses of the study are also stated in the first chapter. The second chapter builds on the theoretical framework of the study, including different theories on corporate governance and decision-making, the issue of board gender diversity and its current landscape, and the theory of mergers and acquisitions and their value effect. The third chapter reviews the literature and previous findings of the topic. The fourth chapter demonstrates the data and discusses the methodology used to examine the data. Empirical results are demonstrated in the fifth chapter. Finally, the last chapter concludes the findings.

2 Theoretical background

This part of the paper covers the theoretical background of the topic. It discusses corporate governance and the board of directors, and different theories related to organizational relations. Board gender diversity is discussed in terms of its effect on firm's decision-making processes and its current landscape in the EU and in Finland. Furthermore, the issue of tokenism is represented. Lastly, different mergers and acquisitions are discussed, and the theories on their value effect are reviewed.

2.1 Corporate governance and board of directors

Corporate governance consists of the guiding principles of the company on how to direct its operations, such that the interests of stakeholders, including for example equity holders and creditors, are protected (John and Senbet, 1998). Given that the ownership and control of the firm are usually separated in the market economy, the control of management by stakeholders is a primary reason for corporate governance. According to Alexandridis et al. (2017), there is an on-going evolution of corporate governance practices that has resulted in not only mandatory changes, but a more comprehensive shift towards voluntary adoption of different board practices, including director diversity.

Boards of directors are a crucial part of corporate structure, as they operate in between the managers and the shareholders of the firm (Monks and Minow, 2011, p. 252). The board has the power to ratify important decisions, and their monitoring role plays a vital part in corporate governance due to the separation of ownership in market economies (John and Senbet, 1998). Thus, it presumed that the board of directors executes the monitoring function, meaning collecting and analyzing company's processes on behalf of the shareholders. Besides the primary role of monitoring the management, other roles of the board are to oversee the strategic direction of the firm, and if that fails, make necessary corrections and replacements (Monks and Minow, 2011, p. 253). The board of directors delegate the daily decision-making to the managers of the firm (Petra, 2005).

Given that one of the main jobs of the board of directors is to oversee management of the firm, recent changes in corporate governance require firms to maintain a board with majority of outside directors, meaning that the director of the board does not have any connection to the firm other than the seat of the board (Monks and Minow, 2011, p. 257). It is assumed that outside directors will strengthen corporate boards due to monitoring the actions of management and ensuring that management decisions are made to maximize shareholder wealth (e.g., Petra, 2005). However, the empirical evidence between independent directors and firm performance remains mixed.

Some empirical studies propose that female directors may have better monitoring ability (e.g., Adams and Ferreira, 2009), due to thinking more independently. Board gender diversity may also provide better monitoring function as the presence of female directors contributes to the improvement of managerial accountability, such as board meeting attendance (Adams and Ferreira, 2009). Consequently, female board member may act as an additional independent director, who can help to improve the board's monitoring function.

2.2 Agency theory

The separation of owners and managers is typical for market economies (e.g., John and Senbet, 1998), but it may raise agency problems. Agency theory attempts to describe and emphasize on the reduction of these problems (Jensen and Meckling, 1976). When one party (principal) delegates work to another (the agent) on their behalf that includes decision-making authority to the agent, the theory assumes a goal conflict between the two parties. This is also referred to as the principal-agent problem, which arises as the agent will not act in best interests of the principal due to both parties attempting to maximize their utility. Agency theory helps in implementing the various governance mechanisms to control the agents' actions in joint stock corporations (Jensen and Meckling, 1976).

When the interests of the agents (managers) are not aligned with those of the owners (shareholders), agency costs arise (Ang et al., 2000). The costs are produced as the managers fail to maximize shareholder wealth due to attempting to use organizational resources for their own benefit (Jurkus et al., 2011). Agency costs have a significant effect on firm's investment decisions, financial decisions and, hence, firm performance (e.g., Florackis, 2008). Jensen and Meckling (1976) note that agency costs arise even if there is cooperative effort by managers and shareholders.

A potential mechanism for aligning the interests with those of shareholders is suggested to be, for instance, managerial ownership. Jensen and Meckling (1976) find a positive linear relationship between managerial ownership and corporate performance. However, Florackis (2008) suggest that low levels of managerial ownership have a positive impact on asset turnover, whereas the relationship turns from positive to negative when the percentage of managerial ownership exceeds 10 percent level. Thus, managerial ownership as a mechanism for agency problems provides mixed empirical evidence.

According to Reguera-Alvarado et al. (2017), agency theory is a dominant theory in underlying the idea that more diverse boards can result in better performance. Internal factors, such as corporate governance structures, may reduce agency costs and, hence, drive for better performance. The board of directors plays an important role in corporate governance (e.g., John and Senbet, 1998) and assist in aligning the interests of managers and shareholders. As more heterogenous board can be an important driver for board independence (Adams and Ferreira, 2009), board gender diversity can be a mechanism to reduce agency costs (Reguera-Alvarado et al., 2017).

2.3 Information asymmetry in mergers and acquisitions

Information asymmetry is a situation in which the managers have more information of the firm than shareholders (Jurkut et al., 2011). It relates to the extent of information

availability (Luypaert and Caneghem, 2017), and is one of the main causes of divergent objectives between agents (managers) and owners (shareholders). Consequently, agency problems are associated with greater information asymmetry (e.g., Florackis, 2008).

In mergers and acquisitions, information asymmetry can be defined as the difference in information between the buyer (bidder) and the seller (target) (Boeh, 2011). During the due diligence process, which is a comprehensive analysis of the target before a merger or an acquisition to form an understanding of the risks and benefits associated with the deal (PwC, 2021), the bidder can gather superior information about the target (Luypaert and Caneghem, 2017). The bidder can exploit this information, and hence, the level of information asymmetry is not equal across market participants. According to, for instance, Hansen (1987), information asymmetry in mergers and acquisitions has a strong effect on deal attributes and wealth generated by both the bidder and the target.

Boeh (2011) notes that information asymmetry exists in all M&A deals, although cross-border deals involve more information asymmetry than domestic ones. Consequently, information asymmetry leads to higher transaction costs, and therefore firms engaging in M&A activities should employ actions to reduce it. To balance such issues and to lower risks, firms could, for instance, change the structure of the M&A deal, as suggested by Boeh (2011).

2.4 Resource dependence theory

One of the most applied theories in understanding organizational relations is resource dependence theory (RDT), which according to Hillman et al. (2009), recognizes external factors, such as contingencies in the external environment, influential on organizational behavior. Resource dependence theory refers to the organizations' dependencies on external resources, both financial and physical, but also information obtained from the environment (Pfeffer and Salancik, 2003, p. xii).

Although agency theory is seen as a dominant theory behind board performance (e.g., Reguera-Alvarado et al., 2017), research dependence theory has also had an impact on studying board characteristics (Hillman et al., 2009). In fact, although resource dependence theory is less used to examine company boards, it is argued to be more successful than agency theory in terms of empirical evidence (Hillman et al., 2009). Most studies that use resource dependence theory focus on the examination of how board size and composition indicate the ability of the board to provide vital resources to the firm. For instance, several studies provide evidence that successful resource dependence strategy can be executed by the relationship between board size and firm performance (Hillman et al., 2009).

According to Hillman et al. (2009), managers can act to reduce environmental uncertainty and dependencies. The resource dependence theory suggests several actions on how managers can reduce environmental dependencies. For instance, Pfeffer and Salancik (2003, p. 114) argue that by participating in a merger, firms can restructure their environmental interdependence and, therefore, stabilize critical exchanges. Pfeffer and Salancik (2003, p. 161) also state that by creating a strong board of directors and planning for executive succession, a firm can manage environmental uncertainty. Planning for executive succession can be done, for instance, through strong social structures and human capital, and by creating greater organizational flexibility (Bendickson et al., 2018).

Resource dependence theory (RDT) is also a dominant theory on explaining why a firm would engage in mergers and acquisitions (Hillman et al, 2009). The theory suggests that by a merger or an acquisition, a firm can reduce direct competition, manage interdependencies with input sources or purchasers of output, or to diversify operations and, hence, reduce dependencies. According to Hillman et al. (2009), empirical evidence also supports these three explanations. Especially firms that depend on one another, such as competitors, are found to merge in terms of dependency reduction. Moreover, the like-

lihood of a merger or an acquisition increases simultaneously with the magnitude of dependency. However, Hillman et al. (2009) note that there are also other explanations and theories on why mergers and acquisitions exist.

Regarding board gender diversity, resource dependence theory suggests that a more diverse board may offer valuable resources and consequently, help to achieve better economic outcomes (Hillman et al., 2009). The theory promotes several arguments on board diversity, such as that diverse directors may offer greater access to talent, since they are acting as a connection to important links in the external environment. Furthermore, diverse directors may hold important information and therefore improve decision-making. According to resource dependence theory, board gender diversity also sends important signals to the product and labour market.

2.5 Stakeholder theory

Freeman (1984) was the first author to suggest stakeholder approach by drawing on different literature, such as corporate social responsibility and corporate planning. His approach was that existing management theories did not fully address the changes occurring in the business development. These changes include, for instance, foreign competition, worldwide resource markets, and environmental questions.

Stakeholder theory suggests that environmental changes occur among both internal stakeholders, such as owners, employees, and customers, but also among external stakeholders, such as competitors, governments, and the media (Freeman, 1984). The theory notes that managers should consider both internal and external stakeholders that can affect or be affected by firm performance. It concludes that beneficiaries should be changed from stockholders to stakeholders, and these stakeholders should be given effective decision-making power. According to Manita et al. (2018), the issue of board gender diversity applies well on the framework of stakeholder theory. For instance, women and men are suggested to be different in terms of leadership roles and experience (e.g.,

Hillman et al., 2002), which can lead to female and male directors having different orientation towards various stakeholders of a company.

Although being a prevalent theory in, for instance, addressing unethical and irresponsible behavior of some organizations (Laplume et al., 2008), stakeholder theory has received criticism, as well. Stieb (2009) evaluates stakeholder theory by assessing that while it proposes effective decision-making power to stakeholders, it does not suggest an answer to how much these stakeholders should decide and benefit. Moreover, Laplume et al. (2008) note that the main issue with stakeholder theory is the lack of empirical evidence. Whilst empirical validity is only one criteria when evaluating a theory, it is still a significant one.

2.6 Board gender diversity

Board gender diversity refers to the proportion of women and men on board of directors. It is usually represented as the percentage of directorships distributed to women representatives, as they are the minority in most company boards. This part covers the effect of board gender diversity on corporate decision-making process. The current landscape of women on corporate boards in the European Union and the issue of board gender quotas are discussed. As the study focuses on Finnish public firms, the current landscape and legislation regarding board gender diversity in Finland is also demonstrated. Lastly, the concept of tokenism is discussed, as it corresponds to the issue of board gender diversity.

2.6.1 Gender and corporate decision-making process

Structural characteristics of the board may have an impact on effectiveness of its decision-making processes (Dowling and Aribi, 2013). Gender is one of the main board diversity characteristics, alongside with other visible diversities such as race or age, but

also less visible, such as education or industry experience (Kang et al., 2007). Diversity of the board of directors is suggested to bring comprehensive and heterogeneous perspectives to the corporate decision-making process, which is critical to complex decisions (Rao and Tilt, 2016), such as those considering M&A deals. Although female directors are typically in a minority, they are argued to improve decision-making process of the company by bringing different aspects and perspectives (e.g., Chen et al., 2019). Consequently, due to the minority status of female board members and the pressure of firms to increase board diversity, female directors are likely perceived to be more significant to the decision-making process.

Moreover, Adams and Ferreira (2009) argue that female directors appear to be more active than male directors, as they are more likely to attend more board meetings and sit on monitoring committees. Better attendance at board meetings does not necessarily mean improved decision-making, but it is a vital mechanism for directors to obtain information required to carry out their fiduciary duties. Therefore, the presence of women on corporate boards may have an impact on board behavior in ways that can lead to better corporate governance practices. Overall, the findings by Adams and Ferreira (2009) demonstrate that diverse boards are particularly valuable for firms with weaker governance.

Rao and Tilt (2016), on the other hand, note that board diversity may have a negative or null effect on decision-making processes. This is due to diversity dividing board into majority and minority categories. The majority group, or in-house group, is prone to favoring those within the group, whereas the minority, or out-group, may experience challenges in their contributions (Nielsen, 2010). Consequently, in order to come to an agreement, these two groups inevitably face challenges and conflicts, which can slow down the group process (Rao and Tilt, 2016).

However, Adams and Funk (2012) note that women who achieved director positions in competitive markets are significantly different than women in general population. Their

study is conducted by surveying the values of Swedish directors of publicly traded firms in 2005. They also demonstrate evidence on how the findings may be applied to other countries, as well. Their findings indicate that in director positions, women and men differ significantly in their core values and risk attitudes in ways that deviate from gender differences in the general population. Moreover, consistent with the findings for general population, men directors value achievement and power more than female directors, but are less benevolent and universally concerned. On the other hand, women directors differ from women in general population in terms of valuing tradition and security less than their male counterparts. Also, more surprisingly, women directors are found to be more risk loving than male directors. This finding is also in contrast to findings of the general population. Adams and Funk (2012) note that if women are appointed to boards because of board gender quotas, it is expected that their characteristics lie somewhere in between of those of these groups.

2.6.2 Current landscape

Although female board representation is globally noticed by policymakers and firms, women tend to still be underrepresented in company boards worldwide (Chen et al., 2019). In recent years, firms and legislators have come under increasing pressure to act on fixing this imbalance. The slowly but steadily increasing number of female directors has gained attention from regulators, investors, corporations, and the public. The ongoing discussion around board gender quotas and the new EU Directive adopted in November 2022 have made the issue also an important practical matter. This chapter discusses the current landscape of board gender diversity in the European Union and in Finland before the implementation of the new board gender Directive.

By the end of 2022, seven EU countries had mandatory gender quotas that require a certain amount of board seats to be distributed to the unrepresented gender (Deloitte, 2022). These countries include Germany, Belgium, France, Italy, Austria, Portugal, and Greece. It seems that the legislative actions on national level have a directive impact on

board gender diversity, as can be seen in figure 1. The EU countries with mandatory (binding) quotas, colored in blue in the figure, have had the largest representation of female board members since 2011 in comparison to EU countries with soft measures or no actions at all. In 2022, board gender diversity in the EU countries with mandatory quotas is approximately 39%.

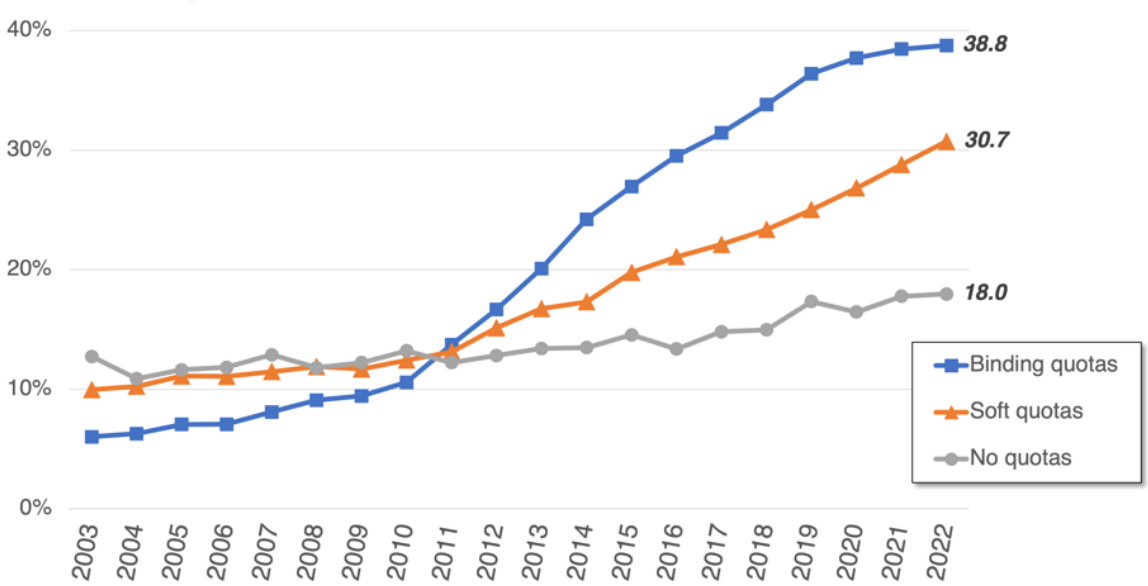

Figure 1. Representation of women on boards in EU countries (Gaudiano, 2022).

Nine member states of European Union have a softer measure on board gender diversity by the end of 2020, which means that no legislative actions are being implemented, but the focus is on self-regulation (Deloitte, 2022). Finland, among 8 other countries such as Denmark, Sweden, and Spain, are included in these self-regulating countries. These softer measures, colored in orange in figure 1, seem not to be as effective as mandatory quotas in increasing the amount of female board members. However, soft quotas are more effective than no action at all, as can be seen in figure 1. In 2022, board gender diversity in EU countries with soft quotas is approximately 31%.

The eleven remaining EU countries have not taken any action by the end of 2022 in terms of board gender diversity. These are indicated with grey in figure 1, and as can be seen, these EU countries with no actions have only 18 percent of female members on company

boards in 2022. Thus, these countries have significantly lower female board representation in 2022. These EU countries include, for instance, Estonia, Slovakia, and Bulgaria (Deloitte, 2022).

As said, the focus regarding board gender diversity in Finland has been on soft quotas and self-regulation, since any specific gender quotas has not been implemented yet (The Finland Chamber of Commerce, 2022). Overall, Finland is perceived as a society in which women and men enjoy the same equal rights in terms of, for instance, business, work, and politics (Virtanen, 2010). Since 2008, the Finnish Corporate Governance Code for listed companies has included a precise recommendation on the composition of the board in terms of both genders being represented in the board of directors (The Finland Chamber of Commerce, 2022). This has been so far effective, as there has been continuous improvement during the last decades regarding female board representation in Finnish firms.

Figure 2. Board gender diversity in Finnish public firms between 2003 and 2022 (adapted from the Finland Chamber of Commerce, 2022).

The Finland Chamber of Commerce has examined the development of women on Finnish corporate boards from 2011. Since then, apart from a few expectations, the proportion of female board members has increased steadily over the years. The rise of female board members is represented in figure 2. The proportion of women on Finnish publicly listed company boards had risen to 31 percent in 2022, when in 2011 it was only 18 percent (The Finland Chamber of Commerce, 2022). The year 2020 was the first time the percentage of women on Finnish publicly listed company boards exceeded over 30 percent.

Whereas the proportion of female board members in Finnish listed companies is relatively high and there has been a steady increase over the years, women tend to still be a minority on Finnish corporate boards. The situation is the same for female CEOs, as well, since there has been only a handful of female CEOs in Finnish public firms in the 21st century (The Finland Chamber of Commerce, 2020). The portion of female CEOs out of all CEOs in Finnish public firms have been varying between 0 and 10 percent during the last decades.

2.6.3 Quotas

Since 2010, as it launched its Gender Equality Strategy, the European Commission has been working on strengthening the gender diversity of boardrooms in all EU Member States (Deloitte, 2022). The aim is to support the economic growth and competitiveness in Europe, but also to achieve gender equality in the job market (European Commission, 2022). Whereas most of the EU Member States agree on bringing more women in corporate boardrooms and correcting the gender imbalance in European boardrooms, some prefer policymaking on a more national level (Deloitte, 2022).

Due to the objection of some EU Member States, the EU legislation of board gender quotas was postponed for several years (European Commission, 2022). The Women on Boards Directive was originally proposed by the European Commission in 2012, but adopted 10 years later in November 2022. The new Directive concerns all listed firms in

EU Member States with at least 250 employees, and their board of directors, and, if applicable, administrative councils. The Directive requires these firms to have at least 40 percent of underrepresented gender among non-executive directors by 30 June 2026. When implementing the Directive, EU Member States may also choose to apply the minimum threshold to both non-executive and executive directors, in which case the minimum requirement is 33 percent of underrepresented gender among all directors. These are only the minimum requirements of the Directive, as the Member States may adopt even higher targets. According to the European Commission (2022), the EU Member States must also set effective sanctions, such as fines or nullity of the contested director's appointment, for companies that fail to comply the new board gender quotas.

Early adopters of board gender quotas in EU include, for instance, France and Spain (Deloitte, 2022). Although not an EU Member State, Norway has required its public firms to have at least 40 percent of directorships distributed to the underrepresented gender since 2008 (Matsa and Miller, 2013). Seierstad and Opsahl (2011) show that the introduction of board gender quotas in Norway has created a small elite of women directors. These women directors have been distributed to several board seats, and some of them are appointed to even seven boards at the same time. The repeat use of a selected few women in corporate boards is referred to as the "golden skirt" phenomenon. According to the Finland Chamber of Commerce (2016), this phenomenon has not yet been seen in Finland, as there is a variety of women from different backgrounds on Finnish public corporate boards, and in 2016, most of them are distributed to only one corporate board at a time. Moreover, the Finland Chamber of Commerce (2016) notes that this also includes men directors, as in 2016, only 11 percent of men are simultaneously on several corporate boards in Finnish public firms.

Board gender quotas have not yet been implemented in Finland, but according to the report of the Finland Chamber of Commerce (2022), over half of Finnish public companies that the European Commission's law of board gender quotas will concern already fulfill the requirements in 2022. This is mostly due to the Finnish Corporate Governance

Code, which has included a precise recommendation since 2008 on the composition of the board, which states that both genders should be represented in the board of directors. However, regardless of the current relatively high proportion of female board members in Finland, the amount will inevitably be higher by 2026, as the Directive must be transposed to law by each EU Member State.

Some researchers have argued that transformation to using board gender quotas may cause the change in the nature of board gender selection by, for instance, lowering the average of legitimate candidates, increasing the number of members that are new to the board, or by increasing the number of directorships (e.g., Matsa and Miller, 2013). Eventually, these may have a direct effect on board competence, for instance. Adams and Ferreira (2009), on the other hand, find that quota-based policies do not add firm value or improve firm performance on average, and thus they must be motivated from other aspects than improvements in corporate governance and firm performance.

2.6.4 Tokenism

Tokenism is an important and current issue regarding board gender diversity. It can be defined as including a certain number of individuals to the minority group based on their characteristics, such as gender, race, or religion (Kanter, 1977). An example of tokenism would be appointing a female board member only to prevent criticism and give the impression that the firm treats minorities equally while, in fact, making only a symbolic effort towards gender diversity. Kanter (1977) was one of the first meaningful contributors to study the experiences of a female group members in a male-dominated company. The theory of tokenism, which emerged from the findings of Kanter (1977), defines the members of the majority as dominants and the minority as tokens and suggests that women minorities in groups are subject to discriminating behavior.

Kanter (1977) divides the behavioral consequences of being a token into three different categories. First, tokens find themselves more visible than dominants, which resulted in

performance pressure. Tokens also felt that even small mistakes were fatal, and they had to work harder to gain recognition for their individual achievements. Second, tokens experienced social isolation, which resulted from dominants feeling threatened by tokens and, hence, excluding them from informal networks. Finally, Kanter (1977) finds that tokens were forced in a certain behavior model or role that often were stereotypical.

The three mechanisms Kanter (1977) proposes are both expectations of how dominants behave towards tokens, but also subjective reactions of the tokens in terms of their own status. The theory of tokenism proposes that these problems of the minority should be alleviated as the proportion of female members increases beyond the "token" limit, which the theory suggests as 15 percent. Critical mass theory (Kanter, 1977) suggests that when the size of the subgroup exceeds over a certain limit, or critical mass, its level of influence increases. Thus, the theory suggests that as the minority group reaches critical mass, there is a positive impact on group interactions. When the size of the minority group increases, it gains trust and consequently, the majority benefits from the resources women can bring to the organization.

There are also empirical studies on tokenism, as most corporate boards have still only a few women directors, and are thus considered as tokens. For instance, Torchia et al. (2011) conducts a study on Norwegian firms to research whether increasing the number of women on corporate boards from one to two (tokens) to at least three (consistent minority) has an impact on firm innovation. This increase relates to attaining critical mass, and the study by Torchia et al. (2011) demonstrates that it can improve firm innovation. This empirical finding is consistent with the critical mass theory proposed by Kanter (1977).

Similar findings are suggested by Konrad et al. (2008) when examining Fortune 1000 directors. The results of their study demonstrate that having even a one women on board can have a positive contribution and having two women is usually an improvement. However, when the board has at least three women directors, it tends to benefit the most

from women's contributions, which corresponds to the theory of Kanter (1977). When increasing the number of women directors to at least three, Konrad et al. (2008) suggest that it normalizes the presence of women board members, which then allows them to speak and contribute more freely. Consequently, male board members tend to listen to them with more open minds. This finding is also consistent with the theory of Kanter (1977), as the theory states that when increasing the number of the minority group over the token limit, it has a positive impact on group interactions, which also benefits the majority.

This study reflects on the issue of tokenism presented by Kanter (1977) by including different female variables to the research. This is important because companies may try to include only one female member to make only a symbolic effort while trying to give a diverse picture of their board of directors. Thus, this is noted in the regression model and interpretation of the data, as including only one female on the board does not make a difference in board gender diversity in a big picture. Also, the impact of adding only one female board member on board's decision-making process is not highly influential.

2.7 Mergers and acquisitions

A merger is a combination of two or more firms, and typically the shareholders of the target firm exchange their shares for those of the acquiring firm (DePamphilis, 2009, pp. 13–15). Acquisition, on the other hand, happens when a company takes controlling ownership of another firm, a legal subsidiary of another firm or its selected assets. Usually, all activities related to corporate restructuring are referred to as mergers and acquisitions, although those two terms have a slight difference. This part of the study explains different types of mergers and acquisitions. There are different theories and hypotheses on the value effect of M&A transaction, suggesting either value-enhancing or value-decreasing effect, which are also discussed in this chapter.

2.7.1 Different types of mergers and acquisitions

Mergers and acquisitions are often categorized in three different types, which are horizontal, vertical, and conglomerate (Gaughan, 2015, p. 15). A horizontal merger happens when two competitors merge into one (Witt, 2022). Horizontal mergers have been the main concern of EU and US merger control by their anticompetitive effect, since they reduce the number of competitors and, therefore, have a directive impact on competition. In the European M&As, these anticompetitive effects are inspected by the European Commission, whereas M&As happening in the United States, the inspector is the US Government (Gaughan, 2015, p. 15).

Mergers between companies that are not competitors with each other are usually described as non-horizontal (Witt, 2022). Accordingly, there are two types of non-horizontal mergers: vertical and conglomerate. Vertical merger is a combination of two or more companies that operate in the different stages of production while typically having a buyer-seller relationship (Gaughan, 2015, p. 15). Conglomerate merger, on the other hand, occurs as the combined companies are not competitors nor have a buyer-seller relationship. According to Trautwein (1990), the aim of a conglomerate merger can be cross-subsidizing products, limiting competition in more than one market, or preventing potential entrants from the markets. The effect of non-horizontal mergers on competition is less effective, and these types of mergers are therefore less inspected by the antitrust authorities, such as the European Commission or the US Government (Witt, 2022).

Mergers usually come in waves, meaning that high levels of merger activity are often followed by periods of relatively fewer deals (Gaughan, pp. 41–42). These waves seem to be caused by a mix of economic and technology shocks, but also by constantly changing regulation, such as the elimination of regulatory barriers. The first merger wave goes back to 1980s after the recession period in the US, and it mainly affected the industrial sector. There have been six merger waves identified since then, the last one ending in the financial market crisis of 2008. Merger waves in Europe seem to follow merger waves in the US with a short lag (Brakman et al., 2007).

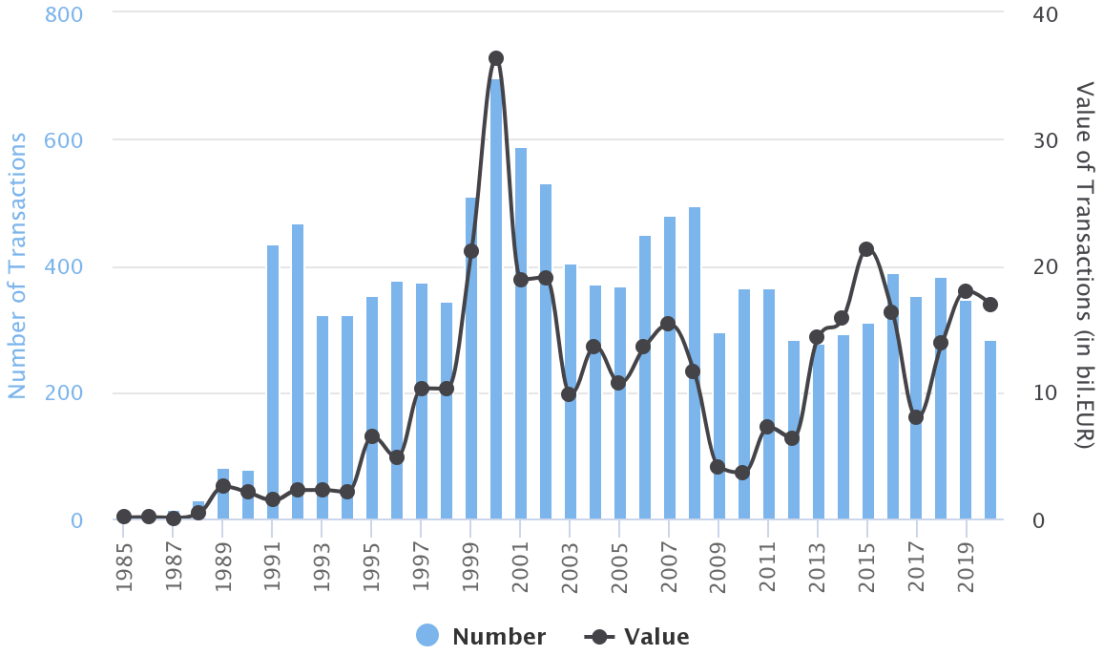

Figure 3. Historical M&A activity in Finland between 1985 and 2020 (IMAA analysis, 2022).

Figure 3 demonstrates that the merger activity in Finland seems to also come in waves. In figure 3, a fifth merger wave can be seen between 1998 and 2001, after the recession period. In the US, the fifth merger wave was accounted approximately between 1992 and 2001, but as noted before, merger waves in Europe follow merger waves in the US with a short lag (Brakman et al., 2007). Thus, the fifth merger wave started in Europe properly in 1998, according to Gaughan (2015, p. 70). The sixth merger wave between 2003 and 2007 (Gaughan, 2015, p. 73) is seen in Finland between the years 2005 and 2007, as indicated in figure 3. The sixth merger wave ended in the subprime crisis in 2008 (Gaughan, 2015, p. 74). As the sample period of this study is between 2008 and 2020, it focuses only on the years starting from the subprime crisis and does not include any of the six merger waves identified in the literature.

2.7.2 Theories of mergers and acquisitions value creation

Mergers and acquisitions of public firms tend to be value-destroying rather than value-adding, according to both corporate literature and empirical evidence (e.g., Alexandridis

et al., 2017). Thus, the acquiring firm shareholders are losing value rather than creating it when participating in, especially larger, M&A deals. Measuring the value of M&A for a publicly listed acquirer is usually done by examining the stock prices around the transactions, as it reflects anticipated future net cash flow returns, and thus, company performance (Mellen and Evans, 2018, pp. 18–19). The value depreciation phenomenon of M&As has been addressed by both academic and market research, but also by the public press, as public firms tend to be under more throughout inspection than private ones (Alexandridis et al., 2017). There are different theories explaining the value effect of mergers and acquisitions.

The efficiency theory introduced by Trautwein (1990) describes the value-enhancing effect of M&A by considering mergers as planned actions to achieve synergies. The potential synergies emerging from a merger can be financial, operational, or managerial. Financial synergies refer to decrease in cost of capital by lowering the systematic risk of a company's portfolio, increasing the company's size, or establishing an internal capital market. The financial synergy prospect has received theoretical criticism, as financial synergies can not be achieved in an efficient capital market.

Operational synergies, on the other hand, originate from combining operations or transferring knowledge, both enabling the company to potentially offer unique products or services, or lower the cost of the involved business units (Trautwein, 1990). The third synergy, called managerial synergy, emerges from when the bidder's managers have superior planning and monitoring capacity that eventually lead to better firm performance. Operational and managerial synergies are often criticized for being rarely realized in mergers. Moreover, Trautwein (1990) notes that for the efficient theory to hold, the stock market must be efficient.

Another theory suggesting a value-adding effect of M&A transaction is the synergy theory, which proposes that the value of the two firms merging is greater than their sum

when functioning separately (Kitching, 1967). The study by Kitching (1967) finds production mergers highest in terms of potential synergies due to economies of scale. The theory is also sufficient in marketing, as well as in technology mergers, as sharing of R&D knowledge and transfer of technological processes results in synergistic potential. Overall, the greatest synergy benefits are derived from financial mergers, according to Kitching (1967).

Another theory on M&A valuation, although value-decreasing, suggested by Trautwein (1990) is the empire-building theory. This theory states that instead of maximizing shareholder value, mergers are planned and executed by managers who try to pursue the maximation of their own utility. As the incentives of the management are not aligned with those of the shareholder, these types of M&As tend to be value-destroying to shareholders.

The value-decreasing effect is also explained by the hubris hypothesis. The hypothesis proposed by Roll (1986) explains how decision-makers in acquiring firms pay too much for their targets as a result from being overconfident. Thus, target companies are often overvalued due to managers overestimating the synergies higher than they truly are. Roll (1986) notes that the hubris hypothesis is consistent when there is a strong-form market efficiency. The value-decreasing effect of M&A is also described by the size theory, which states that firms do not usually acquire other firms that are larger than them (Gorton et al., 2009). The reason for that might be financial, as a larger acquisition may be harder to finance in a smaller firm. Therefore, larger acquisitions may have a higher risk of financial loss and a higher risk of destroying shareholder value.

3 Literature review

One of the main differences between female and male directors seem to be in risk behavior, which may eventually have an impact on board decision-making processes. This part of the paper covers the literature review on the gender differences regarding risk aversion and overconfidence. It also reviews the previous literature of the impact of board gender diversity on organizational outcomes, such as firm performance, firm risk, and environmental aspects of the firm. Lastly, this chapter discusses the current literature on the impact of female directors on M&A activities of firms.

3.1 Gender differences in risk behavior

There is a wide range of literature in psychology and behavioral economics on gender differences in risk behavior. Previous research on the topic seeks to answer whether men and women are different in terms of handling risk. This part of the paper covers the previous literature on gender differences in risk behavior by discussing the different levels of risk preferences and overconfidence between men and women.

The gender differences in risky situations may eventually affect the decision-making process of the board and M&As of the firm, as well. On the other hand, the differences in risk behavior between men and women may differ from whether the research is conducted on general population or only on professionals, such as directors or fund managers.

3.1.1 Risk preferences

Research shows that there are different risk preferences between men and women. For instance, Croson and Gneezy (2009) find that women are more risk averse in both lab settings and in investment decisions. There are only few explanations for this difference,

although it is relatively consistent. Some researchers (e.g., Holt and Laury, 2002), on the other hand, have argued that the effect of gender on risk taking is heavily dependent on the nature of the risk that is being examined.

One explanation for gender differences in risk taking is based on differences in how a person emotionally reacts to a risky situation (Croson and Gneezy, 2009). Research on the topic demonstrates that women experience emotions more strongly than men, which can affect the making of a risky choice. For instance, women report more nervousness and fear than men in expectance of negative outcomes, which will naturally result in women being more risk averse in risky situations, as suggested by Croson and Gneezy (2009).

Another explanation for different risk taking between women and men is that in identical situations, women tend to experience fear, whereas men tend to experience anger (Croson and Gneezy, 2009). Some evidence (e.g., Lerner et al., 2003) shows that when a person feels anger, they determine a given gamble as less risky than they do when they experience fear. Consequently, women will act in a more risk-averse way, as they are more afraid of losing, relative to men (Croson and Gneezy, 2009).

However, Croson and Gneezy (2009) note that many studies on gender differences in risk preferences have examined people from general population, whereas there may be a difference when considering only a subsample of population including managers and other professionals. This subsample, in fact, seems to have smaller gender differences in financial risk preferences than the general population. For instance, funds managed by male and female managers seem not to differ that much in terms of risk, performance, and other characteristics (Atkinson et al., 2003), which suggests that gender differences in investment behavior may be related to investment knowledge and wealth restrictions. Moreover, Adams and Funk (2012) demonstrate that women directors are found to be more risk loving than their male colleagues. This finding is inconsistent with the findings

on risk differences of the general population. Therefore, gender differences in risk preferences may not be applicable to directors, but only to general population.

Finucane et al. (2000) also find a gender difference in risk preferences among white control group, whereas other ethnicity groups did not indicate gender differences. They refer to this phenomenon as “the white male effect” due to white males identifying risks relatively low when compared to other groups. This finding is important as it suggests that cultural biases may cause gender differences in risk preferences.

One hypothesis that builds on the different risk preferences between men and women is the Lehman Sisters hypothesis. When the financial crisis of 2008 triggered the fall of Lehman Brothers, a global financial services firm, some drew attention to the behavioral aspects of bankers (Van Staveren, 2014). The Lehman Sisters hypothesis was first discussed in 2009, and it suggests that with more women in the top of banking, the financial crisis and the downfall of Lehman Brothers would not have been that deep (Pruegl, 2012). This is suggested to be due to the behavioural differences in risk aversion and response to uncertainty, as women are reported to be more risk averse in risky situations. Whereas the empirical evidence of Lehman Sisters hypothesis remains mixed, the gender gap in risk preferences seems to be supported by empirical studies.

3.1.2 Overconfidence

Overconfidence is influenced by risk aversion and can be described as an excessive belief in one’s abilities (Kruger, 1999). While overconfidence is related to risk attitudes, it can also be related to self-attribution bias (Dowling and Lucey, 2010), which is a tendency to attribute successful outcomes from decisions to one’s own actions, whereas bad outcomes are attributed to external factors. Men are argued to be more overconfident than women due to higher levels of biased self-attribution (e.g., Lundeberg et al., 1994). For instance, Lundeberg et al. (1994) state that the issue is not necessary that women are less confident than men, but that men have too much confidence in some cases.

Typically, overconfidence can take one of two forms. The first form considers the perceived precision of beliefs about future uncertain events, in which women tend to see their predictions of the future less precise than men do (Barber and Odean, 2001). The second form of overconfidence, on the other hand, considers the expectations of what will happen. Women tend to view future outcomes in less favorable terms than men (e.g., Malmendier and Tate, 2008).

Regardless of the form overconfidence takes, Barber and Odean (2001) argue that the less overconfident attitudes of women are related to unwillingness to undertake difficult and risky tasks while there is a lack of immediate and clear feedback. Consequently, when the feedback is immediately available and direct, women do not make lower ability estimates than men (Levi et al., 2014). As M&A activities are complex and usually not easily identified, it is expected that men are more confident than women in making acquisitions.

According to Huang and Kisgen (2013), holding other factors consistent, overconfidence derives in women undertaking fewer projects and investment decisions than men. Empirical evidence on the topic demonstrates that, for instance, women hold more conservative mutual fund investments than men (Dwyer et al., 2002), and women trade less frequently than their male counterparts (Barber and Odean, 2001). Men are suggested to undertake more transactions due to expanding the acceptable transactions pool, as they are more overconfident and overestimate net present values (NPVs) of investments (Huang and Kisgen, 2013). Accordingly, men would then overestimate the net present values of the forthcoming M&A deals, and therefore undertake more of them.

Moreover, Chen et al. (2019) argue that female board representation may result in less aggressive investment policies and better acquisition decisions by reducing CEO overconfidence. Consequently, board gender diversity would be particularly important in industries in which CEOs are more likely to developed overconfidence. Chen et al. (2019)

suggest that industries with high CEO overconfidence prevalence are, for instance, pharmaceuticals, computer software and construction. The effect of board gender diversity on corporate decision-making process is more significant within these industries and creates value by reducing CEO overconfidence.

3.2 Board gender diversity and corporate outcomes

According to empirical research, board gender diversity may have an impact on organizational outcomes, such as firm performance, firm risk, and corporate social responsibility aspects. Previous empirical research on the topic has remained mixed. Hence, scholars have called out for further research on the relationship of board gender diversity and organizational outcomes, especially in multi-countries context rather than one nation studies (e.g., Terjesen et al, 2016). This chapter discusses the empirical research on the topic so far.

Terjesen et al. (2016) investigate public firms in 47 different countries, and their findings indicate that firms with more female directors are associated with higher firm performance by market (Tobin's Q) and by accounting measures (return on assets). Their findings also suggest that if the board is not diverse, external independent directors can not contribute to firm performance. Hence, board independence is not that significant if the board is not diverse. This finding is important, as previous studies have questioned whether board independence improves firm performance. Moreover, this makes board gender diversity an important corporate governance issue.

On the other hand, different results are reported by Haslam et al. (2010), as they examine the presence of women on boards of FTSE 100 companies and its effect on firm performance. The relationship is found to vary in terms of different measures of company performance. The findings suggest that there was no relationship between board gender

diversity and accounting-based performance, as measured by return on assets and return on equity. However, a negative impact of board gender diversity on stock market performance (Tobin's Q) was found.

A negative impact of female directors on firm performance is also found by Adams and Ferreira (2009) when investigating US firms. Although the impact on firm performance is found to be negative, their findings suggest that the presence of female directors improved attendance records and monitoring effect of the board of directors. Hence, the empirical evidence on the topic remains mixed, as some suggest a positive or a negative relationship between female directors and firm performance, and some no relationship at all.

There are also several empirical studies on the effect of female board members on firm risk. As said, research shows that the female board members are more risk averse in comparison to their male counterparts (e.g., Croson and Gneezy, 2009). Jane Lenard et al. (2014) examine the relationship of female directors on firm risk in a multinational context between 2005 and 2011. Their findings show that board gender diversity contributes to firm risk by lowering the variability of stock market return. Also, the impact of female board members on the variability of corporate performance is suggested to be negative.

On the other hand, Sila et al. (2016) find no relationship between board gender diversity and firm risk when investigating US firms between 1998 and 2010. They suggest that a negative impact of female board members on firm risk is likely to be driven by unobserved between-firm factors. Consequently, the empirical evidence on the impact of board gender diversity on firm risk remains mixed, as well.

During the last decade, there has also been an increasing interest in the financial literature on the impact of female directors on firm's environmental, social and governance

(ESG) disclosure and corporate social responsibility (CSR) aspects. This is due to increasing attention in environmental characteristics of firms. Gillan et al. (2021) define ESG and CSR as to what extent corporations benefit or harm social welfare. ESG includes a broad range of issues in all of its environmental, social and governance aspects, such as climate change, human rights, and board accountability (Chang et al., 2022). CSR is how firms integrate social and environmental issues in their business operations, and when interacting with different stakeholders (Karwowski and Raulinajtys-Grzybek, 2021).

For instance, Manita et al. (2018) demonstrate that when two or more women are appointed in the board of directors in US firms, they act as active minorities, and thus have a positive impact on ESG disclosure of the firm. Consequently, this tends to develop a higher transparency, openness, and CSR commitment. This finding is also consistent with the tokenism theory (Kanter, 1977), which suggests that when appointing female board members above the token limit, they act as active minorities, and therefore improve board decision-making process and benefit the majority group.

The empirical evidence on European firms indicates similar results regarding ESG and CSR aspects. For instance, Velte (2016) investigates German and Austrian firms and suggests that female board members have a positive impact on ESG performance of the firm. A similar study is conducted by Nicolò et al. (2022) on 21 different European countries. They state that the appointment of female directors is necessary for the development of corporate ESG disclosure. The appointment of a certain proportion of female board members promotes gender equality, which leads to broader perspectives in decision-making process while bringing different experiences, competencies, and skills within the company (Nicolò et al., 2022). This enhances ESG disclosure and consequently, may benefit the firm by increasing performance and creating long-term sustainable value. Thus, the empirical evidence of the relationship between board gender diversity and different ESG and CSR aspects of a firm appears consistent, as it indicates that female board members have a positive impact on ESG disclosure and ESG performance, and are, in fact, necessary to improve such aspects.

3.3 Board of directors and mergers and acquisitions

According to Dowling and Lucey (2010), M&As, especially large deals, are considered as risky activities, in which the behavior differences between women and men may appear. In practice, managers of the firm usually negotiate M&A deals while the board approves them (Defrancq et al., 2021). Consequently, the board may prevent managers from engaging in M&A deals that destroy shareholder value.

When reviewing the literature on gender differences in finance and economics, Croson and Gneezy (2009) conclude that there is a robust, significant difference between males and females in terms of risk preferences. As mergers and acquisitions are considered risky with a high probability of failure (e.g., Dowling and Lucey, 2010), Croson and Gneezy (2009) suggest that gender should have an impact on firm's M&A activity.

The research on board gender diversity and mergers and acquisitions seems to be only at its beginning, although constantly developing. One of the first contributions on board gender diversity and M&As was demonstrated by Levi et al. (2014). Their study consists of acquisition bids by S&P 1500 companies between 1997 and 2009. The findings indicate that firms with female directors are associated with less acquisitions and lower bid premia. Each additional female on company board is suggested to be associated with 7.6% fewer bids and 15.4% reduce in bid premia. However, the findings by Levi et al. (2014) also support the prospect that female directors assist on creating shareholder value through their influence on M&A decisions. These findings are consistent with female directors on corporate boards being less overconfident than male directors.

Chen et al. (2016) conduct a similar study by using a dataset of M&As of S&P 500 firms between 1998 and 2010 to examine the impact of board gender diversity on acquisitiveness and acquisition size. The theoretical predictions of the study are that boards with one or more female members are more discussive, which will increase the time taken for each decision and therefore, result in less acquisitions and smaller acquisition sizes.

The findings of the study support both hypotheses, as they find that female board representation is significantly and negatively associated with acquisitiveness of a firm, and negatively associated with acquisition size. Chen et al. (2016) also note that ethnic diversity was a significant predictor of the study, and thus it is, alongside with female board representation, an important form of board diversity.

A more recent study by Ahmed et al. (2022) uses a sample of M&A deals by US public firms between 2012 and 2018. Their findings indicate that the proportion of female board members is negatively associated with the likelihood of making an acquisition. Moreover, female board members are suggested to be positively associated with acquiring listed targets rather than unlisted ones, and acquiring domestic targets rather than cross-border targets. These findings of Ahmed et al. (2022) are in line with previous studies, that indicate that female directors are more risk-averse and less overconfident than their male counterparts.

Other studies indicate similar results as Levi et al. (2014), Chen et al. (2016), and Ahmed et al. (2022). For instance, the presence of female directors is examined in UK FTSE 100 companies by Dowling and Aribi (2013). Between the time period of 2000 and 2011, firms with female directors are suggested to be significantly negatively associated with acquisitiveness of the firm. Their findings also indicate that female directors are less likely to launch a takeover bid. The research by Dowling and Aribi (2013) is the first to test the impact of board gender diversity on acquisitiveness outside the US.

More empirical evidence on board gender diversity and M&As in Europe is suggested by Defrancq et al. (2021), as they study the M&A deals of listed companies in Continental Europe between 2007 and 2013. Defrancq et al. (2021) find that female directors are weakly significantly associated with higher M&A announcement returns, as they are less likely to be overconfident when making M&A decisions. However, their findings also suggest that such competencies do not affect acquisition behavior of a firm but may still have an impact on the bid premium or the structure of the deal, for instance.

The relationship between board gender diversity and mergers and acquisitions is also examined in a more international cross-border setting in a study by Bazel-Shoham et al. (2020). Using a large dataset of cross-border M&A deals between 1998 and 2014, Bazel-Shoham et al. (2020) report similar results as most previous research, as their findings indicate that female directors reduce cross-border M&A activities of a firm in 37 countries.

Moreover, Tran et al. (2022) investigate Australian and Singaporean firms in 2005–2012 to study whether female board members contribute to the firm performance in the years after M&A activity. Their results indicate that boards with higher female representation have better post-M&A performance. They also suggest that gender balance in the boardroom is more important to firm performance than the presence of at least one female board member. Although the study does not contribute to the impact of board gender diversity on M&A process and deal sizes, it demonstrates the impact on post-M&A performance. Additionally, it suggests empirical evidence on the issue of tokenism presented by Kanter (1977), and highlights the importance of adding more than one female member to the board of directors.

Whereas the research on board gender diversity and mergers and acquisitions appears to be only at its beginning, it seems that most studies indicate similar and consistent results, that firms with more female directors are associated with less M&A deals and/or smaller deals or deal premiums. The previous research on the topic has focused more on the impact of board gender diversity on other corporate outcomes, such as firm performance, firm risk, and environmental aspects of firms, indicating a research gap in terms of its impact on M&A activity and deal sizes. Moreover, the research on board gender diversity and M&As is mostly conducted in the early 2000s, which also provides an important research gap for a more current dataset.

4 Data and methodology

This part discusses the data and methodology part of the study. It covers the description of the data used in the study with explanation of the dependent, independent and control variables. Then, the main methodologies to test both hypotheses of the study are represented. Lastly, this chapter demonstrates the formed regression model for the empirical analysis.

4.1 Sample selection

The data is collected from Refinitiv Eikon database, and it consists of Finnish M&A data between 2008 and 2020, where the acquirer is a public Finnish company listed in Helsinki Stock Exchange. Financial firms are excluded from the sample, as Doukas and Petmezas (2007), for instance, argue that M&A activities of financial firms are mostly motivated by the nature of the business rather than the characteristics of the boardroom. This approach of excluding financial firms also follows Dowling and Aribi (2013), for instance. Furthermore, only completed M&A deals are included in the sample, and those in which the firm acquires majority of the target firm. Finally, 655 M&A deals are included in the sample.

The dataset for hypothesis 2 (deal size), is a subsample of the M&A deals sample for hypothesis 1. The subsample includes only those M&A deals in which the deal size is reported to make the examination of the relationship between board gender diversity and deal sizes possible. The same data characteristics are included for this subsample. For instance, financial firms are excluded, and only completed M&A deals and those in which the firm acquires majority of the target firm are included in the subsample. Finally, 249 M&A deal sizes are included in the sample for hypothesis 2.

The data of board gender diversity on Finnish publicly listed company boards is also retrieved from Refinitiv Eikon database. Board gender diversity for each firm is measured

as the number of female representatives on board divided by the size of the board. It is represented as a percentage of women on the board. However, some of the board gender diversity values are collected manually from companies' public statements and annual reports, as they are not available on Refinitiv Eikon database. Different control variables, which are demonstrated in the next chapter, are also collected from Refinitiv Eikon database. Some values for control variables, such as board sizes, are collected manually from companies' annual reports, as not all values are available on Refinitiv Eikon database.

4.2 Description of variables

Dependent variable of the study for hypothesis 1 (acquisitiveness) is the number of M&A deals per year per firm. For hypothesis 2 (acquisition size), the dependent variable is the deal size, which is measured by the deal size in Euros. As some of the deal sizes are measured in other currencies than Euros, these are converted into Euros to make them comparable with each other.

The main independent variable of the study for both hypotheses is board gender diversity. This variable is commonly used in previous research studying the impact of board gender diversity (e.g., Levi et al., 2014; Chen et al., 2016; Dowling and Aribi, 2013). Board gender diversity (BOARD_GENDER_DIVERSITY) for each firm is measured as the number of female representatives on board divided by the size of the board. This can take a value between 0 and 100. In the sample, board gender diversity measure takes values between 0 and 60.

Another measure of board gender diversity as independent variable is the female dummy (FEMALE_DUMMY1) used in the study. This dummy takes value 1, if the number of female board members is at least 2, and 0 if otherwise. Another female dummy (FEMALE_DUMMY2) takes value 1, if the number of female board members is at least 3, and 0 if otherwise.

The female dummies used in the study reflect on the issue of tokenism presented by Kanter (1977). Most previous studies include female dummies that take value 1, if the number of females on board is at least 1, and 0 if otherwise. One female board member is considered as tokenism, and is rather irrelevant in terms of its impact on board's decision-making process. Companies may try to include only one female member to make a symbolic effort while trying to give a diverse picture of their board of directors. Hence, it is important to include the issue of tokenism to the research. The theory of tokenism proposes that the problems of the minority should be alleviated as the proportion of female members increases beyond "token" limit (Kanter, 1977). As the size of the minority group increases, it gains trust and consequently, the majority benefits from the resources women can bring to the organization. Therefore, adding female board members beyond the "token" limit can have beneficial impacts on the processes of the board. Hence, the female dummies used in the study derives from the theory of tokenism.

A comprehensive set of different control variables are used to control for the potential impact on results, following the previous empirical research. Different director controls, such as board size (BOARD_SIZE) is controlled in the study. Board size is determined by the number of directors on board. This follows previous research (e.g., Bazel-Shoham et al., 2020; and Chen et al., 2016).

Another director control is board independence (BOARD_INDEPENDENCE). This value is indicated as the percentage of independent board members on the board. Independent directors do not have any connection to the firm other than sitting on its board of directors (Monks and Minow, 2011, p. 257). It is usually the majority of board members, meaning over 50 percent. Controlling for board independence is important, as one of the main tasks of board of directors is to oversee the management of the company, and therefore independent directors are argued to perform better in monitoring managers (e.g., Petra, 2005). Furthermore, independence of directors relates to board diversity, as some researchers (e.g., Terjesen et al., 2016) find that independent directors can only contribute to firm performance if the board is diverse.

Different financial controls are also used in the study, such as firm size, return on assets (ROA) and Tobin's Q. These are based on previous research (e.g., Chen et al., 2016; Bazel-Shoham et al., 2020; Dowling and Aribi, 2013). Firm size (FIRM_SIZE) is measured as the natural logarithm of total assets of the firm, following Chen et al., (2016), for instance. Both market-based and accounting-based measurements of firm performance are used. Return on assets or ROA (RETURN_ON_ASSETS) for each firm is used to measure accounting-based firm performance. Respectively, the measure of firm value and/or market-based firm performance for each firm is estimated by Tobin's Q (FIRM_VALUE).

4.3 Methodology

The main methodology of the study is Ordinary Least Squares (OLS) method, and it is used for both hypotheses of the study. As stated in the introduction, the first hypothesis of the study suggests that greater female board representation reduces the number of merger and acquisition deals. Hypothesis two states that greater female board representation reduces the size of merger and acquisition deals.

In the empirical part of the study, the dataset is categorized based on board gender diversity by dividing the dataset into two groups. These two groups include approximately the same number of observations, and they are divided in half based on the median value for each observation year. Like other aspects regarding the methodology of the study, the categorization of the dataset also reflects on the issue of tokenism by Kanter (1977). Since publicly listed Finnish company boards have usually included at least one female member, dividing the dataset to two groups with no female board members and one with over one female board member would not be the best practice. In 2022, there were only three publicly listed Finnish companies that did not have any female board members (Finnish Chamber of Commerce, 2022). Although the research period is 2008–2020, the shift of female board representation has started earlier than 2022. Hence, many Finnish companies have included at least one female member to their company's

boards, and the allocation of firms based on the median value of female board members for each year is more contemporary.

Based on previous literature, the regression model is formulated as follows:

$$ACQUISITIVENESS_{i,t} = \alpha_0 + \beta 1\ BOARD\_GENDER\_DIVERSITY_{i,t} + \beta 2\ BOARD\_SIZE_{i,t} + \beta 3\ BOARD\_INDEPENDENCE_{i,t} + \beta 4\ FIRM\_SIZE_{i,t} + \beta 5\ RETURN\_ON\_ASSETS_{i,t} + \beta 6\ FIRM\_VALUE_{i,t} + \varepsilon_{i,t} \quad (1)$$

Where $ACQUISITIVENESS_{i,t}$ is the number of acquisitions for firm i at year t; α_0 is constant; $BOARD\_GENDER\_DIVERSITY_{i,t}$ is the percentage of female directors on board; $BOARD\_SIZE_{i,t}$ is the number of board members; $BOARD\_INDEPENDENCE_{i,t}$ is the percentage of independent board members; $FIRM\_SIZE_{i,t}$ is the natural logarithm of total assets of the firm; $RETURN\_ON\_ASSETS_{i,t}$ is the return on assets (ROA) measurement of the firm; $FIRM\_VALUE_{i,t}$ is the firm value determined by Tobin's Q; and $\varepsilon_{i,t}$ is the error term. Robust standard errors are included in each regression model to control for serial correlation and heteroscedasticity.

5 Empirical results

This chapter presents the empirical results for both hypothesis 1 and hypothesis 2. First, some descriptive statistics of the dataset are demonstrated. Then, empirical results are presented for both hypothesis. These results are obtained from using the Ordinary Least Squares (OLS) method. This chapter also discusses possible implications of the obtained results.

5.1 Descriptive statistics

This part of the study demonstrates the descriptive statistics of the dataset. First, an overall distribution of the sample is represented. Then, descriptive statistics are represented in terms of board gender diversity, acquisitiveness (hypothesis 1) and acquisition size (hypothesis 2). Descriptive statistics are categorized according to board gender diversity by dividing the dataset into two approximately same sized groups. Lastly, correlation matrix of all variables is presented.

The allocation to two groups is done by the median value of board gender diversity for each observation year. Most previous studies categorize the results by dividing the sample into two groups, in which the first one includes samples with no women on firm's board of directors, and the other one with at least one women on board. However, this neglects the issue of tokenism presented by Kanter (1977), as many firms may try to include one female board member mainly to give a diverse picture of their board. To avoid this, the division into two groups is conducted in this study by the yearly medians of board gender diversity values in the sample.

The distribution of the M&A sample between 2008 and 2020 is demonstrated in table 1. The final sample size of M&A deals is 655. Table 1 also describes the average percentage of female board members on Finnish boards for acquirer firms for each year in the sample. Furthermore, as can be seen in table 1, the average percentage of female board

members has, apart from a few expectations, steadily increased in the sample over the 12-year period. Thus, the board gender diversity in the sample is rather consistent with the overall board gender diversity in Finnish public firms demonstrated in the theoretical part of the study.

Table 1. Distribution of the sample by year.

Year	Number of deals	Average percentage of women on boards in the sample
2008	89	10.54
2009	52	14.27
2010	62	17.83
2011	57	18.93
2012	46	19.74
2013	55	25.79
2014	41	26.07
2015	44	22.52
2016	54	24.83
2017	34	27.97
2018	40	32.17
2019	44	28.62
2020	37	29.12
Total	**655**	

Table 2 below shows the descriptive statistics of board gender diversity in the sample between 2008 and 2020. Board gender diversity is divided into three categories in table 2. The first one includes all values in the sample. The second and third group include approximately the same number of observations. They are formed by dividing the whole sample in half based on the median value of the acquirers' board gender diversity for each observation year. The value of board gender diversity in the whole sample varies between the minimum 0% and the maximum 60%.

The mean value of female board members in the sample is 22% and the median is 20%, which both exceed the token limit of 15% suggested by Kanter (1977). However, most Finnish firms have only one or two female board members on their boards, and are

therefore still considered as tokens. Some firms in the sample have board gender diversity over 50 percent, which means that those firms have more women than men on their board of directors.

Table 2. Descriptive statistics of board gender diversity.

	Mean	Median	Max.	Min.	Std.	N
All	0.22	0.20	0.60	0.00	13.37%	655
Board gender diversity above yearly median	0.32	0.33	0.60	0.14	8.91%	328
Board gender diversity below yearly median	0.12	0.14	0.29	0.00	8.50%	327

The descriptive statistics of acquisitiveness (number of acquisitions) in the sample between 2008 and 2020 are shown in table 3 below. Acquisitiveness is divided into three categories in table 3. The first one includes all values in the sample. The second and third group are formed by dividing the whole M&A sample based on the median value of the acquirers' board gender diversity for each observation year.

Table 3. Descriptive statistics of acquisitiveness.

	Mean	Median	Max.	Min.	Std.	N
All	1.64	1.00	8.00	1.00	1.26%	655
Board gender diversity above yearly median	1.72	1.00	8.00	1.00	1.37%	323
Board gender diversity below yearly median	1.58	1.00	8.00	1.00	1.13%	332

According to table 3, firms that have board gender diversity greater than the yearly median in the sample close 1.72 M&A deals per year on average. The same number is 1.58 for firms that have board gender diversity below the yearly median in the sample. Hence, this could imply that firms with more female board members undertake more M&A deals.

However, the magnitude of the difference is not deep, as the difference between the two groups is only 0.14 deals per year.

Table 4 below represents the descriptive statistics of deal values of the M&A subsample between years 2008 and 2020. Thus, it includes the overall M&A sample with M&A deals that have deal values reported, and is therefore smaller than the original sample size. The deal values are divided into three categories in table 4. The first one includes all values in the sample. The second and third group are formed by dividing the M&A subsample based on the median value of the acquirers' board gender diversity for each observation year.

The deal values demonstrated in table 4 are in millions of Euros. The sample of 249 M&A deals includes also deals made in other currency, which are converted into Euros to make the deals comparable with each other. As the mean of deal sizes is 24.1 million and median is only 3.13 million, it seems that the distribution of the sample is skewed to the right and most deal values are clustered around the left tail of the distributions. The distribution of the sample seems spread and appears to include deal values of very different sizes.

Table 4. Descriptive statistics of deal sizes.

	Mean	**Median**	**Max.**	**Min.**	**Std.**	**N**
All	24.41	3.13	1493.55	0.001	114.86%	249
Board gender diversity above yearly median	41.73	4.00	1493.55	0.001	163.11%	119
Board gender diversity below yearly median	8.64	2.14	213.36	0.007	24.13%	130

According to table 4 above, the sizes of M&A deals seem to be slightly bigger in firms with more than the yearly median of board gender diversity, as the median for such firms is 4, whereas the median for firms where board gender diversity is below yearly median,

the value is 2.14. However, this should be interpreted with caution as the sample is skewed, and the size of the sample is rather small.

Table 5 below represents the correlation matrix of all the variables for hypothesis 1. Thus, it does not include deal sizes, as those are included only in the subsample for the second hypothesis of the study.

Table 5. Correlation matrix.

		1	2	3	4	5	6	7	8	9
1	ACQUISITIVENESS	**1.00**								
2	BOARD_GENDER_DIVERSITY	-0.17	**1.00**							
3	FEMALE_DUMMY1	-0.13	0.52	**1.00**						
4	FEMALE_DUMMY2	0.12	0.44	0.54	**1.00**					
5	BOARD_SIZE	0.13	-0.22	0.16	0.69	**1.00**				
6	BOARD_INDEPENDENCE	0.26	-0.37	0.13	0.16	0.25	**1.00**			
7	FIRM_SIZE	0.46	0.29	0.06	0.66	0.49	0.14	**1.00**		
8	RETURN_ON_ASSETS	-0.02	-0.14	-0.41	-0.44	-0.46	-0.32	-0.45	**1.00**	
9	FIRM_VALUE	0.31	-0.04	-0.10	-0.07	-0.22	-0.01	-0.07	0.49	**1.00**

5.2 Acquisitiveness

The first hypothesis of the study states that greater female board representation reduces the number of merger and acquisition deals. The main methodology to test the first hypothesis of the study is the OLS method, and the regression model is presented in the previous chapter. Robust standard errors are included in each regression model to control for serial correlation and heteroscedasticity. Table 6 shows the results for the first hypothesis of the study.

Table 6. Pooled OLS-regression: Impact of board gender diversity on acquisitiveness.

Variables	(H1) Acquisitiveness	(H1) Acquisitiveness	(H1) Acquisitiveness
Board gender diversity	-0.015992**		
	(0.007)		
Female dummy (≥ 2)		-0.016712	
		(0.143)	
Female dummy (≥ 3)			-0.097516
			(0.212)
Constant	1.769807***	1.550991***	1.523839***
	(0.470)	(0.460)	(0.471)
Board size	0.071406	0.092964*	0.095853**
	(0.047)	(0.047)	(0.045)
Board independence	-0.012108**	-0.012170**	-0.012321**
	(0.005)	(0.005)	(0.005)
Firm size	0.075678*	0.054448	0.058826
	(0.037)	(0.034)	(0.038)
Return on assets (ROA)	0.016338***	0.015643**	0.015480**
	(0.006)	(0.006)	(0.006)
Tobin's Q	0.061230	0.050456	0.052061
	(0.058)	(0.055)	(0.055)
Observations	655	655	655
R-squared	0.090777	0.079014	0.079663
Adjusted R-squared	0.071933	0.064772	0.065431

*$p < 0.1$; **$p < 0.05$; ***$p < 0.01$; robust standard errors in parentheses.

According to the empirical results of the study, board gender diversity occurs negatively correlated with acquisitiveness of the firm, as indicated in table 6. This finding is statistically significant at 5% significance level. Therefore, the null hypothesis is rejected, and the first hypothesis of the study is accepted. The first hypothesis of the study states that board gender diversity is negatively associated with acquisitiveness of the firm, and the empirical results support this hypothesis.

The dummy variables for number of women on board do not provide any significant relationship with acquisitiveness. This indicates that the results are not consistent with the tokenism theory proposed by Kanter (1977), as no statistically significant results are found when examining only firms in which the female board members exceed the token limit, meaning over 2 or 3. However, most firms in the sample have 0 or 1 female board

members, which could cause that no significant relationship is find between the female dummies and acquisitiveness. It could be also caused by some issues in the model. For instance, R-squared and adjusted R-squared are low for all regressions related to hypothesis 1, indicating that the model includes some issues.

Interestingly, board independence occurs negatively correlated with acquisitiveness of the firm, indicating that more independent boards make less M&As on average. This finding is statistically significant at 5% significance level. Return on assets (ROA) measure seems to be positively correlated with acquisitiveness of the firm. Thus, firms with larger ROAs make more M&As on average. This finding is statistically significant at 1% significance level.

Additionally, board size appears positively correlated with acquisitiveness of the firm in two of the regressions at 10% significance level. This finding indicates that firms with larger boards make more M&A deals on average. Firm size is also positively correlated with acquisitiveness in one of the regressions. This finding is statistically significant at 10% significance level, and it suggests that larger firms make more acquisitions on average. Tobin's Q, indicating firm value, does not provide any statistically significant relationship with acquisitiveness of the firm.

5.3 Acquisition size

The second hypothesis of the study states that greater female board representation reduces the size of merger and acquisition deals. The main methodology to test this hypothesis is the OLS method, and the sample is a subsample of the original M&A sample, including only those deals in which the deal size is informed. The results for the second hypothesis are represented in table 7.

Table 7. Pooled OLS-regression: Impact of board gender diversity on acquisition size.

Variables	(H2) Acquisition size	(H2) Acquisition size	(H2) Acquisition size
Board gender diversity	0.114893 (0.289)		
Female dummy (≥ 2)		-1.927113 (3.467)	
Female dummy (≥ 3)			-4.650609 (3.318)
Constant	-134.4547** (59.524)	-26.56054 (130.056)	261.8878 (263.990)
Board size	4.622716 (3.367)	1.600978 (22.089)	19.17649 (31.880)
Board independence	1.143408** (0.512)	0.768856 (0.985)	0.566797 (0.010)
Firm size	1.381043 (4.770)	16.93857 (18.742)	-19.21310 (26.803)
Return on assets (ROA)	-0.288022 (0.507)	-2.188036 (1.748)	-5.871048 (12.995)
Tobin's Q	3.212230 (6.489)	-31.40140* (18.606)	-16.93949 (0.329)
Observations	249	249	249
R-squared	0.066546	0.089068	0.230367
Adjusted R-squared	0.039225	0.012088	0.045655

*$p < 0.1$; **$p < 0.05$; ***$p < 0.01$; robust standard errors in parentheses.

Table 7 shows that for hypothesis two (acquisition size), board gender diversity does not provide any significant relationship with acquisitiveness of the firm. Moreover, the two female dummy variables do not provide significant results, either. Consequently, the second hypothesis of the study is rejected, and the null hypothesis is accepted. This means that the empirical results find no support on the relationship between board gender diversity and acquisition size.

According to the empirical findings for hypothesis two, board independence seems to be positively correlated with deal size in one of the regressions, suggesting that boards with more independent directors make larger M&A deals on average. Tobin's Q (firm value) seems to be negatively associated with deal size in one of the regressions. Other than these two variables, the regression models do not provide any significant results

regarding hypothesis 2. The R-squared and adjusted R-squared are low, which indicates some issues with the model. One issue is the small sample size, as it is relatively smaller than for the first hypothesis of the study.

6 Conclusion

Due to the increase of female board members and the pressure of legislators to set board gender quotas, many studies have focused on the impact of female board representation on firm-level strategic behavior, such as those concerning M&A activities of the firm. Overall, women are suggested to be more risk averse and less overconfident than their male counterparts (e.g., Groson and Gneezy, 2009; Lundeberg et al., 1994). M&A deals are considered as risky activities, indicating that the gender differences in risk preferences may have an impact on the outcome of M&A deals, which may emerge as reduced acquisitiveness or smaller deal sizes.

The purpose of this study is to examine the impact of board gender diversity on M&A deals of Finnish public firms between 2008 and 2020. The research pursues to study the impact of female board members on the number of M&A deals (acquisitiveness) and the size of the M&A deals (acquisition size). The empirical research is conducted by using the Ordinary Least Squares (OLS) method. The research period of the study is before binding quotas are implemented in Finnish firms, giving the opportunity to examine the non-enforced effects of board gender diversity. Since 2008, the Finnish Corporate Governance Code has included a precise recommendation that both women and men should be represented in the board of directors of Finnish firms, which is why 2008 is selected as the starting point of the study.

The first hypothesis of the study states that greater female board representation reduces the number of M&A deals. The sample to examine the first hypothesis consists of 655 M&A deals made by Finnish public firms between 2008 and 2020. The results indicate that board gender diversity has a negative impact on acquisitiveness of the firm. This finding is statistically significant at 5% significance level. Consequently, the null hypothesis is rejected, and the first hypothesis of the study is accepted.

The second hypothesis of the study states that greater female board representation reduces the size of M&A deals. The sample for the second hypothesis consists of 249 M&A

deals made by Finnish public firms between 2008 and 2020. The empirical results suggest that there is no statistically significant relationship between board gender diversity and acquisition sizes. Consequently, the null hypothesis is accepted, and the second hypothesis of the study rejected. This finding is inconsistent with previous studies, as those suggest that board gender diversity has a negative impact on deal sizes, as well.

Whilst the empirical findings of this study and the previous studies on the topic suggest that the impact of board gender diversity on acquisitiveness is negative, it should be noted that many researchers (e.g., Andradre et al., 2001; Chen et al., 2007) argue that M&As of public firms destroy shareholder value. The negative impact of M&As of public firms on shareholder value is suggested by both financial literature and empirical research. This indicates that although board gender diversity is suggested to have a negative impact of acquisitiveness, the appointment of female board members may, in fact, help creating shareholder value.

Like other studies, this one also includes some limitations and findings must be interpreted with caution. For instance, the R-squared and adjusted R-squared are both low, indicating some issues with the models. Also, the sample size for hypothesis 2 is relatively low and spread, which may affect the outcome, as there are no significant results for the second hypothesis of the study. In future studies, the sample size should be larger to obtain more accurate results.

Whereas board gender diversity is constantly increasing in Finland and globally, many female board members are still considered as tokens. Although the issue of tokenism is included in the study, it does not provide any significant results. Nevertheless, tokenism is still a topical issue and should be considered in future studies, as well. Increasing the number of female board members beyond the token limit should have a positive impact on board processes, according to the literature. This interpretation needs more in-depth empirical analysis in the future, as this study does not provide any empirical evidence to support this theory.

As the EU Member States implement new board gender quotas by 2026, the number of female board members will inevitably increase in public firms in all EU Member States, including those in Finland. Consequently, this gives an opportunity for future studies to examine the enforced impact of board gender diversity, and whether the implementation of board gender quotas change the nature of board-selection processes or board competence. It is also interesting to see, whether it truly increases the number of different female board members, or if it creates a similar phenomenon as in Norwegian firms, where a small elite of women are repeatedly used on several corporate boards due to board gender quotas.

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