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Master Thesis Strategy Economics

Gender in the boardroom: a strategy

Researching the relation between media and gender equality of Fortune 500 boards.

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Abstract

Gender diversity has improved on all levels of US firms in the last five years. Despite these rising numbers, only one in five board members are women. Professional barriers, such as social exclusion, and personal barriers prevent women from achieving an executive position. Scholars have researched many forms of pressure on companies to increase the number of female board members. This research aims to contribute to current literature by focusing on one lesser researched aspect, media coverage. In this research I analyse both the relationship between media coverage and gender equality improvements and the relationship between gender equality improvements and media outings or public promotion by firms. I present a new research method, making use of a search engine rather than an academic database, to highlight the accessibility of public data. The empirical analysis on the boards of the 500 largest US companies shows ambiguous results. I find evidence for different relationships between media coverage and female board members. Furthermore, I find a positive relationship between the number of female board members and the promotion of gender equality. The results are not conclusive however, partly because of the limited number of women in my dataset. This research introduces a new niche in gender equality research and proposes several new research ideas for the relationship between media and gender equality.

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1. Introduction

In a time of feminism and #metoo, gender equality is becoming an increasingly more popular topic (UN Women, 2020). Worldwide incidents and actions have sparked attention to women's rights and gender equality. Examples are the Women's March of 2017, after the inauguration of US president Donald Trump or the sexual assault claims on Hollywood producer Harvey Weinstein, leading to worldwide attention for sexual assault victims (Hartocollis & Alcindor, 2017; Kastor, 2020). Corporations are following this trend and women are therefore progressively targeted and used as a promotional tool (McKinsey, 2020; Bain & Company, 2020). Against this background, this thesis focusses on relationship between media and gender equality. I first research whether corporations change their boards' gender structure based on media coverage received in the recent past and second whether these corporations use their own media outlets as a way of promoting gender equality. It is interesting to see the relationship between firms promoting gender equality and their board structure, as around 40 percent of the firms stating gender equality as one of their core values have no female board members (Compustat, 2018). With this research, corporate outings through for example websites can be evaluated and better understood. It can suggest evidence for the strategic choices made by corporations based on media coverage and communicated through media outlets.

The presence of women in corporate firms has been increasing in the past years on all levels. US companies had an average of 45 percent women on entry level in 2015, which increased to 49 percent in 2019. Higher levels showed a relatively even larger increase, with 17 percent of the boardroom being women in 2015 to 21 percent in 2019 (Huang et al., 2019). However, despite these rising numbers there are still several barriers that prevent women from entering the boardroom. Social exclusion is the main reason given in research for the underrepresentation of women in executive positions (Oakley, 2000; Alimo-Metcalfe, 1995). Social exclusion is described in regard to social groups, where women are not included in the dominant group of male board members, and in regard to social exchanges, where women are perceived to not have the right social benefits (Singh & Vinnicombe, 2004). Furthermore, women face personal barriers withholding them from executive positions, such as family-related reasons, envy from other women and lack of self-confidence (Oakley, 2000).

The fact that women overcome these barriers and increasingly enter the boardroom can be attributed to several factors. First, companies want to include women for moral reasons, such as wanting no discrimination within the firm and ethical treatment and representation of all

stakeholders (Carver, 2002; Van der Walt & Ingley, 2003). Economic reasons play a large role as well, as there is a promising business case for female board members. A larger number of women on a board has for example shown to increase financial performance and firm value (Catalyst, 2004; Campbell & Vera, 2010; Lückerath-Rovers, 2013; Terjesen et al., 2016). Furthermore, the strategic decisions made by more gender diverse boards are more innovative, well-considered and focused on long-term improvements (Van der Walt & Ingley, 2003; Apesteguia et al., 2012)

Another driver to hire more women is improved company reputation. More women in a firm shows that the firm is engaged with social and moral issues and signals a long-term vision (Terjesen et al., 2009). A good company reputation has many positive effects, such as the attraction of more investments, more and better-quality job applicants and an enhanced corporate branding (Bear et al., 2010; Pollock et al., 2008). Factors that influence the reputation should therefore be eliminated or adjusted. One factor influencing reputation is media coverage (Bednar, 2012). Investors, shareholders and consumers can have a large influence on firms and one of their main informational sources is journalistic media. On the topic of gender equality, media coverage might influence stakeholders' perception of the firm and therefore be a driver to different behaviour, in this case hiring more women. It is an interesting question to see whether media coverage on gender equality can influence firm actions and therefore drive more women into the boardroom.

One driver that is often not taken into account in research is the brand value of female board members. However, as gender equality is more and more seen as an important social issue, firms increasingly promote gender equality as one of their core values (Smith & Alexander, 2013). Female board members can therefore be used as an example of the firm's attention to board diversity and gender equality. Questions one might ask is whether promoting gender equality is a strategic choice and the company already is gender equal, or whether it is a strategy to prevent a negative reputation or a strategic focus point for the future. Calkin (2015) researched gender equality as a form of Corporate Social Responsibility (CSR) and found that some companies use gender equality as a mechanism to minimise resistance, implying that companies use a non-binding way to act out a socially acceptable brand image. Such a phenomenon is currently happening with sustainability, called "greenwashing", where companies market their products, services or production process as more environmentally friendly than they are in reality (Delmas & Burbano, 2011). In this research I want to evaluate the promotion of gender equality by corporate firms and whether this is a result of more women on a board, or a mechanism similar to greenwashing.

To research the strategic choices concerning gender equality and media, I conducted the following research question:

What is the relationship between gender equality and media for Fortune 500 boards?

I will answer this question based on two sub-questions. I first test the effect media coverage has on the boards' gender equality. Second, I test the effect the gender equality of the board has on the media outlets used by the firm. The first sub-question concerns the question whether companies that have received media coverage concerning gender equality improve their board in terms of equality as a result of this coverage. The question is as follows:

Do Fortune 500 companies that have received media coverage concerning gender equality between 2015 and 2010 have a more or less equal[1] *board in 2018 compared to companies which have not?*

The next sub-question regards the public promotion of gender equality. It relates to the research of Calkin (2015), to see whether the companies that have previously had more equal boards use this as a means of promotion within their company. The aim is to research if the companies that have received media coverage adopted their corporate strategy after receiving this coverage and improved the gender diversity within the board. The question is as follows:

Do Fortune 500 companies with a more equal board in 2018 promote gender equality in 2020 more compared to companies with a less equal board?

To answer these questions, I look at both negative media coverage, such as coverage on lawsuits or on inequality within a firm, and positive coverage, such as articles highlighting equality or best places to work for women. By answering these research questions, I want to examine whether there is a difference in the hiring and treatment of female board members between companies which have been positively and negatively associated with gender equality and companies which have not. Furthermore, I question the strategic choice of promoting with gender equality. Whether this is only done by companies with an equal board in terms of gender or by all companies regardless of their board composition. If this is the case, it could be a strategy to minimise resistance. This means the company wants to avoid negative association with gender equality, as this can negatively influence firm reputation. Therefore, the company includes gender equality in one of it's company values while not actually being or wanting to be gender equal (Calkin, 2015).

[1] The equality of the board is measured in terms of gender division (number of men and women), change in gender division and payment gap.

To understand the relationship between gender equality and media, I created two dummies that indicate media coverage on gender equality and the promotion of gender equality by corporations. Both are made by using Google, one using Google Search and one using Google News, as Google is the most commonly used search engine (StatCounter, 2020). I chose these search engines, since they illustrate the availability of information to the general public, rather than to academia. I use the board of the company as the board often and ideally reflects the company composition to a certain extent (Carter, Simkins, & Simpson, 2003). Furthermore, the board level of the company has seen the largest relative change in gender diversity in the last four years, making it more likely that part of that increase is due to media coverage. In addition, incorporating gender equality in the highest and most inaccessible level of the company, signals more attention and incorporation of gender equality in the company as a whole. The dataset used is a combination of the largest firms in the USA, using the Fortune 500 ranking of 2018, board member and compensation data, collected through Execucomp and BoardEx datasets. I use both logistic and ordinary least squares regressions to test the hypotheses presented in the next chapter.

My research contributes both to the vast research on gender equality, as well as to research on the relationship between media and corporate strategy and governance. My specific contribution is on the combination of social issues, in this case gender equality, and media. In research on the advantage of adding a female board member, the brand or customer value of adding a female board member is often not taken into account. As companies do use female employees on their websites or in advertisements for recruitment, the brand value of women should be incorporated in this research, as it is another relevant argument in the business case for female inclusion. It is relevant for understanding the firm dynamics, to see whether firms that promote gender equality do this as they have proven in the past to be more gender equal. Furthermore, promoting while not having improved equality can affect the credibility of the brand or company. It is therefore a strategic choice on what to express to the public as company values and what not. The effect of negative publicity is worth researching, as it might be a better nudge to improve gender equality at the highest level of the company, compared to quotas or other forms of pressure.

In terms of research method, I developed my own data-collection method to highlight the accessibility of information on gender equality of corporate firms. While most research on media coverage and gender equality uses news databases, I purposely chose a more accessible and more commonly used outlet, namely Google. By using this method, my research is focused not on the scholarly research methods, but on a practical method accessible to people interested in gender equality. My research can then be used to assess the value of this information. For my research on

public promotion, I empirically test the study done by Calkin (2015), whether firms promote as a result of increased female presence or as a mechanism to minimise resistance. For research on media coverage, my research is similar to that of Bednar (2012). His research however is on corporate governance by outside directors, while I focus on board structures.

From my analysis, I concluded that there is a negative relationship between growth in number of female board members and media coverage, most likely explained by positive media coverage. Explanations could be that as these firms have already received positive coverage, they feel less obliged to hire more women. Furthermore, the limited observations could be an explanation for the negative relationship, as one outlier of 50% decline in number of female board members now greatly influences the outcome. Second, I found a positive relationship between an individual board member being female and positive media coverage. As positive events are less likely to be covered, these might have a larger effect for individuals than negative events (Barnett & Hoffman, 2008). Lastly, I find a positive relationship between the ratio of female board members and the promotion of gender equality. This shows that promoting gender equality is related to a more gender equal board. This result is differs from the expectation of Calkin (2015), as the firm does promote as a result of a more gender diverse board, instead of promoting without any incremental changes.

In the next chapter, I will discuss the literary background or my research. First, the business case for the inclusion of female board members is made, followed by literature on the relation between media and corporates, with a focus on promoting social issues trough CSR. I will also introduce my hypotheses in this section. Chapter three illustrates the data and methods used for this research, highlighting two self-made variables, and provides descriptive statistics. In chapter four the results of the empirical research are discussed. Furthermore, this chapter includes several robustness checks, verifying the methods used. The last chapter provides the main conclusions, links the results to theory, discusses limitations of this research and introduces ideas for future research.

2. Female board presence, media and CSR in literature

In this chapter I give an overview of literature on gender equality in corporate firms and in the boardroom, followed by an overview of literature on the influence of media in corporate firms. To understand the factors and drivers that impact the gender composition of boards, I first discuss why it could be advantageous for firms to include more women on the board and what drives women in and out of the boardroom. Second, I discuss the current circumstances for female board members, what companies do to recruit more women and what policies are installed to retain them when for example they start a family. In the next section, I address one lesser researched factor within gender equality literature, media attention. I focus on the role and influence media has on corporate strategy in regard to social issues, in this case gender equality, and introduce the first three hypotheses. In the last section, I discuss media outlets used by corporates, with a focus on social issues often addressed within corporate social responsibility (CSR) policies and present my final hypothesis.

2.1 Women on corporate boards

2.1.1 Business case for female board members

There are several arguments for companies to include and create an equal environment for female board members. An equal environment can be in equal numbers of men and women, but also in terms of compensation, opportunities and equal recognition. Some arguments for gender equality are made from a moral perspective (Carver, 2002). Moral arguments draw from social responsibility, i.e. no discrimination within the firm and compliance with diversity norms, set by the social environment the company is in. In this perspective, the responsibility of the board is ethical treatment of all stakeholders, in addition to leading the firm and maximising profit. Furthermore, the withholding of female talent decreases the value of society, as women can have large impact on several levels. On an individual level, female board members are role models and supporters of diversity. On a board level, women make a difference in decision making by providing a unique viewpoint on strategic topics, can change board behaviour and boardroom culture and expand board skills, knowledge and experience (Van der Walt & Ingley, 2003). From an institutional perspective, which involves designing plans and allocating resources in order to facilitate organisational success, literature argues that legitimacy of the firm can be influenced by the presence of female board members. According to legitimacy theory, this suggests that a firm undertakes action to communicate the perception of similar values as that of the social system it is part of (Lindblom, 1994). In this case, it signals that the firm values the success of women.

Although moral reasons might be enough for some firms or institutions, most companies will not change their corporate strategy for moral reasons only (Robinson & Dechant, 1997). Therefore, the

business case for female inclusion should be made. There are two important theoretical perspectives on the added value of women on boards, which are the resource dependency and agency perspectives (Terjesen et al., 2009). Resource dependency theory uses the perspective of firms operating in a system that is open for acquiring and exchanging resources in order to maintain a profit, resulting in a dependency between different actors. This includes the exchange of (human) resources on a corporate governance level, providing advice and legitimacy between boards (Pfeffer & Salancik, 1978). In research on gender diversity, the theory is used to explain the need for leadership by individuals that have a broad range of resources at their disposal. A diverse board should therefore be able to provide more and broader resources trough external networks. These resources can provide legitimacy, financing, prestige, knowledge and experience. The agency perspective describes the agency theory approach of the relation between an agent and a principal. Here problems often occur in relation to the misalignment of interest or asymmetric information, which can result in lower firm value. Weak firm governance can increase the costs of the problem, so called agency costs and decrease firm performance (Reguera-Alvarado et al., 2017). As a more gender diverse board has a broader approach to problems and a wider view in general, it has proven to decrease conflicts in principal-agent relationships, resulting in an increase in firm value (Carter et al., 2003).

Both theories have been empirically researched to see the effect of women on firm value and performance. Empirical research on the resource dependency perspective shows that more gender diverse boards achieve higher social goals, but are less proficient in fundraising and are not more efficient (Siciliano, 1996). In addition, female directors, compared to their male counterparts, have a higher chance of having a non-business background and hold higher degrees, bringing this more diverse network with them (Hillman et al., 2002). On a firm level women can positively impact financial performance, especially in industries serving predominantly female customers, aligning customer and firm interests, in accordance with by the agency perspective (Van der Walt & Ingley, 2003). Most research shows a positive relationship between the presence of female board members and high market capitalisation (Catalyst, 2004; Campbell & Vera, 2010; Lückerath-Rovers, 2013; Terjesen et al., 2016). An explanation for this positive relationship is that women are more risk-averse compared to men, recommending less combative strategies and more long-term investments, resulting in a better considered strategy as a whole (Apesteguia et al., 2012; Croson & Gneezy, 2009).

Carter et al. (2003) researched 1000 boards to examine whether improved financial value as measured by Tobin's Q is related to board diversity. They found that firm value increases when the fraction of women increases. This increase in firm value can be attributed to a better representation of both customers and shareholders, more critical thinking, different perspectives and innovation

due to more diversity (Selby, 2000; Burke, 2000; Van der Walt & Ingley, 2003). The relationship also holds the other way around, with studies showing that firms with high market capitalisation have been associated with an increased probability of having multiple female board members (Burke, 2000; Terjesen et al, 2009). However, there are some mixed results in empirical research. Rose's (2007) research on Danish firms proves no relation between firm performance and the proportion of female board members. He argues that this is due to the adoption of behaviour portrayed by conventional board members by minority group board members such as women, as this might prove the only way to be included in the boardroom. French evidence also shows a negative relationship between a firm's Tobin's Q and female board presence. However, they do find a positive relationship between female board presence and return on equity and assets (Bennouri et al., 2018).

In short, from a moral perspective, female board members should be included as companies should want a diverse employee group and no discrimination within the firm. Moreover, including women increases the value of society as a whole, provides role models, can bring a broader perspectives and grant legitimacy. Theoretical arguments for inclusion of women can further be made from a resource dependency and agency theory perspective, as women bring more diverse networks and positively impact financial performance. Combining moral and economic arguments therefore makes a strong business case for the inclusion of more women in the boardroom.

Once women enter the boardroom, gender inequality does not yet end however, as there are still large differences between male and female board members. An example is the discussion and research on the gender pay gap. Bell (2005) uses ExecuComp data to explore the pay gap for female executives. She finds a compensation gender gap of eight to twenty-five percent. This percentage is directly related to the gender of the CEO or the chair of the board. In women-led corporations there are more women in executive positions and these women earn ten to twenty percent more compared to female executives in male-led corporations. The gender pay-gap decreases further with the increased representation of female board members. Next to lower salary, female board members are characterised by being significantly younger than their male colleagues, are less often married and have less children (Sheridan & Milgate, 2005).

To include more women and support them on all levels within the firm, corporations increasingly install policies. These policies are often focused on being family-friendly, such as backup childcare, housekeeping and tutoring assistance (Healy, 2018). One of the difficulties regarding family programmes is the company culture regarding these programmes (Poelmans et al., 2003). For these programs to be effective, it is important that managers and colleagues are supportive. This

supportive environment is proven to be higher in corporations with more female board members, as these are role models for employees at lower levels (Sheridan & Milgate, 2005). Other corporate policies include inclusive recruitment policies, such as inclusive and gender-neutral job descriptions, female hiring in case of equal qualifications and enhanced referral benefits for female candidates (PWC, 2017). Furthermore, firms can offer development programs, entrepreneurial programs, specific skill programs or give out special financing opportunities for potential female employees (Kring, 2017).

2.1.2 Barriers and drivers

There are multiple studies on what prevents women from entering the boardroom. An explanation often used for female absence is that women have less ambition and experience in their career and are less committed to their career compared to men (Singh & Vinnicombe, 2004). These arguments have been challenged by research, which turns to social exclusion as main reason. There are many external barriers hindering women to enter boards on an organisational level, such as hidden or informal promotions through personal networks and recommendations (Oakley, 2000; Alimo-Metcalfe, 1995). Furthermore, there are cultural and behavioural barriers, like the use of stereotypes, communication styles dependent on gender and power dynamics (Schein & Mueller, 1992; Tannen, 1994). These barriers can be explained by use of the social identity theory (Tajfel & Turner, 1986) and social networks and social cohesion theory (Ragins & Sundstrom, 1989).

Social identity theory states that individuals define themselves and others by means of the social environment around them, using social groups such as race, class, profession and gender. The group an individual is in is referenced as the 'in'-group, all other groups the individual does not belong to are the 'out'-groups. A male board member that is part of an all-male board will use this group of similar male board members to reinforce the group boundaries, excluding non-men and non-board members. For a female board member to be included in the in-group of this male board member, not only should she demonstrate her suitability, she should also break the image of her belonging to the out-group of subservient women. The constant recruiting of men instead of women therefore becomes a self-fulfilling prophecy (Singh & Vinnicombe, 2004). Furthermore, performances are viewed differently for individuals in the in- and out-group, with the in-group performance seen as better. Therefore, a male interviewer will challenge a female candidate more than a male candidate, explaining the argument that there are no female candidates capable enough for a board position (Nonaka, 1994).

Social networks and social cohesion theory describe the importance of social exchanges and reciprocity. This means that actions are taken with the expectation of social benefits attached in the form of contributions to third parties or an extension of networks. In the context of board members, this means that within the network of board members, individuals are expected to bring other members of their network to this group. In the case of gender diversity, based on current statistics, women are less likely to be in the network of existing board members and are less likely to have the desired network as seen by male board members to bring when they become a board member and are therefore less attractive (Singh & Vinnicombe, 2004).

Besides professional or external barriers, personal barriers can also prevent women from aiming for an executive career. Barriers cited by women aspiring management or executive positions are for example family-related reasons (Oakley, 2000). Women still perceive their traditional role of housekeeper as a barrier, where not only they, but their surroundings have certain expectations of them and their male spouse. Expectations can be on monetary issues, such as providing main income, or on issues regarding children and childcare responsibilities. Furthermore, women experience envy from other women when they aspire a professional career. Another reported barrier is female self-confidence, often challenged by the established group of male colleagues or peers. This results in limited opportunities for mentoring or support or a female role model (Oakley, 2000).

Despite barriers preventing women from entering high executive positions, around 20 percent of US board members are currently women (Huang et al., 2019). Therefore, in addition to arguments on why to include women, there are other reasons that drive women into the boardroom, according to Nekhili & Gatfaoui (2013). First, their research shows that female assignment relates to family ownership, where family-held businesses have a higher probability of hiring women. The appointment within family businesses shows no relation with educational degree, suggesting no attention to formal qualifications. Family businesses do favour female directors who are part of other company boards as well, increasing social networks. Second, larger boards often see more female board presence, especially when a board increases in total size. When there are more board members, there are more different viewpoints, which encourages open-mindedness and therefore increases the chance of female hiring (Brammer et al., 2007). Third, demographic attributes, such as degree of education and proficiency in business, drive women into the boardroom. Having multiple qualifications increases the credibility of women wanting to reach the boardroom. This relates to the resource dependency theory, which is explained by Nadkarni et al. (2016) to be the most important driver of female board presence. In addition, institutional factors can be drivers of female board

presence, with economic empowerment and board legislative quotas increasing the number of women on boards (Nadkarni et al., 2016).

2.2 Media

To influence corporate strategy and pressure firms to hire more women, scholars have researched many methods, including outside pressure from governments and investors. One other aspect of scholarly research focusses on the role of media in corporate governance, reporting on actions taken by corporations. Here, scholars use media as an umbrella term containing all types of journalistic media, such as newspapers, magazines and broadcasts and including mass media. Media outlets are not only used to report on corporations, corporations use these outlets themselves as well, in interviews, reports and corporate websites, often to influence and improve their firm's reputation or to inform the public on firm actions. One mechanism corporations use to influence their company reputation and convey information is Corporate Social Responsibility (CSR), a term used to describe company actions focused on improving social welfare. The focus points of CSR are often guided by public trends of importance, such as sustainability, diversity of race and diversity of gender.

2.2.1 The influence of media

Media and corporations often have a dynamic relationship, in which media act as propagators of legitimacy. They serve as an independent platform that assesses firms and individuals within those firms, such as board members, on both professional and social level (Wiesenfeld et al., 2008). Therefore, there is an increasing focus in literature on the role media plays in corporate governance. In current literature, this role is viewed from the perspective of agency theory, in which the media is described as a control mechanism. Within agency theory, media can reduce agency costs in relation to information asymmetry. Corporations covered by media are of interest to for example investors, with studies showing increased investment in firms with a positive media reputation (Pollock et al., 2008). Furthermore, by highlighting corporate issues trough media, these issues are more visible to both external and internal decision makers, who can decide to adjust strategies and solve the issue at hand (Dyck et al., 2008). This is an important role in social issues as well, as for the firm's legitimacy, the threat of less attractive aspects of the company to be publicised incentivises companies to get rid of these aspects (Cahan et al., 2015). In the case of gender equality, when a corporation discriminates based on gender, the fear of public scrutiny could be an incentive to change this behaviour. This role of the media is described in the media agenda-setting theory, where media acts as a factor in shaping social expectations and concerns (Cahan et al., 2015).

The agenda-setting theory dates as far back as Nazi Germany, with Lippmann (1922) discussing the effects of communist and Nazi propaganda. More recently, this theory is used to explain the role of media in various circumstances. Carrol & McCombs (2003) proposed several propositions on agenda-setting. The first core proposition concerns the influence of media in public issues. The importance of an issue is therefore related to the relative salience of the issue in the media. In terms of gender equality, this implies that the more different media outlets portray corporations discriminating based on gender, the more the public will think it is an issue. The second level of agenda-setting focuses on one specific attribute of the object of media attention. Getting back to the example of gender equality, this means that when there is more attention for gender equality in corporations, specific companies will be focused on, often those that do not adhere to the norms set by society. The focus on these attributes of specific firms will then increasingly be what the firm is defined by. The best way to get rid of these attributes is to adjust them. Therefore, in its role as a watchdog, media not only critically reflects on firm actions, but also influences firm behaviour. Several studies have proven this theory, with corporate governance violations being reversed after press coverage (Dyck et al., 2008), the acceptance of proposals in board election after an advertisement publicly exposing directors in the Wall Street Journal (Dyck & Zingales, 2002) and a CEO forced to either resign or adjust policy (Kahan & Rock, 2006). In the case of gender equality, adjusting negative attributes would mean taking action to decrease the inequality and communicate this to the public. An example is the coverage of a lawsuit against Walmart for discriminating based on gender. Although they won the case, their reputation took a serious hit and therefore, Walmart installed several programs to increase the number of female managers (Hymowitz, 2011).

One condition of agenda setting in the context of firm behaviour is the size or notoriety of the firm. To influence the reputation of the firm, the firm should be known enough to have a certain reputation to begin with (Cahan et al., 2015). Well known corporations that already adhere to the social norms can benefit from the focus on specific attributes. Zyglidopoulos et al. (2011) and Cahan et al. (2015) found that positive media coverage increased firm reputation and consequentially encouraged firms to continue their positive attributes. Therefore, in my research on gender equality I expect media coverage on a firm's gender equality to have a positive effect on the (increase in) diversity of a corporate board, as they will be more motivated to change their board structure after negative coverage or continue their diverse board structure after positive coverage. Furthermore, I expect a possibility that an individual female board member is hired due to media coverage and therefore expect the probability of a board member being female to increase due to media coverage. Accordingly, the first hypotheses are stated as follows:

Hypothesis 1A: *Media coverage on a firm's gender equality between 2010 and 2015 increases the likelihood of a more gender diverse board in 2018, compared to no media coverage.*

Hypothesis 1B: *The likelihood of a board member within the Fortune 500 in 2018 to be female increases when the firm the board member works for has received media coverage regarding gender equality between 2010 and 2015.*

Hypothesis 1C: *There is a positive relationship between the growth in the number of female board members of a Fortune 500 firm between 2015 and 2018 and whether that firm has received media coverage on gender equality between 2010 and 2015.*

Research shows negative media coverage to have a larger effect on firm strategy and actions compared to positive media (Cahan et al., 2015; Bednar, 2012). When a firm receives negative coverage, this often requires them to adjust certain practices, instead of continuing already well-received actions. However, as negative media coverage could require adjusting practices, this could induce resistance. Large changes within corporates are often the result of long and difficult negotiations involving several stakeholders and are therefore not easy or rushed decisions (Bruch et al., 2005). Furthermore, positive coverage can have more of a motivational effect than negative coverage. Research on individual behaviour has shown that positive stimulation works better than negative stimulation to change individual behaviour (Cameron & Pierce, 1994). The same research could be relevant for firm behaviour. In regards to media coverage, negative events are more likely to be covered than positive events and are more likely to be remembered (Barnett & Hoffman, 2008). Therefore, the effect of negative coverage might be larger and there might be a threshold of several positive events before a specific firm will even receive positive media coverage. Overall, I expect the relationships tested in Hypothesis 1 to be stronger for negative media coverage, as while individual behaviour can benefit from a 'bad' reputation (among for example peers), firm reputation cannot. In addition, although adjusting firm practices can induce resistance, the consequences of not acting can be more severe for the firm than the resistance is. Therefore, I conducted the following hypotheses:

Hypothesis 2A: *The relationship between media coverage on a firm's gender equality between 2010 and 2015 and the likelihood of a more gender diverse board in 2018 is stronger for negative media coverage compared to positive media coverage.*

Hypothesis 2B: *The relationship between media coverage on a firm's gender equality between 2010 and 2015 and the likelihood of a Fortune 500 board member to be female in 2018 is stronger for negative media coverage compared to positive media coverage.*

Hypothesis 2C: *The relationship between media coverage on a firm's gender equality between 2010 and 2015 and the growth in the number of female board members of a Fortune 500 firm between 2015 and 2018 is stronger for negative media coverage compared to positive media coverage.*

Media coverage could also influence compensation of board members. Bednar (2012) researches the relationship between CEO compensation and media coverage and discusses that although media coverage is unlikely to drive compensation, it can be a force to initiate change. High compensation can signal high managerial control, which is not desirable in most social systems. Exposing high compensation through media can therefore damage the reputation of the firm or board members, which can result in limitation of future compensation (Core et al., 2008). While Core et al. focus their research on media coverage of compensation, Chen et al. (2013) research a broader perspective of all forms of media coverage on firms and the relation to executive compensation. They find that media coverage on the firm increases compensation and that this relationship is stronger for positive coverage. Positive coverage of certain board members can improve the reputation of both firm and member and therefore can be seen as more valuable and thus deserving higher compensation (Wade et al., 2006).

In the board gender equality debate, not only the number of women is seen as an equality measurement, equal compensation is also discussed. Although there is to my knowledge no literature on the direct relationship between media coverage and the male-female pay gap, by combining the literature discussed above I expect media coverage on gender equality to not only influence the number of female board members, but also the equality of compensation between gender. I expect to see the equality of compensation between genders on both firm and individual level, as an individual woman working for a firm that has received attention on gender equality might be more aware of their gender within the company and may use this as a means of negotiation. Therefore, the hypotheses are stated as follows:

Hypothesis 3A: *Firms with media coverage on gender equality between 2010 and 2015 are associated with a smaller gender pay gap between male and female board members in 2018 compared to firms with no media coverage.*

Hypothesis 3B: *Female board members working for a firm that has received media coverage on gender equality between 2010 and 2015 receive a more equal compensation compared to male board members than female board members working for a firm that has not received media coverage on gender equality between 2010 and 2015.*

2.2.2 Corporate social responsibility

A positive reputation is associated with a range of benefits. It enables firms to attract more and better-quality job applicants, increases employee retention and job satisfaction and enhances corporate branding (Bear et al., 2010). Furthermore, a positive reputation has benefits for financial performance. Social, environmental and corporate governance are considered by a half of all institutional investors before investing and one in eight will even pay a premium for a firm with an above average reputation (Fombrun C. J., 2006). An increasingly important reputation enhancing factor is corporate citizenship programs (Gardberg & Fombrun, 2006). Therefore, firms are investing more in and are promoting their corporate social responsibility. CSR is defined as "a discretionary allocation of corporate resources toward improving social welfare that serves as a means of enhancing relationships with key stakeholders" (Barnett M. , 2007). This is in line with stakeholder theory, which suggests that all stakeholders of a firm should be represented in the firms actions and interests, not just shareholders (Fryxell & Lerner, 1989). Two constructs on which CSR builds are institutional and technical strengths, in which the first stands for actions in favour of community and different stakeholders and the second for actions towards employees, consumers and shareholders. Actions associated with these constructs are for example charity spending and minority contracting (institutional) and social and environmental transparency (technical) (Bear et al., 2010). One subject of CSR which covers both the institutional and technical construct, is gender diversity and equality. In 1998 most CSR reported by Fortune 500 companies was focused on community engagement, education and environmental causes, while in 2013 ethics and diversity ranked highest (Smith & Alexander, 2013). This research highlights the changes over the years in which social issues are seen as most pressing by firms.

Calkin (2015) researched the relationship between CSR and gender equality on a company level, with a focus on transnational business initiatives (TBIs). Calkin has a critical view on these TBIs and suggests that such initiatives can be a mechanism to minimise resistance. The inclusion of women draws on the 'smart economics' notion that moralizes firms, with women being described as the 'world's greatest untapped resource' providing economic value (Calkin, 2015). The implications of this moralisation are two-fold. The first implication is that a corporate conscience signals that firms adhere to norms, rather than regulations, which implies the implementation of social values into day-to-day business out of self-interest. The second implication is that this moralization eases the conscience on the drive for profitability, as it affirms the moral side of business. The mechanism therefore implies that promoting gender equality in some form is then more of a marketing trick to satisfy consumers and employees, rather than a strategy to include gender equality as one of the

companies' core values. The problem this mechanism to minimise resistance poses, is that there is no fundamental change in the corporate strategy, but rather a non-binding way for corporate companies to promote instead of act out a socially accepted brand image (Shamir, 2018).

While Calkin's research focusses on the company as a whole. Bear et al. (2010) researched the relationship between several social focus points of CSR and corporate reputation, one being gender diversity, on a board level. The authors perceive corporate reputation as the "cumulative judgement of firms over time" by the public or their social environment (Fombrun & Shanley, 1990). They question whether board composition, focusing on the diversity of board resources and gender composition, influences corporate reputation and find a positive relationship between the number of female board members and the firm's corporate reputation. The authors argue that the board composition in terms of gender can be a signal of the valuation on female employees, which can influence investors, business magazines and other evaluators. This is based on the signalling theory, which assumes asymmetric information. It describes the observable signal, women on boards, given by parties to convey unobservable information, their attention to women. Furthermore, the diversity of the board can influence social performance of the firm and thus benefit their reputation, as social characteristics have more often been attributed to female board members, relative to male board members (Terjesen, Sealy, & Singh, 2009). Based on above findings and implications, I expect that firms with a relatively high number of women on their board use this as a signal to enhance their social reputation and therefore promote gender equality within their firm more than firms with less women on their board. Moreover, I expect firms that have seen an increase in female board members to promote this, more than firms with a decrease or no change in the number of female board members. The last hypotheses are therefore stated as follows:

Hypothesis 4A: *There is a positive relationship between the number of women on a board of a Fortune 500 firm in 2018 and the promotion of gender equality*[2] *in 2020 by that firm.*

Hypothesis 4B: *There is a positive relationship between the likelihood of a firm promoting gender equality in 2020 and the growth in the number of female board members in that firm between 2015 and 2018.*

[2] The promotion of gender equality will be explained in more detail in section 3.1.2.1.

3. Data and methodology

3.1 Data

3.1.1 Data sources

The data I use for this research is a combination of Compustat compensation data, BoardEx data and the Fortune 500 index from 2018. The Fortune 500 is a business scorecard that ranks the 500 largest US companies based on their yearly revenue. The list includes rank number, yearly revenue, profit, asset value, market value and number of employees. I use this list, as it includes the largest and best known US companies, which together account for two-thirds of US GDP ($12.8 trillion in revenues) and employ 28.2 million people worldwide (Fortune 500, 2018). From Compustat I use the 2018 Execucomp dataset on annual compensation of directors of the 1500 largest US companies, based on the Standard and Poor's (S&P) stock exchange Index. The data by Execucomp is directly collected from each firm's annual proxy. For data on board members' background I use the BoardEx database. BoardEx provides relationship mapping data, with information on individual board members' educational qualifications, employment history and size of network (BoardEx, 2020).

Trough the Warton Research Data Service, I composed two datasets. I make use of one dataset on individual level, with each board member and their personal characteristics, position and background, containing 2247 observations. My second dataset is on firm level, which contains 412 observations and includes company information such as revenues, market value, firm size, industry, as well as average compensation and payment gap data within the board of each company. To research public promotion by companies and media coverage, I manually created two dummies, which will be discussed when presenting the variables in the next section.

3.1.2 Variables

In this section, I will first introduce the two dummy variables I created for public promotion and media coverage. As my research is centred around these dummies, they require an introduction before discussing all dependent and independent variables used in the analysis. Thereafter, I will discuss each dependent variable and corresponding independent and control variables in order of their corresponding hypotheses. In this research I use two levels of analysis, firm level and individual level, which will be tested as different models and thus contain different variables. Hypotheses 1A, 1C, 2A, 3A, 4A, and 4B are tested on firm level. Hypotheses 1B, 2B and 3B are tested on individual level. I will use three groups of dependent variables. The first group concerns variables on the number of female board members (Hypotheses 1A, 1B, 1C, 2A and 2B), the second are variables on

media coverage and promotion (Hypotheses 4A and 4B) and the last concerns variables on compensation (Hypotheses 3A and 3B).

3.1.2.1 Dummy variables of interest

3.1.2.1.1 Public promotion dummy

The first dummy I created is the indicator whether a Fortune 500 company promotes gender equality. The dummy (*Public*) indicates 1 if the company publicly promotes gender equality in 2020. The creation of the dummy relies on Google Search, as it is a way someone would search if they would want more information about gender policies within the firm. I created two different versions of this dummy. For the tests described in the results section, I use a combination of both versions (*Public_12*) to best include all observations of public promotion. The first version dummy (*Public_1*) is made by using Google Search with the search term: "gender equality company x" for all Fortune 500 companies. This search, as well as all others concerning Google Search, are executed within incognito mode to circumvent Google's personal preference mode. The company is be listed as 1 when on the first page of the search results, a company website or company document, for example a report or one-pager, is found expressing the company's commitment to gender equality. There are several conditions for the dummy to indicate 1. First, the pages should be international company pages. If there are for example only UK results, USA can be put in the search term to get the official US company page. As the company list used for the dataset consists of US companies, the US company page is leading in the assessment whether the dummy indicates 1 or 0. Second, the pages or reports have to mention gender explicitly as one of their core values, not in a summation of inclusion or diversity. Third, blogs are not regarded as promotion, as these often reflect employee views or opinions and not necessarily companywide views. Lastly, female employee groups count as promotion, as the company hereby indicates giving special attention to female employees. These employee groups can for example include development programs for women or special focus groups that research the gender equality of the firm and give advice for a more diverse strategy.

The second version of the dummy (*Public_2*) is created by searching the website of each Fortune 500 company for a page describing company values including gender equality or a separate gender equality page. The company will be listed as 1 when this page or section can be found under company values or an 'about us' page. This page can be both on the company website and on a company career website. All previous conditions apply to this dummy as well, with the addition that the information on gender equality should be in the text on the website, not as (a link to) an external report. The second version is included as a stricter measurement than the first, while the first is broader. Furthermore, the inclusion of the second version is to highlight the (in)accessibility of the

information. Someone wanting information on gender equality of a specific company will do an internet search, by for example using a search engine or go to the company website. I use Google as search engine, as it is the largest and most used search engine in the US, with a market share of almost 90 percent (StatCounter, 2020). It is possible that observations seen for the first dummy, are seen for the second dummy as well. As seen in Table 3.1.1, there are more observations of public promotion for the second dummy, as illustrated by the higher mean. This indicates that company pages more often show information on gender equality than Google pages or that it is easier to find. One reason can be the nature of the company. When googling "gender equality eBay" there is a higher probability the results will include books on gender equality than when googling a firm selling semiconductors.

To capture all observations of public promotion, I created more versions of the dummy. The third version of the dummy (*Public_0*) indicates 1 when both the first and the second dummy indicate 1, making it the strictest, which can be seen in Table 3.1.1. The fourth version (*Public_12*), is a dummy indicating 1 when either the first or the second dummy indicates 1. This last method is the broadest, including all forms of information on gender equality that can be found through described channels. Therefore, I use this dummy for the tests described in the results section and use the other versions for additional robustness checks. When there is no access to the website (through VPN), this will be indicated as a missing value.

Table 3.1.1. Public Promotion dummy

Variable	Obs	Mean	Std.Dev.	Min	Max
Public_1	412	.398	.490	0	1
Public_2	406	.456	.499	0	1
Public_0	412	.284	.451	0	1
Public_12	412	.563	.497	0	1

3.1.2.1.2 Media coverage dummy

The second dummy created is the 'media coverage' indicator. I made this dummy (*News*) both for negative (*NegNews*) and positive (*PosNews*) media coverage. The dummy is 1 if the company has been negatively (positively) associated with gender equality in the news between 2010 and 2015. Examples are articles about lawsuits against companies that discriminate based on gender, articles about female leadership in large businesses or articles discussing the most misogynistic companies (Goudreau, 2010; Kantor & Silver-Greenberg, 2013; Adams, 2013). 2015 is chosen based on the flow rate of board members of three years (Hayes, Mehran, & Schaefer, 2004). To see the effect of media coverage on the board, the flow rate must be taken into account, as very few companies are able to change their board setup the moment this news is published. The dummy is created by using Google's News search engine with the search term: "gender equality company x" for all Fortune 500

companies. The company will be listed as 1 when on the first page of the search results, a negative (positive) association with gender equality is found. The article will only be reported as 1 if the source of the news is a reliable news provider, not trough company statements. The reliability of the news provider is assessed using a media bias chart, found in Appendix A2 (Otero, 2017). The chart shows the reliability of US news providers. Only the providers within the green and yellow rectangle are included as these are deemed reliable.

Next to positive and negative media coverage, I created two combination dummies. The first, *AllNews*, indicates 1 when the firm has received any kind of media coverage, either positive or negative and 0 when the firm has received no kind of media coverage. The second, *NoNews*, is the opposite, indicating 1 when the firm has not received any kind of media coverage and 0 when the firm has received positive or negative media coverage. As can be seen in Table 3.1.2, there are relatively few observations for both negative and positive media coverage, with even less for positive news, as indicated by the low mean.

Table 3.1.2. News dummy

Variable	Obs	Mean	Std.Dev.	Min	Max
NegNews	412	.080	.272	0	1
PosNews	412	.065	.248	0	1
AllNews	412	.131	.338	0	1
NoNews	412	.869	.338	0	1

3.1.2.2 Dependent variables

Table 3.1.3. Summary statistics dependent variables

Variable	Hypothesis	Level	Obs	Mean	Std.Dev.	Min	Max
dOneFemale	1A, 2A	Firm	412	.502	.501	0	1
dFemale	1B, 2B	Indiv.	2247	.089	.285	0	1
ChangeFBM	1C, 2C	Firm	411	.010	.129	-.6	.5
PayGapMF	3A	Firm	207	1679.869	13394.97	-141572.8	31149.61
TotalComp	3B	Indiv.	2246	8114.326	14429.12	.001	301562.7
Public_12	4A, 4B, 5	Firm	412	.563	.497	0	1

3.1.2.2.1 Dummy female board members on firm level

To test the relationship of Hypotheses 1A and 2A between media coverage and a gender equal board on firm level, I use a dummy for at least one female board member (*dOneFemale*) as dependent variable. The dummy indicates 1 when there is at least one female board member within the firm, 0 if there are no female board members. In Table 3.1.3 can be seen that the mean of the dummy is 0.502, indicating that around half of all firms have at least one woman on their board. As independent variable, I include the media coverage dummy (*News*). To test Hypothesis 1A the dummy AllNews is

included, to test Hypothesis 2A the model will include the negative or positive media coverage dummy.

To reduce the chance of omitted variable bias and thus obtaining true effects, various control variables that can influence the dependent variable are included. In the model testing Hypothesis 1A and 2A, I included the average age of board members for each firm (*AvgAge*), firm size (*FirmSize*), market value (*MarketValue*), firm performance (*FirmPerf*) and industry (*Industry*) in 2018. The average age might influence the conservativity of the firm, with more conservative firms often having a more skewed male to female ratio (Grund & Westergaard-Nielsen, 2008; Roe, 2006). Therefore, on average older board members may result in less female board members. The size of the firm is measured by the number of employees. Larger firms are often associated with more female employees, increasing the probability of (more) female board members (Catalyst, 2004). Firm performance is measured by firm revenues in millions. It is included as a control, as female board members have shown to increase firm performance (Van der Walt & Ingley, 2003). Market value, measured in millions, is included for similar reasons as firm size and performance, as literature has shown a relationship between female board members and value and (monetary) size of the firm. Since market value and firm performance are somewhat similar measures, there is a risk of correlation. To test whether these variables are too highly correlated, I constructed a correlation matrix. As can be seen in Appendix A1, the coefficient testing the correlation between firm performance and market value is 0.584, indicating a moderate correlation. Furthermore, the table shows a high correlation of 0.734 between firm size and firm performance. Therefore, firm performance is excluded from the controls. Furthermore, as market value and firm performance show skewed distributions, I include these variables with a logarithmic transformation.

The industry of the firm can also influence the board gender composition, with for example technology industries often being male dominated. This can be traced back to the number of women starting with technical education (CBS, 2019). It can therefore be expected that within different industries, there is a difference in the availability of female employees. Female board members are likely work in firms in retail, financial institutions, utilities, media and publishing (Singh et al., 2001). To control for industry, eight industries are added to the model, described in more detail in Appendix A3. Table 3.1.4 shows both the total division of firms between industries and the division of firms that have at least one female board member. The Transport & Logistics industry shows relatively few companies with female board members, while the Retail industry shows relatively many firms with at least one woman on their board, both corresponding with literature (Singh et al., 2001; Fortune, 2018).

Most firms in the sample are in Raw materials & Energy (19.42%), Banking, Insurance and Investment (13.35%) and Retail (12.62%). The fewest firms are in Transport & Logistics (3.64) or in the aggregated Other section, which includes semiconductors (1.7%), REITs (1.46%) and services (1.46%) (Appendix A3). As Fortune's ranking is based on firms' yearly revenue, high production industries, such as retail and energy are likely to be included, on the one hand due to their product type, on the other hand due to the high competition within these industries. Similar competition can be seen in industries such as banking and insurance. Other more exclusive products, made from rare materials, such as semiconductors, have less competition, making it logical that these firms only make up a small percentage of the sample. It is notable that there are relatively few service companies, which can most likely be explained by the division of industries. Services related to for example entertainment or consumers are classified under those industries, instead of under services.

Table 3.1.4. Industry division all- and at least one woman-boards

	Freq. all	Percent	Freq. OneFem	Percent
Banking, Insurance & Investment	55	13.35	27	13.04
Construction & Engineering	39	9.47	18	8.70
Health Care	42	10.19	21	10.14
Consumer goods & Entertainment	41	9.95	22	10.63
IT, Communication & Electronics	49	11.89	21	10.14
Retail	52	12.62	30	14.49
Raw materials & Energy	80	19.42	40	19.32
Transport & Logistics	15	3.64	7	3.38
Other	39	9.47	21	10.14
Total	412	100.00	207	100.00

3.1.2.2.2 Gender dummy on individual level

To test the relationship of Hypothesis 1B and 2B between media coverage and the likelihood of a female board member on individual level, I use a gender dummy of female board members (*dFemale*) as dependent variable, where 1 indicates a female board member and 0 indicates a male board member. As independent variable, I include the media coverage dummy. The media coverage dummy is included to answer Hypotheses 1B and 2B, whether the number of women (and therefore the likelihood of a board member being female) increases once a firm has received any kind of media coverage. The media coverage dummy is translated from firm to individual level, so that it indicates for each individual board member whether they work for a firm that has received media coverage or not.

As control variables, background information on each individual board member is added. These are age (*Age*), time in current company (*TimeInCo*), average time in other companies (*TimeOthCo*), size of network (*Network*), total number of listed boards the individual sat on (*Listed*), total number of unlisted boards the individual sat on (*Unlisted*) and industry, all collected in 2018. These control

variables are often named as influencers of the appointment of board members and reportedly different for male and female board members. Female directors are often younger, have more experience on unlisted boards and less experience on listed boards compared to male board members (Oakley, 2000). Furthermore, there are differences in type and size of network between male and female board members (Hillman et al., 2002).

In addition to background information on the experience of individual board members, position and firm characteristics are included as control variables. The position dummies for CEO (*CEO*) and CFO (*CFO*) are added, as there are less female CEOs and CFOs in the sample and therefore can influence the probability whether a board member is a woman or not. Firm size is added as for individual board members, when working for a larger firm, there is a larger probability of a diverse employee group and therefore also a larger probability of a female board member. Market value is another measurement for the size of the firm, in this case the monetary size and is thus added for similar reasons as firm size. Industry is added for similar reasons as described in the firm level description, with different industries being of influence on the probability of a board member being a woman.

3.1.2.2.3 Change variable on firm level

To test the relationship of Hypothesis 1C between media coverage and the change in the percentage of female board members on firm level, I include a change variable (*ChangeFBM*) as dependent variable. The variable measures the change in the percentage of female board members in percentage points for each firm between 2015 and 2018. In the analysis, I will use the logarithmic transformation of this variable. The hypotheses will be tested with a model similar to the model used to answer Hypothesis 1A. The independent variable of interest is the media coverage dummy AllNews, to test the relationship between media coverage and the increase or decrease in the number of female board members. As control variables, average age, firm size, market value and industry are added. The average age of board members can be a consequence or signal of more female board members. As female board members are often younger than their male counterparts, a younger board might be a result of a change in board gender composition. Firm characteristics such as size, value, performance and industry are added as these might influence change as well. A larger firm in size and value can have an influence on the diversity of employees. Larger firms are for example associated with more diversity and therefore, as a larger firm may have grown over the years, adjusted their board gender structure accordingly. Industry is added as control as over the years, some industries have progressed or grown faster than others, influencing the change rate of number of female board members.

3.1.2.2.4 Gender pay gap on firm level

To test the relationship of Hypothesis 3A between the size of the gender pay gap and media coverage on firm level, I use a gender pay gap variable (*PayGapMF*) as dependent variable. This variable is created by calculating the average male and female annual salary in 2018 per firm and subtracting the female salary from the male salary. Therefore, when there is a positive figure, men earn more than women. When there is a negative figure, women earn more than men. In the analysis, I will use the logarithmic transformation of this variable. The position of each individual is not taken into account when calculating the pay-gap. Although there are more male than female CEOs in the sample, averaging the sum of total male salary partly corrects for not including this. This method is similar to that for example used by Blau & Kahn (2003), who for their main analysis use the average pay gap and only include positions for additional tests. As not all positions are available within my dataset, I take this into account when assessing the results of the analysis done with this variable. As independent variable, I included the media coverage dummy. Average age, firm size, market value and industry are included as control variables. Although these controls might not directly influence the gap between male and female compensation, they can influence the individual compensation of each board member as discussed in the next section and therefore influence the gap.

3.1.2.2.5 Total compensation on individual level

To test the relationship of Hypothesis 3B between total compensation and media coverage on individual level, I use the total compensation (*TotalComp*) as dependent variable. This variable is a summation of annual salary, bonus, other annual compensation, restricted stock grants, LTIP pay-outs, all other pay-outs and the value of options exercised in 2018. As independent variables, I included the media coverage dummy, the gender dummy for female board members and an interaction term between both variables. The media coverage dummy will test whether compensation increases or decreases when firms received media coverage. The gender dummy will indicate whether total compensation is lower for female board members relative to male board members. The interaction term tests part of the hypothesis questioning whether compensation is higher or lower for female board members working for a firm that has received media coverage.

As control variables, I included board member characteristics age, time in current company, total number of listed boards the individual sat on and total number of unlisted boards the individual sat on. Furthermore, I add firm characteristics market value and industry. Age is added, as more senior members can receive an age premium, especially since age can be linked to experience (Sheridan & Milgate, 2005). Time in company and total number of listed and unlisted boards are added as more experience often results in higher compensation. Furthermore, market value is added to control for

the performance of the firm relative to the compensation. Part of the total compensation are options exercised and bonusses, which both can be performance related. Therefore, market value can influence compensation. Industry is added as a control, as there exists variation in the average board member compensation between different industries. Board members in the transport industry for example earn on average less than those in banking (Porac et al., 1999).

To be able to estimate the true effect of gender and media coverage on compensation, I tested whether to control for differences in compensation due to differences in positions, such as CEOs. As there are 20 female CEOs against 380 male CEOs this might result in an estimation bias. Therefore, I tested both CEO and CFO salaries against all other positions. As can be seen in Table 3.1.5 to 3.1.8, all compensation variables except bonus are statistically different for CEOs and non-CEOs and for CFOs and non-CFOs. Furthermore, there is a statistically significant difference in salary and total compensation between men and women. To account for the difference in position, I included both a CEO and CFO dummy in this model. These will account for differences in total compensation due to position.

Table 3.1.5. Two-sample t-test Salary

	Group1	Group2	Mean1	Mean2	dif	St_Err	t_value	p_value
Gender (1=female)	1966	258	822.532	698.527	124.006	47.051	2.65	.009
CEO (1=CEO)	1824	400	717.314	1222.343	-505.029	37.803	-13.35	0
CFO (1=CFO)	1817	407	828.689	716.438	112.252	38.955	2.9	.004

Table 3.1.6. Two-sample t-test Bonus

	Group1	Group2	Mean1	Mean2	dif	St_Err	t_value	p_value
Gender	1966	258	230.391	199.297	31.094	64.662	.5	.631
CEO	1824	400	222.37	246.908	-24.538	53.915	-.45	.649
CFO	1817	407	234.903	190.534	44.37	53.547	.85	.408

Table 3.1.7. Two-sample t-test Other Compensation

	Group1	Group2	Mean1	Mean2	dif	St_Err	t_value	p_value
Gender	1966	258	320.568	259.661	60.907	84.639	.7	.472
CEO	1824	400	290.436	418.683	-128.24	70.527	-1.8	.069
CFO	1817	407	351.652	143.189	208.463	69.965	3	.003

Table 3.1.8. Two-sample t-test Total Compensation

	Group1	Group2	Mean1	Mean2	dif	St_Err	t_value	p_value
Gender	1965	258	8335.457	6754.48	1580.977	958.515	1.65	.099
CEO	1823	400	6223.964	16938.85	-10714.89	766.71	-14	0
CFO	1816	407	8714.688	5641.164	3073.524	791.648	3.9	0

3.1.2.2.6 Public promotion on firm level

To test the relationship of Hypothesis 4A between the number of female board members and firms promoting gender equality on firm level, I use the public promotion dummy (*Public_12*) as dependent variable and the ratio of female board members (*RatioFBM*) as independent variable. The ratio of

female board members is measured by the number of women on a board, divided by the total number of board members. For Hypothesis 4B, I replace the independent variable of ratio of female board members by the change variable. As control variables, average age, firm size, market value and industry are included. In this model, the control variables are added as these can influence the probability that a firm publicly promotes a social issue, in this case gender equality. A higher average age could be a signal of a more conservative firm, also in their approach to online information provision. Firm size and market value are added to control for the visibility the firm naturally generates due to its size and value. Industry is added as a control variable, as the type of industry can influence the types of public promotion or CSR a company performs. Although gender equality is an industry-broad issue, some industries have more pressing social issues to speak up about. Oil and gas companies for example face increasing scrutiny on their products, as these are often not sustainable, which can require more attention as it may impact the companies' reputation on a broader level.

3.1.3 Descriptive statistics and sample characteristics

This section provides descriptive statistics of both the individual and firm level datasets. To compile and clean both datasets, I merged my manually retrieved data, data on the Fortune 500 of 2018 and the BoardEx (2018) and Compustat (2015 and 2018) sets. Afterwards, I dropped all missing values of the dependent variables. In the following section I will first discuss the firm level dataset and continue with the individual level dataset.

Tables 3.1.9 and 3.1.10 provide overviews of statistics of the total dataset and key variables used in this study on firm level. The firm level dataset consists of 412 US companies included in the 2018 Fortune 500 ranking. Of all companies, two have more than 50% women on their board, three have an equal division between men and women and 200 firms have less women than men on their board. As can be seen in Table 3.1.9, of the 412 companies in the sample, 205 have no female board members. Of these 205 companies, there are still 81 companies that promote gender equality as measured by the first approach and 88 as measured by the second. Explanations could be that firms do work on gender equality on different levels within the firm, but not yet in the headquarter or that they started trajectories especially for women whom have not yet reached the boardroom. As shown in Table 3.1.9, companies with fewer female board members have more often received media coverage on gender equality. It is remarkable that this is both the case for positive and negative coverage, although this could be due to sample size, as the sample groups of 0 to 25 percent women are larger as well, compared to those of 25 and above.

Table 3.1.9. Percentage of female board members

	Freq.	Percent	Public_1	Public_2	NegNews	PosNews
0	205	49.76	81	88	13	10
1-24%	154	37.38	63	71	13	12
25-49%	48	11.65	19	24	7	4
50% and more	5	1.21	1	2	0	1

This table portrays the percentage of female board members on the boards of US Fortune 500 companies in 2018. The percentage is calculated by dividing the number of women on a board by the total number of board members.

A first glance at Table 3.1.10 already depicts a large difference between male and female board members in term of pay-gap. Further notable is the large disparity between the average compensation and the maximum value, compared to the minimum. This suggest a skewed distribution and outliers towards the maximum value. These skewed distributions can be seen for all other types of compensation, as well as for firm characteristics such as market value and firm size. In the methodology section executed tests will be discussed to see whether this is an issue for the regression analysis.

Table 3.1.11 shows descriptive statistics on an individual level. The individual data sample consists 2247 individual board members, working for 412 companies. These companies have an average of 5.5 board members. Around 12 percent of all board members are women, which are 270 women, against 1977 men. The average age is 56, the lowest age is 30, the highest 94. Around 18 percent of all board members are CEO or CFO, which translates to 400 CEOs and 407 CFOs. The variables containing information on the experience of board members, such as work experience and education only have between 158 and 127 observations in the entire dataset. This is due to the merging of datasets and unavailability of information. From these limited observations however, a first glance suggests that the average time in a company is only slightly more than the time spend as board member. This implies that board members are often hired into their high position, and do not always work their way up in the company. The average time in role is almost seven years, which does not comply with literature, that says the lead time of a board member is around three years (Hayes et al., 2004). Most board members have other board experience, with an average of five listed and six unlisted boards. The treatment of the limitation caused by the scarcity of observations will be discussed in the results section.

Table 3.1.10. Descriptive Statistics Firm level

Variable	Obs	Mean	Std.Dev.	Min	Max
Average Age	412	56.28	3.607	42.25	75.4
Average Salary	412	815.992	484.927	104	6890
Average Bonus	412	223.581	807.537	0	8422
Average Other	412	295.656	603.115	.002	7049.989
Average Total	412	8158.191	8793.661	1188.877	83488.12
Total Average Male	412	8383.338	8289.898	1099.372	80759.35

Total Average Female	207	6875.918	17779.93	848.137	197000
Pay Gap Male-Female	207	1679.869	13394.97	-142000	31149.61
Firm size	412	59891.86	133000	1607	2300000
Firm performance (millions$)	412	26946.37	43620.03	5429	500000
Profits (millions$)	411	2292.828	5114.165	-6798	48351
Market value (millions$)	409	50262.73	94636.07	39	851000

Table 3.1.11. Descriptive Statistics Individual level

Variable	Obs	Mean	Std.Dev.	Min	Max
Female dummy	2247	.089	.285	0	1
CEO dummy	2247	.18	.384	0	1
CFO dummy	2247	.183	.387	0	1
Time in Role	136	6.585	6.615	0	43.9
Time on Board	136	8.935	8.404	.1	43.9
Time in Company	136	9.651	9.283	.1	43.9
Average Time in Other Companies	134	5.808	4.422	0	25.1
Number of Listed Boards sat on	134	4.582	2.84	1	15
Number of Unlisted Boards sat on	127	6.26	5.827	1	27
Number of Qualifications	136	2.257	1.026	0	8
Network Size	158	1912.203	1832.119	40	10123

Tables 3.1.10 and 3.1.11 portray descriptive statistics of the firm and individual level datasets. All variables presented are measured in 2018, with the monetary data, i.e. compensation and revenues, presenting annual data. These variables are illustrative and not all used in the analysis.

3.1.4 Data limitations

The most important limitation of the data is that my independent variables are self-made, which could result in a confirmation bias. As I made the assessment of whether media coverage is negative myself, I might be more on the lookout for this negative coverage. To prevent this, the dummy is measured in multiple ways and combined in my regressions, to make it as objective as possible. Secondly, especially in Google Search, the product the company sells is of influence in search results. Companies such as Walmart or eBay are more likely for example to show book results for gender equality. JP Morgen Chase does much research on gender equality and is therefore less likely to show results of their own company, but rather their research. Therefore, I added the website search approach. Thirdly, as discussed in the descriptive statistics, the background information on board members is very limited. This is due to the difference in data collection between BoardEx and Compustat, making it difficult to combine these datasets. I still included this data into my sample however, as it does show some interesting statistics and is largely used in literature to explain the differences between male and female board members.

3.2 Methodology

To answer my research question, a cross section analysis is executed on the datasets previously described. I use both binary logistic regressions and ordinary least square (OLS) regressions to test my hypotheses. In the following section, I will first introduce the logistic regression models used to test Hypotheses 1A, 1B, 2A, 2B, 4A, and 4B. Next, I introduce the OLS regression models used to test Hypotheses 1C, 2C, 3A and 3B.

3.2.1 Logistic regression

By using a logistic regression, the independent variables will be measured on their influence on the probability of the presence of a female board member and the probability of a firm promoting gender equality. This method fits the logistic regression, making use of the maximum likelihood (Wooldridge, 2014). To interpret the coefficients, I will use average marginal effects.

To test Hypotheses 1A and 2A, I use the firm level dataset and for 1B and 2B the individual level dataset. For the firm level analysis, I use a dummy for at least one female board member as dependent variable. For the individual level analysis, the dependent variable is the female dummy. As independent variables for Hypothesis 1, I include the *AllNews* dummy and the control variables. To answer Hypothesis 2, I use the News dummy for positive media coverage and negative media coverage. By using a logit model, I will calculate whether the probability of female board presence increases by positive or negative media coverage, or deceases by no media coverage.

Firm level (1A, 2A):

$$log\left(\frac{p(dOneFemale = 1)}{1 - P(dOneFemale = 0)}\right) = \beta_0 + \beta_1 News + \beta_3 AvgAge + \beta_4 logFirmSize + \beta_5 logMarketValue + \beta_6 Industry$$

Individual level (1B, 2B):

$$log\left(\frac{p(dFemale = 1)}{1 - P(dFemale = 0)}\right) = \beta_0 + \beta_1 News + \beta_3 Age + \beta_4 TimeInCo + \beta_5 Network + \beta_6 TimeOthCo + \beta_7 Listed + \beta_8 Unlisted + \beta_9 logFirmSize + \beta_{10} logMarketValue + \beta_{11} Industry$$

To test Hypothesis 4A, I use the Public dummy as dependent variable. As main independent variable I use the female dummy, to test whether having a female board member increases the probability of a company publicly promoting gender equality. To test Hypothesis 4B I use the change variable as

independent variable, to see whether an increase in female board members between 2015 and 2018 results in a higher probability of promoting gender equality in 2020.

Firm level (4A):

$$log\left(\frac{p(Public=1)}{1-P(Public=0)}\right) = \beta_0 + \beta_1 RatioFBM + \beta_2 AvgAge + \beta_3 logFirmSize + \beta_4 logMarketValue + \beta_5 Industry$$

Firm level (4B):

$$log\left(\frac{p(Public=1)}{1-P(Public=0)}\right) = \beta_0 + \beta_1 ChangeFBM + \beta_2 AvgAge + \beta_3 logFirmSize + \beta_4 logMarketValue + \beta_5 Industry$$

3.2.1.1 Assumptions

Compared to linear regression models, a logistic regression has relatively few assumptions. However, it does have the binary (or ordinal) requirement for the dependent variable, to which I comply with my female, media coverage and public promotion dummies. Second, there should be little to no multicollinearity (Wooldridge, 2014). To detect collinearity among the predictors in my model I use variance inflation factors (VIF). As depicted in Appendix B4, the VIF scores indicate there is no multicollinearity. The mean VIF for the firm level independent variables is 1.50, with the highest factor for an industry with a value of 2.21, which is still below the strict threshold of 4. The individual level independent variables score a mean VIF of 1.47. In addition to these requirements, I test the fit of each model to the data by performing a goodness-of-fit tests for each model, which will be discussed in the results section.

3.2.2 Ordinary Least Square regression

To test Hypotheses 1C and 2C on whether media coverage influences the growth of female board members, I use a similar model to the logit discussed above for Hypotheses 1A and 2A, only with the logarithm of the change in the number of female board members between 2015 and 2018 as dependent variable. The logarithmic transformation will be discussed in the Assumptions section.

$$Log\ Change\ Female\ Board\ Members = \beta_0 + \beta_1 News + \beta_2 AvgAge + \beta_3 FirmSize + \beta_4 MarketValue + \beta_5 Industry$$

To test Hypothesis 3 and measure differences in compensation, I use an OLS regression. As Hypothesis 3 questions media coverage relative to no media coverage, I will first use the *AllNews* dummy to test for media coverage. To test whether positive or negative media coverage has a larger influence, I will later replace the *AllNews* dummy for either the positive or negative media coverage dummy as independent variable of interest. I again use two levels to test this hypothesis. The first level is on firm level. I use the logarithm of the Male-Female payment gap as dependent variable. In the Assumptions section, I will discuss why I use a logarithmic transformation.

$$Log\ PayGap\ Male - Female = \beta_0 + \beta_1 News + \beta_2 AverageAge + \beta_3 logFirmSize + \beta_4 logMarketValue + \beta_5 Industry$$

The second method is on individual level.

$$Total\ Compensation = \beta_0 + \beta_1 News + \beta_2 Female + \beta_3 Female * News + \beta_4 Age + \beta_5 TimeInCo + \beta_6 TimeOthCo + \beta_7 Listed + \beta_8 Unlisted + \beta_9 CEO + \beta_{10} CFO + \beta_{11} logMarketValue + \beta_{12} Industry$$

3.2.2.1 Assumptions

In theory the OLS regression calculates the best possible estimates for continuous dependent variables. To use this method, seven assumptions should be met. I will first discuss the assumptions on firm level and afterwards on individual level. Most OLS assumptions are in regard to the error term. First, the sum of all error terms should be zero, the zero conditional mean assumption. The firm level data meets this assumption, as by predicting the value of the residuals, the mean shows to be zero, as can be seen in Appendix B1. Second, there should be homoscedasticity, indicating that the variance of the error term remains the same, regardless of the values of the independent variables. To test for homoscedasticity, I use an IM-test with both *PayGapMF* and *ChangeFBM* as dependent variable. The null-hypothesis that there is no heteroskedasticity shows a p-value of 0.000, indicating that the hypothesis should be rejected. Therefore, there is evidence for heteroscedasticity, which results in still unbiased and consistent, but less precise and efficient coefficient estimates. To correct for this, I transformed both dependent variables using a logarithm, which results in homoscedasticity, as can be seen in Table B.4 and B.6 in Appendix B1. Third, observations in the error term should be uncorrelated, meaning there is no serial correlation. I use a runtest for random order to search for correlation, that shows a p-value of 0.2, indicating no serial correlation. This can also be observed in the graph in Appendix B2. Lastly, the error term should follow a normal distribution. To test this assumption, I predicted the residuals and performed various tests. As can be seen in

Appendix B1, the residuals show a skewness of 0.584. This, although not ideal, falls within the threshold of acceptable skewness. Furthermore, this table shows a relatively high kurtosis, indicating a higher peak than usual for a normal distribution (Lomax & Hahs-Vaughn, 2012). From the various tests performed I can conclude that my firm level data does not follow a normal distribution. Therefore, I use a robust estimator to correct for non-normality.

Next to the error term, three assumptions should hold. First, the dependent variable should be related to the independent variables and the error term in a linear fashion. As the most important explanatory variable is a dummy variable, linearity is automatically met. All other control variables also meet the linearity assumption for both dependent variables, as can be seen in Appendix B3. Second, the sample used in the regression is random. This holds, as a sample of Fortune 500 companies is used, randomly selected based on available data. Third, there should be sample variation in the explanatory variables, which means there is no perfect collinearity, indicating no exact linear relations between independent variables. To detect collinearity, I again use variance inflation factors. As can be seen in Appendix B4, there appears to be no collinearity amongst the independent variables after testing VIF for *PayGapMF*, with a mean VIF of 1.47. Testing for *ChangeFBM* yields similar results.

On an individual level, the zero conditional mean assumption holds as well, as can be seen in Appendix B1. The IM-test for homoskedasticity shows a p-value above 0.05, indicating that there is no evidence for heteroskedasticity. Testing for random order shows a p-value of 0.02, indicating that the assumption of no serial correlation is not met. Similar to the firm level data, the individual level data shows signals of a non-normal distribution. To correct for both problems, I again use a robust estimator. The linearity assumption is met by all dependent variables, as the dummy variables automatically meet this assumption and all other variables show a linear fashion, as can be observed in Appendix B3. Lastly, to detect collinearity I perform a variance inflation test. The mean VIF is 1.29, with a maximum value of 1.66 for *logMarketValue*. Therefore, I can conclude that there is no evidence for collinearity among independent variables.

4. Results

In this section the logistic regression and OLS results for all hypotheses and the interpretation of these results are presented. Using these results, I will look into the relationship between media and gender equality. I first attempt to answer the question whether journalistic media can play a role in increasing gender equality within firms. Second, I question whether media outlets used by firms on gender equality are representative for the boardroom of the firm.

4.1 Media coverage

In Table 4.1.1 the results for Hypotheses 1A, 1B and 1C are presented. With this model, I test the relationship between media coverage and gender equality within the boardroom. To examine the fit of the data to the model, I performed a goodness-of-fit test of the first model for Hypothesis 1 for the firm data set, that shows a p-value of 0.507, indicating a good fit to the data, which is also confirmed by the p-value of chi-square of 0.000. I performed a similar test on model 2, for the individual data set, which is also a good fit, with a p-value of chi-square of 0.000.

As described in section 3.1.2.2.2, the control variables for the gender dummy were several variables on the experience of individual board members. However, due to merging of datasets, a very small sample (between 100 and 200 observations) remained, with no observations for female board members, resulting in a disfunction of the model. The results are portrayed in model 2 in Table 4.1.1. Furthermore, as the original regression showed very small coefficients for firm size and market value, the logarithmic transformation of these variables is used in these and the following models.

Table 4.1.1: Results Hypothesis 1

Hypothesis (model)	1A (1)	1B (2)	1C (3)
VARIABLES	dOneFemale	dFemale	logChangeFBM
AllNews	0.272	0.171	-0.308*
	(0.322)	(0.272)	(0.196)
Age		-0.033***	
		(0.011)	
CEO		-0.829***	
		(0.265)	
CFO		-0.098	
		(0.194)	
AvgAge	-0.053*		0.019
	(0.029)		(0.014)
logFirmSize	0.036	0.074	0.007
	(0.113)	(0.079)	(0.057)
logMarketValue	0.094	0.111*	-0.034
	(0.083)	(0.063)	(0.045)
Industries included?	YES	YES	YES

Constant	1.637	-2.382**	-1.131
	(1.825)	(1.029)	(0.912)
Observations	409	2,226	409
(Pseudo) R-squared	0.016	0.030	0.033
Method	Bin. Logit	Bin. Logit	OLS

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

A first glance at the table shows relatively few statistically significant results. These results are similar when not including control variables for Hypothesis 1A and 1C. In the first model, the independent variable of interest is not significant, which means that Hypothesis 1A is not supported based on these outcomes. Therefore, based on these results, there is no evidence that media coverage between 2010 and 2015 has an influence on the presence of a female board member in 2018. The lack of significant results could be a consequence of data limitations. On firm level, other variables can influence the presence of at least one female board member, such as the gender or age distribution of the entire firm, which I could not include into my dataset due to unavailability of this data.

In model 2, independent variable *AllNews* is again not statistically significant. Therefore, I find no support for Hypothesis 1B. While media coverage could still be of influence, the assumption of a direct relationship between media coverage on individual board members might be too strong. Without any control variables added however, *AllNews* is positive and significant at a 5% level (Appendix C). After adding controls, this effect weakens, which can be explained by the inclusion of *Age*, the *CEO* position and *logMarketValue*. *Age* is negative and significant at a 1% level, indicating that for an additional year of age, the probability of the board member to be female decreases. This suggests that female board members are on average younger than their male counterparts, which corresponds with literature (Sheridan & Milgate, 2005; Oakley, 2000). The CEO control is negative and significant at a 1% level, indicating that being a CEO, the probability of the board member to be female decreases. This makes sense, as there are relatively few female board members in the dataset CEO.

Model 3 shows a statistically significant result for *AllNews* at a 10% significance level. The negative coefficient indicates that when a firm receives any kind of media coverage, the change in the number of female board members decreases by 27 percent, ceteris paribus. This implies a negative, rather than positive relationship between growth and receiving media coverage. To explain the negative relationship, there should be a distinction between positive and negative media coverage. Negative media coverage resulting in a negative change is hard to explain from both literature and logical

perspective, as it would imply the negative coverage has resulted in even less female board members. Positive media coverage however could be explained, as a firm is already focusing on gender equality or already gender equal. Therefore, a negative growth can be a consequence of a board with an overrepresentation of women, scaling down in number of women to become even with the number of men, or having a board already including several female board members and simply hiring a new male member.

Table 4.1.2: Results Hypothesis 2

Hypothesis (model)	2A (1)	2A (2)	2B (3)	2B (4)	2C (5)	2C (6)
VARIABLES	dOneFemale	dOneFemale	dFemale	dFemale	logChangeFBM	logChangeFBM
NegNews	0.247		-0.022		-0.316	
	(0.390)		(0.340)		(0.256)	
PosNews		0.442		0.617**		-0.434*
		(0.459)		(0.311)		(0.250)
Age			-0.033***	-0.032***		
			(0.011)	(0.011)		
CEO			-0.824***	-0.836***		
			(0.265)	(0.265)		
CFO			-0.097	-0.100		
			(0.194)	(0.195)		
AvgAge	-0.053*	-0.052*			0.019	0.018
	(0.029)	(0.029)			(0.013)	(0.014)
logFirmSize	0.042	0.031	0.083	0.040	-0.000	0.010
	(0.112)	(0.115)	(0.079)	(0.080)	(0.057)	(0.056)
logMarketValue	0.101	0.095	0.125**	0.106*	-0.040	-0.037
	(0.082)	(0.083)	(0.062)	(0.060)	(0.045)	(0.044)
Industries included?	YES	YES	YES	YES	YES	YES
Constant	1.566	1.620	-2.572**	-2.068**	-1.064	-1.101
	(1.809)	(1.828)	(1.011)	(1.014)	(0.903)	(0.891)
Observations	409	409	2,226	2,226	409	409
(Pseudo) R-squared	0.015	0.016	0.030	0.033	0.030	0.033
Method	Bin. Logit	Bin. Logit	Bin. Logit	Bin. Logit	OLS	OLS

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.1.2 presents the results for Hypothesis 2. Both positive and negative media coverage dummies are included in the models, to see whether one sort of media coverage has a stronger effect than another. Again, models 1, 2, and 3 show no significant values for the independent variables of interest. Therefore, Hypotheses 2A and 2B are not supported by these results, similarly to Hypotheses 1A and 1B.

As Hypothesis 2B shows no significant results for negative media coverage, this hypothesis is not supported. However, the coefficient for positive media coverage is positive and significant at a 5% level. This indicates that although there is no evidence to support that negative media coverage has an effect, positive media coverage on a firm's gender equality increases the probability of the board member working for that firm to be female, ceteris paribus. It is notable that positive media coverage has a significant effect while negative does not, as according to literature, negative media has more influence compared to positive (Cahan et al, 2015). This could be accounted for by the difference in observations, with positive coverage having less observations than negative coverage. Furthermore, from a theoretical perspective, the argument for the significant coefficient for positive media could be made. According to literature, negative events are more likely to be covered than positive events (Barnett & Hoffman, 2008). Although that does make it more likely for a firm to be covered negatively rather than positively, when the firm is covered in a positive way, the effect may be larger, as this might be a result of multiple positive events happening.

Testing Hypothesis 2C shows no significant results for negative media coverage. Therefore, this hypothesis is also not supported. However, the coefficient for positive media coverage is negative and significant at a 10% level. This indicates that although there is no evidence to support that negative media coverage has an effect, positive media coverage on a firm's gender equality decreases the change in the number of female board members between 2015 and 2018 by 35 percent, ceteris paribus. The significant effect seen for the model testing Hypothesis 1C might be due to the positive rather than negative media coverage captured in *AllNews*. As discussed above, this is a more logical explanation for the negative coefficient than negative media coverage and can be a result of an already gender equal board.

To summarise, the models testing Hypothesis 1A, 1B, and 2A show no significant results for the variable of interest. Furthermore, the negative coverage variable testing Hypothesis 2B shows no significant effect as well. Therefore, I find no evidence that media coverage between 2010 and 2015 influences gender equality in the boardroom in 2018 as I expected in my hypotheses. The model testing Hypothesis 2B show that on an individual level, working for a firm that received positive media coverage before 2015 increases the probability of a board member being female. The model testing Hypothesis 1C shows that the change in the number of female board members is negatively affected by media coverage. The results of the model testing Hypothesis 2C show that this effect is

probably due to positive, rather than negative media coverage. As this is not the relationship expected, Hypotheses 1A, 1B, 1C, 2A, 2B and 2C are rejected.

4.2 Compensation

In Table 4.2.1, the results for Hypothesis 3A are presented in models 1 to 3, the results for Hypothesis 3B in models 4 to 6. Here I test the relationship between media coverage and the equality of compensation between board members of different genders. Due to the unavailability of data, similarly to Hypothesis 1B, the model used to test Hypothesis 3B on individual level is slightly adapted. The control variables on work experience of board members have been left out.

Table 4.2.1: Results Hypothesis 3

Hypothesis (model)	3A (1)	3A (2)	3A (3)	3B (4)	3B (5)	3B (6)
VARIABLES	logPayGapMF	logPayGapMF	logPayGapMF	TotalComp	TotalComp	TotalComp
NegNews		-0.200			803.095	
		(0.216)			(2,372.131)	
PosNews			0.117			2,195.160*
			(0.325)			(1,815.806)
AllNews	-0.041			1,342.213		
	(0.201)			(1,777.529)		
dFemale				-918.934	-990.408	-938.740
				(941.551)	(940.204)	(953.514)
Female*AllNews				-1,625.559	-846.201	-1,905.092
				(2,394.976)	(2,125.386)	(1,999.652)
Age				181.270***	180.447***	182.453***
				(59.744)	(59.628)	(60.456)
CEO				9,969.041***	9,980.082***	9,960.356***
				(1,151.152)	(1,147.150)	(1,147.659)
CFO				-598.101	-594.437	-595.778
				(579.272)	(579.600)	(576.132)
AverageAge	0.004	0.002	0.005			
	(0.026)	(0.026)	(0.026)			
logFirmSize	-0.003	0.005	-0.012			
	(0.077)	(0.077)	(0.080)			
logMarketValue	0.309***	0.308***	0.302***	2,479.503***	2,525.697***	2,508.983***
	(0.068)	(0.068)	(0.070)	(364.615)	(352.256)	(388.598)
Industries included?	YES	YES	YES	YES	YES	YES
Constant	4.668***	4.719***	4.760***	-30,440.067***	-31,156.386***	-30,336.336***
	(1.363)	(1.364)	(1.384)	(5,063.457)	(5,026.429)	(4,814.639)
Observations	166	166	166	2,225	2,225	2,225
R-squared	0.314	0.317	0.315	0.186	0.186	0.187
Method	OLS	OLS	OLS	OLS	OLS	OLS

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Again, the independent variables of interest for media coverage used for Hypothesis 3A are not statistically significant. Therefore, I find no support for this hypothesis. From a theoretical perspective, an explanation could be that although media coverage can have effect on a firm in general, the board member gender pay gap might be too specific to see a direct effect of media coverage.

For Hypothesis 3B, model 4 and 5 show no significant effect for media coverage on total compensation. Without any control variables added however, all three variables of interest are positive and significant at either 1% (*AllNews* and *PosNews*) or 5% (*NegNews*) level (Appendix C). When adding controls, this effect is weakened for *PosNews* and disappears for *AllNews* and *NegNews*, due to the inclusion of *Age*, *CEO* and *logMarketValue*. This effect is similar to that seen for Hypothesis 1B. Model 6 does still show a positive significant effect at a 10% level for positive media coverage compared to negative or no coverage. When the firm has received positive media coverage, total annual compensation for an individual board member increases with 2195 dollars, ceteris paribus. Hypothesis 3B anticipates a higher compensation for firms with all types of media coverage compared to no media coverage. As the dummy *AllNews* is not significant, I find no support for this hypothesis. I do find support for positive coverage increasing total compensation. In the last model, the interaction effect between the female dummy and positive media coverage is not significant and neither is the female dummy. This indicates that there is no evidence for a relationship between a woman working for a firm that has received media coverage and compensation.

The control variables for models 4 to 6 show a positive and significant effect at 1% significance level for age, implying that a one-year increase in age increases total compensation for an individual board member with 180 to 182 dollars, ceteris paribus. Furthermore, the CEO dummy is positive and significant at a 1% significance level, meaning that being a CEO increases total compensation with 9960 to 9980 dollars, ceteris paribus. The market value shows to have a positive and significant effect on compensation as well.

To summarise, the models testing Hypothesis 3A show no significant results for the variable of interest. Accordingly, I find no evidence that media coverage between 2010 and 2015 influences gender equality in terms of gender pay gap in 2018. Therefore, and following the ambiguous results for Hypothesis 3B, I find no evidence that media coverage has an effect on compensation and reject Hypotheses 3A and 3B.

4.3 Promoting gender equality

Table 4.3.1 shows the results for Hypotheses 4A and 4B, testing the relationship between the gender equality of a Fortune 500 board and its promotion of gender equality to see whether media outlets used by firms are representative of board level. To examine the fit of the data to the model used for Hypothesis 4, I performed a goodness-of-fit test, that shows a chi-square value of 6.56, indicating a good fit to the data, which is also confirmed by the p-value of chi-square of 0.010.

Table 4.3.1: Results hypothesis 4

Hypothesis (model)	4A (1)	4B (2)
VARIABLES	Public_12	Public_12
RatioFBM	1.378*	
	(0.863)	
ChangeFBM		0.711
		(0.910)
AvgAge	-0.035	-0.038
	(0.035)	(0.035)
logFirmSize	0.332***	0.338***
	(0.126)	(0.127)
logMarketValue	0.361***	0.368***
	(0.100)	(0.099)
Industries included?	YES	YES
Constant	-4.329**	-4.070*
	(2.207)	(2.204)
Observations	409	408
Pseudo R-Squared	0.115	0.114
Method	Bin. Logit	Bin. Logit

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

In the first model, the ratio of female board members is positive and significant at a 10% significance level. Indicating that, keeping all else equal, the probability of a firm promoting gender equality increases when the percentage of female board members within a firm increase. Calculating the average marginal effect of 0.289 (Appendix C) shows that on average, a 10-percentage point increase in the percentage of female board members, increases the probability of a firm promoting gender equality by 2.89 percentage point, ceteris paribus. As the predicted probability of a firm promoting gender equality in 2020 is 73.31 percent, the increase, though significant, is relatively small. The significant result does support the positive relationship described in Hypothesis 4A.

The second model testing Hypothesis 4B shows no significant relation of change of number of female board members with the probability of public promotion. Therefore, I find no support for Hypothesis

4B. These results suggest that while a higher number of female board members on a board in 2018 does have an effect, an increase in female board members does not. As the measure of change is over a three-year period, there may not be significantly large changes in the number of women on a board, explaining the lack of significant results. When measured over a longer period, these results could therefore change.

To summarise, Hypothesis 4A is supported by the results presented above, providing evidence that a firm with a more gender equal board in 2018 has a higher probability of promoting gender equality in 2020. This result does not show for Hypothesis 4B, implicating no evidence for a relation between the increase or decrease of women on a board and the promotion of gender equality. Therefore, Hypothesis 4B is rejected.

4.5 Robustness of results

To test the robustness of the results, I executed two robustness checks. First, to verify the significant result of the public promotion dummy, I calculated this model with different versions of the dummy, as can be seen in Appendix D. The first and second model use the dummy created by the methods described in section 3.1.2.1. The third model uses the dummy indicating 1 when both the first and the second dummy indicate 1. The fourth model uses the dummy I use in the main model, which indicates 1 when either the first or the second dummy indicates 1. The first three models show insignificant results for this dummy, indicating that the results generated in the main analysis are not robust. It shows that only for the most extensive dummy, an effect can be seen. As the dummy is self-made, it comes with a risk of being influenced by personal preferences, which might be an explanation for why the results are not robust.

Second, I tested the robustness of the model for Hypothesis 1A by replacing the dependent variable and the method. Instead of a dummy variable, I use the continuous variable Ratio of female board members (*RatioFBM*) and therefore us an OLS. The results of this model are presented in Appendix D. As can be seen in Table D.2, this method does not yield significantly different results in regard to the variables of interest, similarly to the model used to test Hypothesis 1A.

5. Conclusion

5.1 Discussion

Research has shown that media coverage can influence corporate decision making. Understanding this influence can be of great importance for both policymakers and strategists. To examine the influence of media coverage, I looked into gender equality within the boards of the 500 largest US corporates and their reaction to media coverage and promotion of gender equality. As I combined media coverage and gender equality into my study, it reveals a new niche in both gender equality and media literature. My research shows that there is a negative relationship between growth in number of female board members 2015 and 2018 and media coverage, most likely explained by positive media coverage. Furthermore, I can conclude that there is a positive relationship between the probability of a board member being female and positive media coverage. In addition, my results indicate a positive relationship between the ratio of female board members and the promotion of gender equality.

This research contributes to previous research in several ways. First, it provides insights into the drivers of firms to hire more female board members. In literature both moral and economic reasons are given as explanation for an increase in women in corporations. Moral arguments are for example increasing the value of society, providing role models and wanting a fair representation of all stakeholders (Carver, 2002; Can der Walt & Ingley, 2003). Economic arguments focus on the resource dependency and agency theories. Women can provide different resources than their male colleagues and can align interests between a broader customer base and the firm (Terjesen et al, 2009). One additional reason firms might consider hiring a woman as a new board member is the positive reputation she can give to the firm. Many firms have been criticised over their gender equality and including a woman in the most visible part of the firm can therefore be a strategic choice. A reason a firm might need to improve their reputation in terms of gender equality can be previous criticism. My contribution is in this particular research question, whether media coverage can influence the hiring of new female board members.

My results are two-fold. First, my research indicates that positive media coverage decreases change in number of female board members between 2015 and 2018, which differs from my expectations of an increase. Second, my research shows a positive relationship on an individual level between a female board member and positive media coverage. The most likely explanation for the first observation is that these firms receiving positive media coverage already had several female board members or a gender equal board, and therefore there is no or even negative change. Another explanation could be that firms, after they have received positive media coverage, hire more men, as

they have already shown to be gender equal. As there are limited observations for both negative and positive media coverage, the results might change with a more extensive dataset. Looking at the data used, shows that firms that received positive media coverage have on average 11,8 percent female board members, while firms that received negative media coverage have 11,6 percent female board members, which is only a small difference. Notable is that the firms that received both positive and negative media coverage have an average of 12,8 percent female board members. Furthermore, 10 firms that received positive media coverage have no female board members, indicating that they may have executed positive changes in regard to gender equality throughout the company, while this is not done in the boardroom. Most firms in the sample that received positive coverage show no or positive change. However, one firm goes from 50 to zero percent female board members. This relatively large negative change could therefore be the explanation for the negative sign. In literature, there are examples of firms that have a negative reputation and improve this through the adaptation of social norms (Cahan et al., 2005). However, firms that already adapt to social norms and after positive coverage change their behaviour in a negative way according to social norms have not been observed yet. Future research could therefore give more insights into this unexpected relationship.

My second result does show the relationship as I expected, as on individual level, positive media coverage increases the likelihood of a board member being female. Although I expected the relationship to be stronger for negative media coverage, there appeared no relationship there. On an individual level, an explanation could be that negative media coverage has a larger influence on the company as a whole, while positive media coverage could be the motivation for a single woman to be recruited and join a company. As literature suggests that positive events are less likely to receive media coverage compared to negative events, these positive instances may therefore have a larger effect on an individual, especially one that can evaluate the value of the positive coverage (Barnett & Hoffman, 2008). Another interesting question that arises due to this result is what explains the difference in sign for the effect of positive media coverage on an individual level and for change on a firm level. As media coverage can move an individual to change decisions based on multiple similar messages (Gentile & Sesma, 2003), a reason for the difference could be that the amount of positive media coverage is not measured in my analysis. Therefore, while the amount of media coverage might not influence the firm as a whole, it could influence an individual board member and therefore show a positive result.

Another contribution to current literature is that my research gives insights into the choice whether to include gender equality as a company value or within the firm's CSR focus points. Researchers describe corporate citizenship programs as an increasingly important reputation enhancing factor

(Gardberg & Fombrun, 2006). Furthermore, as gender equality becomes a more pressing social issue, firms increasingly use it in their CSR outings (Smith & Alexander, 2013). However, as is already happening in CSR with greenwashing, there is a risk that a firm merely promotes gender equality without committing to change (Shamir, 2018). My results indicate that the probability of more female board members increases when a firm promotes gender equality. It therefore shows that promoting gender equality is related to a more gender equal board. This result is different from the expectation of Calkin (2015), who anticipated non-binding ways to achieve a socially accepted brand, without implementing the changes required. The result implies that at least on gender equality issues, firm media outlets can be used as a guide for women looking for companies giving extra attention to female participation. However, as these results are not robust, extra research is needed to verify the findings. One example could be to collect the data for promoting each year and test the relationship within the same year, as this is a more logical relationship, or even turn the test around, testing whether promoting gender equality results in more female board members a year later.

Even though my study contributes to existing literature by highlighting the brand value of female board members, as well as showing the extent of media influence in corporate governance, I found relatively few significant results. Although I expected to see a positive relationship between media coverage and the number of female board members and the (change in) number of female board members and public promotion, the (robust) results do not confirm these expectations. I found no evidence for the relationship between negative media coverage and the number of female board members. An explanation could be that there are not enough women on boards to generate significant results. As female board members only make up 8,9% of the sample and the change in number of female board members is on average 1%, it might not be likely to see any effects, even though there might be an influence of media coverage. This feels like a contradiction, as a possible explanation for why I am not able to prove significant relations between media and the number of women, could be because there are not enough women in the sample. This is an interesting hypothesis, as it is currently an unsolvable limitation to this research method. Another explanation could be that while media coverage has shown to influence firm behaviour and therefore might have an influence on gender equality within a firm, it is too strong an assumption of a direct relationship between specific coverage of gender equality and the gender diversity of a board, both in numbers and compensation. Media coverage could perhaps influence gender division on lower levels or within the entire firm or be a contributing factor to a strategy focusing on improving gender equality on board level. In literature on the influence of media on corporate decision making, factors that influence the effect of media are for example the type of violation, the timing of the violation, the

timing of the outcome of the violation and the newsworthiness (Dyck et al., 2008). When for example a lawsuit is covered on an incident that happened ten years ago, it does not have the same effect on reputation as when it is a sexual assault claim that happened the previous week. As I did not control for difference in type of gender equality violation or whether the news covered was in regard to current or previous news, this could have had an effect on the outcome of my analysis. Another explanation could be the limitation of the data used. The collection of my data was a snapshot at one moment in time. Ideally, similar data is collected each year at the same time for the next several years, so a more extensive model can be used and therefore a more extensive research can be executed.

This study has practical relevance for policy makers, as despite the results not being conclusive, there appears to be some relation between media and gender equality. Currently, outside pressure to increase gender equality can come from policy makers in for example the form of quotas, from investors or from consumers (Bloxham, 2016). This research was initially set up to see whether media coverage could be a means of outside pressure as well. As there appears to be some sort of relationship, policy makers could take the influence media into account when installing new gender equality policies or seek for more incremental ways of change. They could for example monitor consumer reactions towards certain firms after media coverage or encourage media outlets to cover more on this specific topic. However, as the relationships seen are not conclusive, policy makers should also be on the lookout for other pressure mechanisms to change corporate behaviour in relation to gender equality.

5.2 Limitations and future research

Some limitations within this research must be taken into account. First, the previously discussed data limitations are of influence on this research. As the dummies used as variables of interest are self-made, there is a possibility for a confirmation bias and a limitation in availability of observations. Furthermore, the availability of the data is limited to previous years, while it would be interesting to see the effect of public promotion on the number of female board members in years after instead of previously. Another data limitation is the scarcity of board member experience data. As these experiences are often named in literature to be of influence, not being able to include them may therefore result in an omitted variable bias. A last limitation is the question whether there are direct relationships between media coverage, the number of female board members and public promotion. A solution for this limitation could be to execute different statistical tests, to understand the scope of the relationship, by for example testing for mediators. Another solution could be the extension of data, as will be discussed in the next section.

There are several possibilities for future research in response to this study. First, while this research is only done on the boardroom level of Fortune 500 companies, it could be extended by researching the different employee levels of the company or the company as a whole. This would result in a larger sample and therefore a more reliable result. In addition, the relationship between media coverage on gender equality might be more visible for the company as a whole. The type of company and employee levels should be taken into account however, as a technical company may have more male employees working as for example mechanics than a company selling female clothing, with female saleswomen in stores. Therefore, only the gender division of for example the headquarters should be tested. A second extension is that the research can be extended to different countries or continents. In this study, I researched the largest US companies. However, different parts of the world have different cultures and thus different views regarding the female workforce. Northern European countries for example are forerunners in the field of gender equality (Rose, 2007). Negative media coverage therefore might damage a firm reputation more in such a country then in for example the Middle East, where it is more uncommon for women to work. Furthermore, media can be perceived different in other countries. In the US, some media outlets are increasingly described as 'fake news', decreasing the informational value a media source has (Lazer, et al., 2018). Therefore, media might be of different influence in Russia or Asia, where censorship of media can be of influence (Kenny & Gross, 2008).

A third extension can be continuing or adapting the data collection. Literature suggests that more frequent media coverage can increase the effect media can have (Carroll & McCombs, 2003). Therefore, including a dummy indicating the size of the coverage, once versus a certain number of times, could be more extensive and make a difference in the results. Other sources for media coverage can be used as well. Bednar (2012) for example uses the Factiva database, which is a more academic approach. Furthermore, continuing the data collection throughout the next several years enables the researcher to do more extensive tests. When the data collection of the public coverage dummy is repeated yearly at a similar time, a more extensive database can be composed. The change in company behaviour can then be researched as a result of media coverage. Furthermore, the effect of public promotion on the number of female board members can be examined, rather than the other way around. A fourth extension could be to research the reputation of the firm after the negative coverage. As there exists previous research on firm reputation, this factor could be added to this research. The effect of negative or positive media coverage regarding gender equality can then be tested on firm reputation. The gender equality of the boardroom can then be analysed on the effect of firm reputation. Lastly, the scope of social issues can be extended beyond gender diversity. Racial

diversity for example is increasingly important, partly due to the Black Lives Matter protest earlier this year. Corporations are more and more pressured and questioned about their racial diversity, which can result in the hasty expression of social values, without having time to adapt yet.

To summarise, while this research has some important limitations, future research and data collection can both correct these limitations and add other dimensions to the research. Examples are extending the datasets by extending the sample or the continuing the data collection, researching different countries, researching reputation or extending the scope of the social issue.

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7. Appendix

Appendix A – Variables

1. Correlation matrices control variables

Table A.1 Correlation matrix Firm level control variables

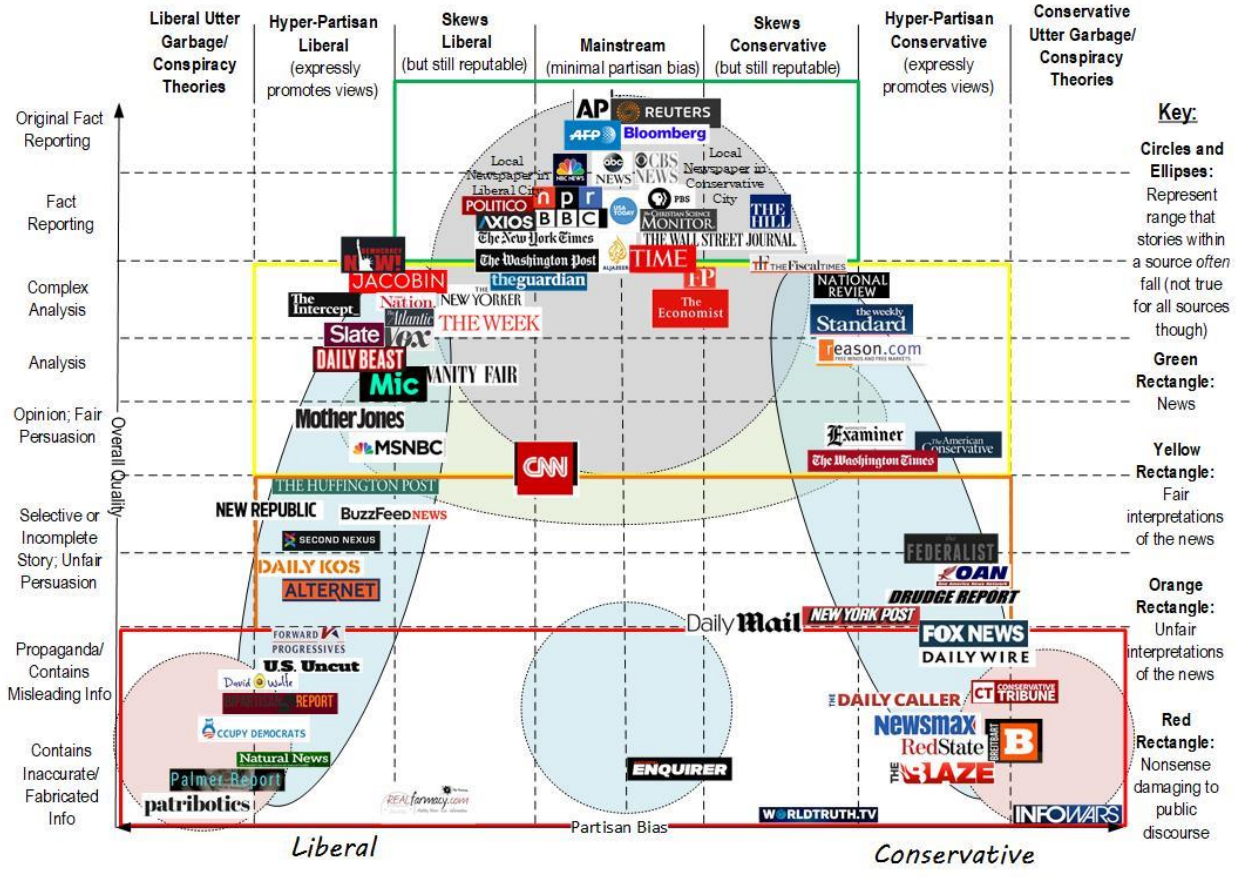
	AvgAge	FirmSize	FirmPerf	MarketValue
AvgAge	1.000			
FirmSize	.0565	1.000		
FirmPerf	.1118	.7339	1.000	
MarketValue	.0300	.3382	.5844	1.000

Table A.2 Correlation matrix Individual level control variables

	Age	TimeInCo	Network	TimeOthCo	Listed	Unlisted
Age	1.000					
TimeInCo	.1379	1.000				
Network	-.0344	-.0560	1.000			
TimeOthCo	.1238	.1650	.0414	1.000		
Listed	-.0379	-.0252	.0657	.2663	1.000	
Unlisted	.0416	.3382	-.0663	.0734	.4880	1.000

2. Media bias chart (Otero, 2017)

Graph A.1. Media bias chart



3. SPINDEX Industry groups

Table A.3.1 Industry groups

Category	Industry group	SPINDEX code
1	Banking, insurance & investment	4010, 4020, 4030, 4040
2	Construction & engineering	2010
3	Health care	3510, 3520
4	Consumer goods & entertainment	2520, 2540, 3020, 3030
5	IT, communication & electronics	4510, 4520, 4530, 5010
6	Retail	2550, 3010
7	Raw materials & energy	1010, 1510, 5510
8	Transport & logistics	2030, 2510
9	Other	2010, 2020, 2530, 5020, 6010

Table A.3.2 Spindex industries

SPINDEX code	Industry group	Frequency	Percentage
2010	Industry (Aarospace, Defense, Construction, Engineering, Machinery, Agricultural)	39	9.47
2030	Tranport (Airlines, Trucking, Rail, Marine)	15	3.64
4520, 5510	Electronic Components, Technology, Utilities	46	11.17
3510, 3520	Health Care (Pharmaceuticals, Life Science, Biotechnology, Services, Equipment)	42	10.19
4530	Semiconductors	7	1.70
1510	Raw Materials (Chemicals, Steel, Gold, Glass)	23	5.58
1010	Oil & Gas (Exploration, Production, Equipment, Services)	22	5.34
6010	REITs	6	1.46
5020, 2540	Media & Entertainment Services	17	4.13
4510	IT, Data & Software	16	3.88
4030, 4020, 4010	Finance, Banking, Investment & Insurance	55	13.35
3030, 3020	FMCG (Personal, Household, Drinks, Foods)	26	6.31
3010, 2550	Retail	52	12.62
2530	Entertainment Consumer Services	10	2.43
2520	Home Products (Building, Furnishing, Leisure, Appliances)	15	3.64
2510	Auto Parts & Equipment	10	2.43
2020	Services	6	1.46

Appendix B – Assumptions

1. Normality and Homoscedasticity

Table B.1. Descriptive Statistics Residuals

	Obs	Mean	Std.Dev.	Min	Max	Skew.	Kurt.
Firm	202	0	5375.334	-20500	23584.54	.584	7.681
Individual	2225	0	13278.24	-42000	281000	9.536	145.509

Table B.2. Shapiro-Wilk W test for normal data

Variables	Obs	W	V	z	Prob>z
Residual FL	202	0.90274	14.636	6.177	0.000
Residual IL	2225	0.39596	789.276	17.036	0.000

Table B.3. Cameron & Trivedi's decomposition of IM-test PayGapMF

Source	Chi2	df	p
Heteroskedasticity	142.25	69	0.000
Skewness	17.68	14	0.222
Kurtosis	7.59	1	0.060
Total	167.53	84	0.000

Table B.4. Cameron & Trivedi's decomposition of IM-test after log-transformation PayGapMF

Source	Chi2	df	p
Heteroskedasticity	52.50	69	0.930
Skewness	18.39	14	0.190
Kurtosis	1.27	1	0.260
Total	167.53	84	0.818

Table B.5. Cameron & Trivedi's decomposition of IM-test ChangeFBM

Source	Chi2	df	p
Heteroskedasticity	172.71	116	0.001
Skewness	31.76	22	0.082
Kurtosis	9.13	1	0.003
Total	213.60	139	0.000

Table B.6. Cameron & Trivedi's decomposition of IM-test after log-transformation ChangeFBM

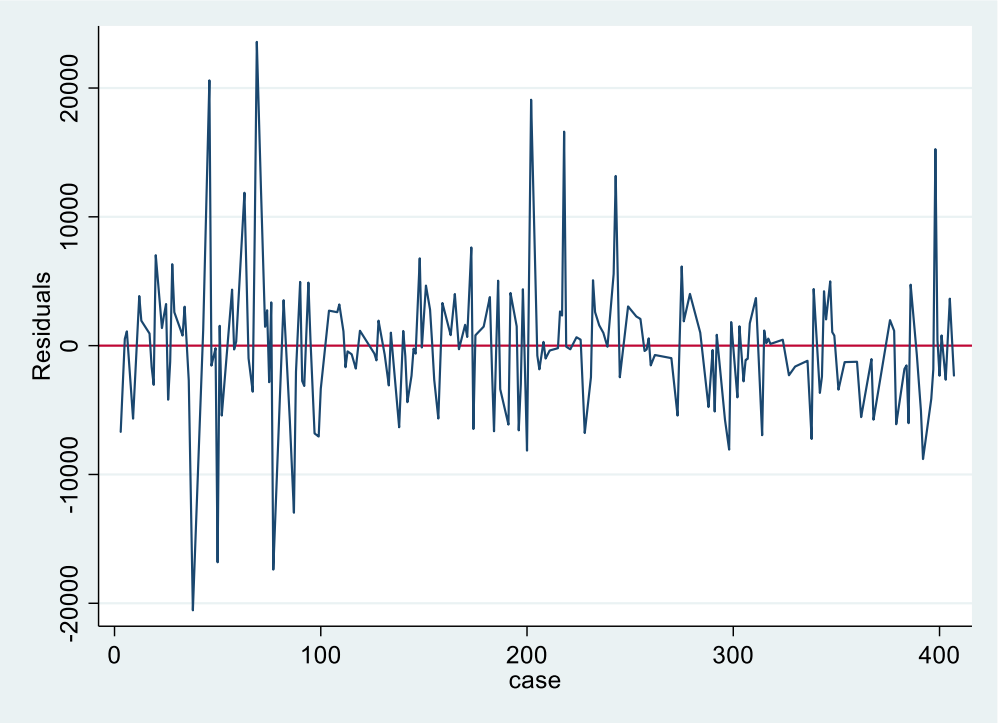
Source	Chi2	df	p
Heteroskedasticity	81.69	90	0.722
Skewness	19.94	20	0.462
Kurtosis	0.04	1	0.8345
Total	101.68	111	0.725

Table B.7. Cameron & Trivedi's decomposition of IM-test TotalCompensation

Source	Chi2	df	p
Heteroskedasticity	129.44	36	0.270
Skewness	23.61	8	0.113
Kurtosis	2.01	1	1.000
Total	155.06	139	1.000

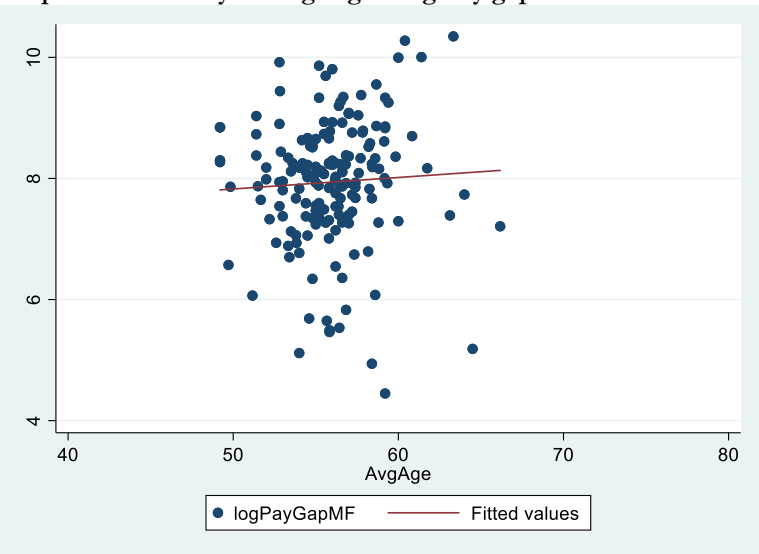
2. Serial correlation

Graph B.1. Serial correlation residuals Firm level

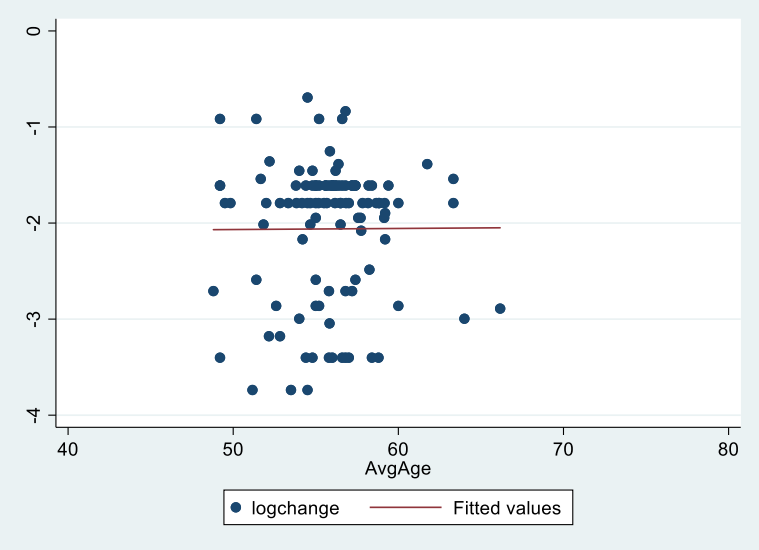


3. Linearity Graphs

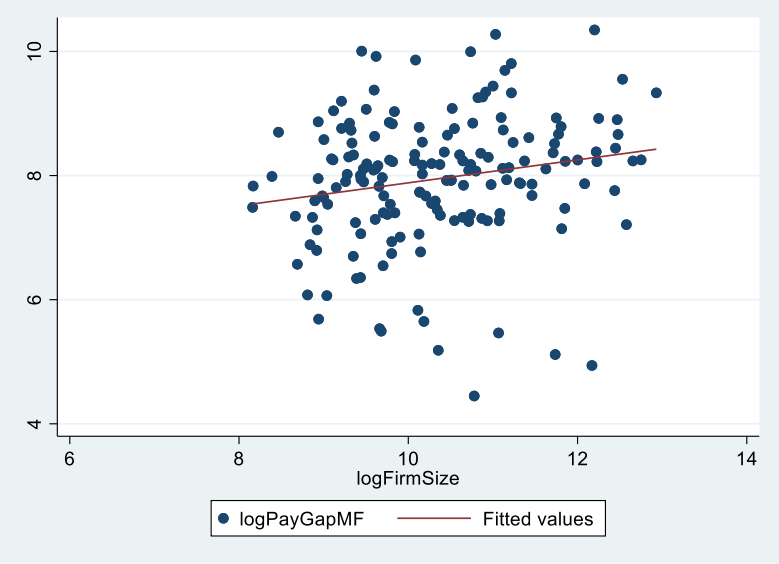
Graph B.2. Linearity Average age – log Pay gap



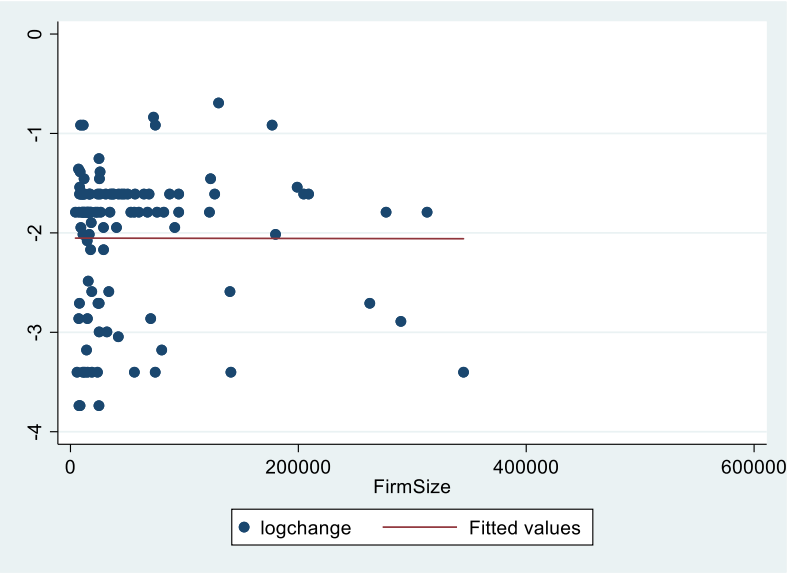
Graph B.3. Linearity Average age – log Change FBM



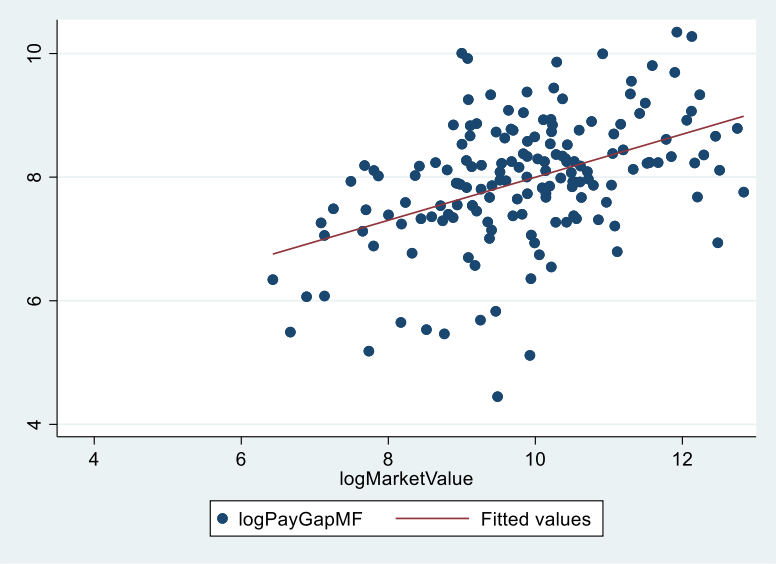
Graph B.4. Linearity log Firm size – log Pay gap



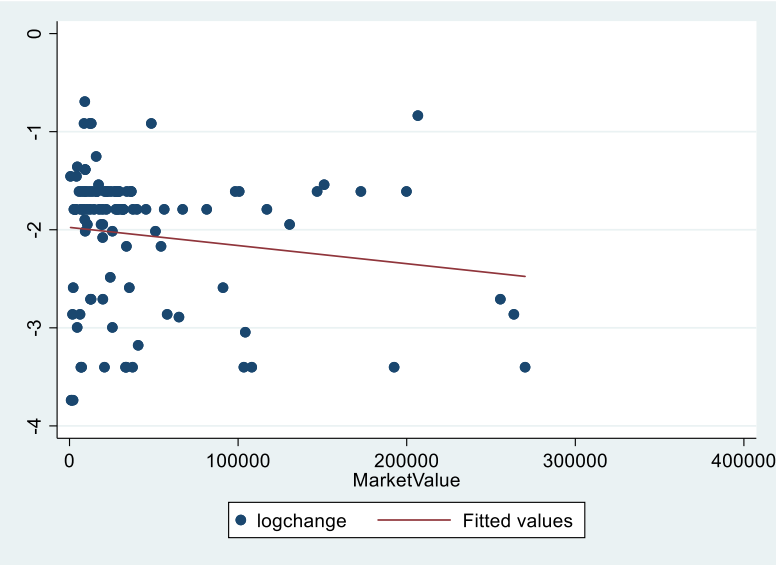
Graph B.5. Linearity Firm size – log Change FBM



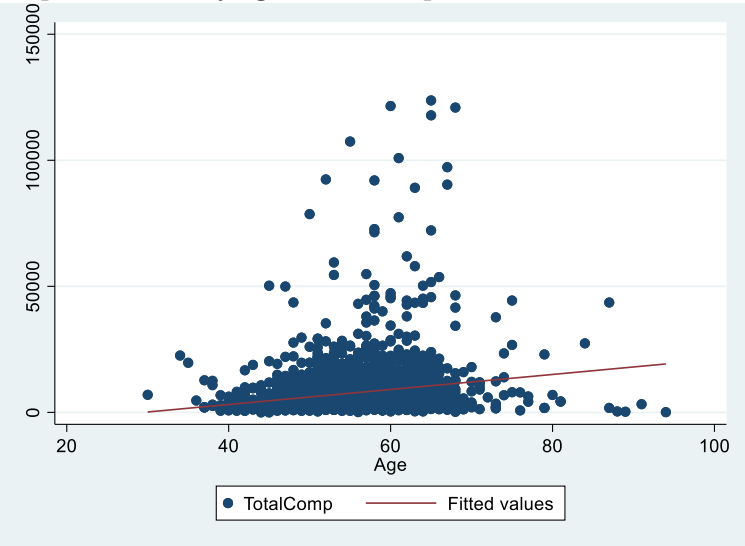
Graph B.6. Linearity log Market value – log Pay gap



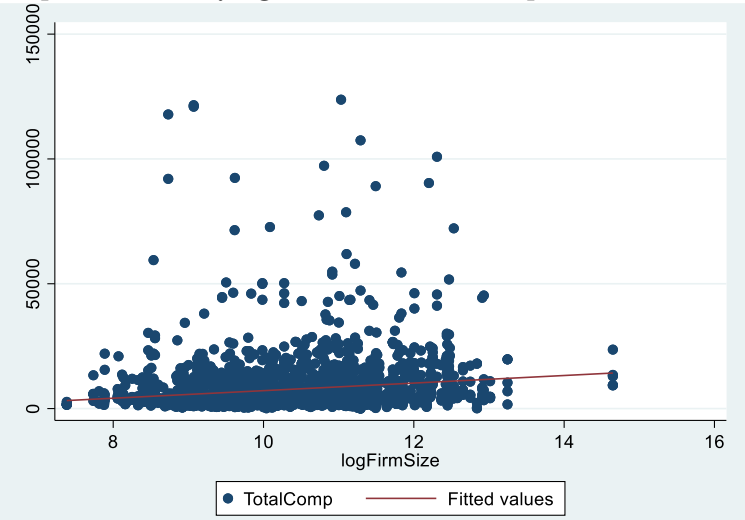
Graph B.7. Linearity Market value – log Change FBM



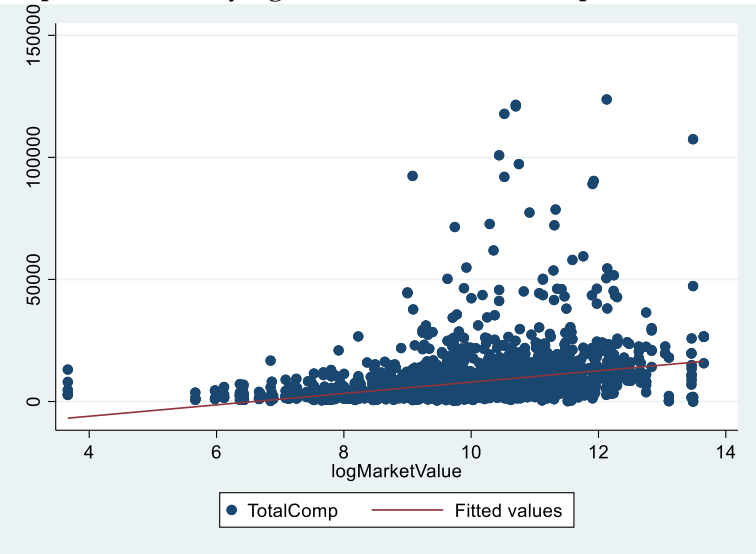
Graph B.8. Linearity Age – Total compensation



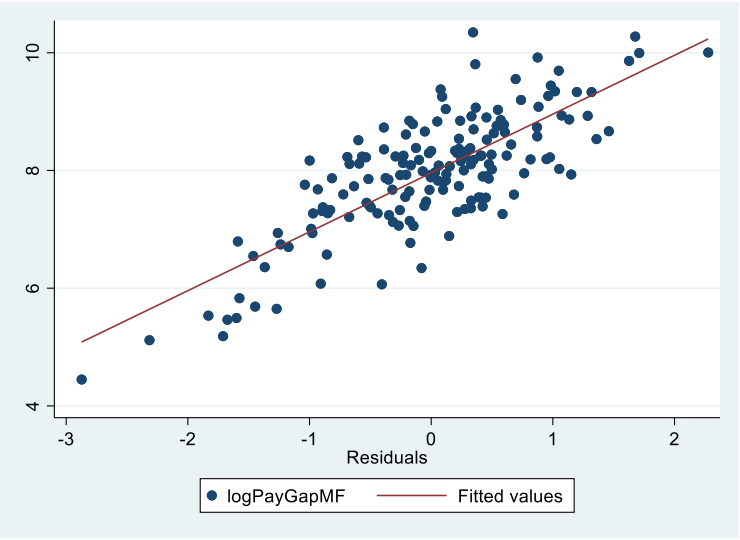
Graph B.9. Linearity log Firm size – Total compensation



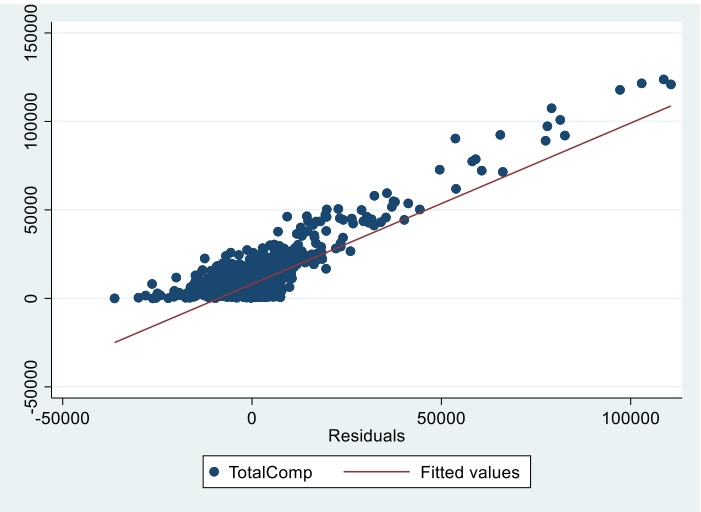
Graph B.10. Linearity log Market value – Total compensation



Graph B.11. Residuals log Pay gap



Graph B.12. Residuals Total compensation



4. Variance Inflation Factors

Table B.8: Variance inflation factors Firm level

Variable	VIF
Log Market Value	1.63
Log Firm Size	1.84
AnyNews	1.19
Average Age	1.10
IndustryAvg	1.04
Mean VIF	1.50

Table B.9: Variance inflation factors Individual Level

Variable	VIF
Log Market Value	1.71
Log Firm Size	1.80
AnyNews	1.26
Age	1.08
CEO	1.08
CFO	1.06
Industry	1.05
Mean VIF	1.47

Appendix C – Results

Table C.1: Results No control variables

Hypothesis (model)	1B (1)	3B (2)	3B (3)	3B (4)
VARIABLES	dFemale	TotalComp	TotalComp	TotalComp
NegNews			5,765.205**	
			(2,377.646)	
PosNews				7,066.577***
				(1,540.576)
AllNews	0.515**	6,461.295***		
	(0.229)	(1,604.396)		
Constant	-2.372***	7,582.118***	7,839.670***	7,787.112***
	(0.079)	(297.385)	(295.942)	(309.052)
Observations	2,247	2,246	2,246	2,246
(Pseudo) R-squared	0.003	0.015	0.007	0.011
Method	Bin. Logit	OLS	OLS	OLS

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table C.2: Results Margins Hypothesis 4A

MARGINS	
VARIABLES	Public
RatioFBM	0.289*
AvgAge	-0.007
logFirmSize	0.070***
logMarketValue	0.076***
2.industry	-0.115
3.industry	-0.040
4.industry	-0.074
5.industry	-0.042
6.industry	-0.304
7.industry	-0.109
8.industry	-0.294
9.industry	-0.227
Observations	409

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Appendix D – Robustness Checks

1. Public Promotion Dummy

Table D.1: Results robustness check public dummy

VARIABLES	(1) Public_1	(2) Public_2	(3) Public_0	(4) Public_12
RatioFBM	-0.158	0.625	-1.076	1.378*
	(0.853)	(0.833)	(0.886)	(0.863)
AvgAge	-0.020	-0.025	-0.022	-0.035
	(0.036)	(0.031)	(0.034)	(0.035)
logFirmSize	0.369***	0.166	0.229*	0.332***
	(0.124)	(0.117)	(0.129)	(0.126)
logMarketValue	0.467***	0.254***	0.446***	0.361***
	(0.109)	(0.096)	(0.113)	(0.100)
Industry = 2	-0.932**	-0.042	-0.373	-0.554
	(0.463)	(0.435)	(0.462)	(0.456)
Industry = 3	-0.065	-0.501	-0.385	-0.200
	(0.418)	(0.428)	(0.449)	(0.447)
Industry = 4	-0.155	-0.317	-0.101	-0.362
	(0.429)	(0.418)	(0.437)	(0.436)
Industry = 5	-0.418	-0.454	-0.690	-0.208
	(0.448)	(0.426)	(0.467)	(0.454)
Industry = 6	-1.571***	-1.140**	-1.620***	-1.419***
	(0.509)	(0.472)	(0.595)	(0.469)
Industry = 7	-0.620*	-0.384	-0.483	-0.527
	(0.374)	(0.364)	(0.393)	(0.373)
Industry = 8	-0.969	-1.011	-0.630	-1.372**
	(0.653)	(0.628)	(0.683)	(0.632)
Industry = 9	-1.218**	-0.680	-0.955*	-1.062**
	(0.506)	(0.464)	(0.531)	(0.491)
Constant	-7.139***	-2.650	-5.897**	-4.329**
	(2.388)	(1.973)	(2.310)	(2.207)
Observations	409	403	409	409

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

2. Ratio female board members

Table D.2: Results robustness check H1A

VARIABLES	(1) RatioFBM
AllNews	0.023
	(0.023)
AvgAge	-0.003*
	(0.002)
logFirmSize	-0.002
	(0.008)
logMarketValue	0.009

	(0.005)
Industry = 2	-0.013
	(0.025)
Industry = 3	0.003
	(0.027)
Industry = 4	0.008
	(0.028)
Industry = 5	-0.000
	(0.028)
Industry = 6	0.038
	(0.028)
Industry = 7	0.001
	(0.021)
Industry = 8	-0.015
	(0.033)
Industry = 9	0.014
	(0.029)
Constant	0.202*
	(0.120)
Observations	409
R-squared	0.029