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Gender Diversity On Boards Of Directors And Human Resource Policies

Prity Patel

GENDER DIVERSITY ON BOARDS OF DIRECTORS AND HUMAN RESOURCE POLICIES

A Dissertation

by

Prity Patel

Submitted to Texas A&M International University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

May 2019

Major: International Business Administration

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Approved as to style and content by:

Chair of Committee,	Jacqueline Mayfield
Committee Members,	Milton R. Mayfield
	Leonel Prieto
	Qing Ma
Chair of Department,	Jorge Brusa

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ABSTRACT

Gender Diversity on Boards of Directors and Human Resource Policies

(May 2019)

Prity Patel, M.B.A., Texas A&M International University;

Chair of Committee: Jacqueline Mayfield

This dissertation examines the correlation between gender diversity on boards of directors in US companies and the human resource procedures that are in place. The findings reveal that a higher ratio of women on boards of directors is associated with workplaces that are more accommodating of women, minorities and lesbians, gays, bisexuals, and transgenders (LGBTs). Furthermore, organizations that have a higher percentage of female board members typically have more women among the top five paid executives, lower pay disparity between male and female executives, and are more likely to promote minority employees. These organizations are also characterized by a work environment that takes into consideration the importance of work-life balance. The key finding of this study is that the presence of females on a board of directors can ultimately serve to foster a more compassionate work culture.

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This thesis follows the model of *The Accounting Review*.

In the next section I discuss the importance of examining these questions.

1.2. The importance of examining these questions

The extent and implications of female representation on the board of directors of contemporary organizations have attracted a significant amount of political attention in recent years, and many factions have highlighted the need for greater female representation on the boards of active companies. In fact, in some areas of the world, it is now mandated that private corporations include more female representation on their boards (Branson 2011). For example, in France, Spain, and Norway, there is a requirement for at least 40% of the people on a board of a corporation to be female[1], while in Belgium and Malaysia the minimum representation is 33%, and 30% respectively.[2] In other areas of the world, while there are no direct quotas in force, governments and other representatives have indirectly applied pressure to organizations to compel them to establish more gender-diverse boards of directors. One prime example of this type of practice can be observed in the United States, where the US Securities and Exchange Commission mandates that organizations clearly disclose the process by which, if at all, they take diversity into consideration when nominating directors (US Securities & Exchange Commission 2012).[3] Elsewhere, the Australian Securities Exchange operates a similar disclosure policy in that organizations are required to share their gender diversity policies and report gender percentages at all levels of the organization, including boards.[4] The 1990s marked an era during which female

[1] European countries are generally leaders in advocating for women's right perhaps because of their cultural heritage. Lück (2006) note that "institutions and welfare regimes are shaping women's life-courses, but that cultural heritage, that values and norms play an important role as well. The cultural background of women in different societies and in different religious traditions is influencing women's behavior." Given their global influence, European values affect world value, including American values (see for example, https://foreignpolicy.com/2017/04/13/europe-is-still-a-superpower/)

[2] See the report "Women in the boardroom: A global perspective" available at https://www2.deloitte.com/global/en/pages/risk/articles/women-in-the-boardroom-a-global-perspective.html

[3] https://www.sec.gov/rules/final/2009/33-9089-secg.htm

[4] http://aicd.companydirectors.com.au/

representation on boards significantly increased (Farrell and Hersch 2005). Perhaps in response to these trends, in recent years, a large number of scholars have turned their attention to understanding the extent to which female representation on a board of directors affects the organization.

Most research that has been performed in this domain to date has predominantly focused on whether female representation on a board of directors adds value to the firm. Although some studies have concluded that well-performing organizations typically have more female directors than their poorly performing counterparts (Catalyst 2004), there remains a degree of uncertainty as to whether introducing more females to a board of directors adds value to a given organization. For example, Farrell and Hersch (2005) found that there was no positive abnormal stock reaction to the introduction of a new female representative to a board. Rather, the issues of interest appear to be related to how many females are already on the board. They also found that the introduction of female representatives to a board of directors was negatively correlated with the number of females who were already on the board, and positively correlated with the resignation or departure of an existing female board representative. According to the findings of this study, the majority of organizations recruit female representatives to their board predominantly in response to demands, internally or externally, for greater gender diversity. Campbell and Mínguez-Vera (2008) found that the presence of a female on a board of directors was not sufficient in isolation to improve the performance of an organization; however, the establishment of a board that consisted of a higher percentage of females did have a positive impact on the value of the organization. These findings were replicated by Joecks et al. (2013). They concluded that, initially, gender diversity has negative consequences for the performance of an organization; however, as soon as female representation surpasses around 30% of the board, the firm performs better than a counterpart that has a board that consists completely of male representatives.

Some scholars have examined the relationship between gender diversity and the ethical behaviors of organizations. For example, a study by Cumming et al. (2015) concluded that the occurrence and gravity of securities fraud were lower in organizations that were governed by a board of directors that had a relatively strong level of female representation. In addition, Ye et al. (2010) concluded that the quality of earnings is higher when a gender-diverse board is in place in an organization.

The questions outlined above need further investigation because, while there have been comprehensive studies on the relationship between gender diversity on a board of directors and the general behavior of the firm, very few studies have examined the link between gender diversity on boards and human resource policies.

The first question is concerned with the extent to which female representation on boards correlates with greater representation of women within the top five highest-earning executives. I hypothesize that there is a positive correlation between the proportion of a board that is female and the percentage of female executives who are within the top five highest-paid employees. By testing this hypothesis, we can generate meaningful insights into the extent to which the presence of more female directors on a board of directors is beneficial to female employees, who are traditionally underrepresented in the upper strata of executives of major corporations. For example, according to Dezsö and Ross (2012), until as recently as 2000, 50% of Fortune 1,000 companies had no female representation within their top executives. In fact, where firms did have some level of female representation within the executive team, this was typically limited to one or two individuals. This absence of female representation at board and CEO level may be construed as a loss to the organization's shareholders. If there is a lack of female representation at the board level, the implication is that the organization is not recruiting from a sufficiently representative talent

pool and, in the case of some businesses, this entails that the firm may not be reaching its full potential because it does not have adequate gender representation. The findings of the study by Dezsö and Ross (2012) was based on 15 years of panel data and revealed that female representation among the upper echelons of management improved the performance of innovation-focused organizations. Research that was focused on the 2,500 largest Danish organizations also concluded that having controlled for reverse causality and omitted variable bias, female representation at the executive level significantly enhances the performance of a firm, irrespective of the extent to which the organization is innovation focused (Smith et al. 2006).

Question two follows on from question one in as much as it examines the gender pay gap at the executive level. The premise of the hypothesis that there is a positive correlation between the percentage of women on a board of directors and the female: male mean salary ratio. Examining this hypothesis will reveal whether a female presence on a board of directors reduces the gender pay gap. It has been noted that although the last fifty years have seen a significant reduction in the gender pay gap, the rate at which male and female salaries are converging has been reduced.

Question three looks at evidence for a positive correlation between the percentage of women on a board of directors and women being promoted in a company. The premise of the hypothesis is that the higher the percentage of women on a board of directors is, the more women and people from minorities will be promoted. Examining this hypothesis will reveal whether a female presence on the board of directors can overcome some of the ingrained problems females face in gaining access to promotion. Research has shown that the gender pay gap is not as great as first appears once the employment sector, nature of work, and positions held by women are taken into account (Bertrand and Hallock 2001). Some research has even shown that salaries are equal

when these variables are accounted for. It is quite obvious though that females frequently have lower paying positions. Many researchers feel that this is because females suffer discrimination in terms of access to promotion (Spurr, 1990). Studies have also shown that if females reach a higher level in a company, they will usually implement policies and decisions that favor women (Christov-Moore et al., 2014; Bratton and Ray, 2002; Thomas, 1991). This hypothesis investigates this theory further.

Question four looks at whether an increased presence of females on a board makes a company offer a better work/life balance. The hypothesis is that having a higher percentage of women on a board of directors will have a positive correlation with improved work/life balance. Examining this hypothesis will reveal whether companies that have higher female representation on the board of directors are more likely to offer workers a satisfactory work/life balance. The question of what elements create a satisfactory work/life balance has begun to attract more interest in recent years. Researchers have offered the definition of the work/life balance as "satisfaction and good functioning at work and at home, with a minimum of role conflict" (Clark 2000, send 51). Much research has shown that workers, especially in leading economies, believe their workload has increased, and that this has led to work encroaching on their outside life. Smola and Sutton (2002), in research centered on the USA, revealed that upcoming generations have greater concerns about achieving a good work/life balance than previous generations, and they are less inclined to make their career a central element of life. Similar feelings were found in the UK by Smithson and Lewis (2000). Additionally, researchers have found that when a company creates a culture of support to promote a better work/life balance, workers feel that the company cares for them, which raises their morale (Lambert, 2000) and also their level of organizational commitment (Sturges and Guest, 2004).

Question five looks at whether having more females on the board of directors engenders a more disabled-friendly environment. The hypothesis is that there will be a positive correlation between the level of female representation on the board of directors and greater openness for people with disabilities. This is a neglected area of research and one that it is important to extend. Lengnick-Hall et al. (2008) have proposed that for developed countries, with baby boomers retiring and smaller numbers of younger employees being available, companies have to look for new sources of employees, including individuals with disabilities. This research notes that the 2010 Census bureau report demonstrated that 19% of people in the USA are classed as having a disability. [5] A bureau of labor statistics report (2018) showed that only 18.7% of people with disabilities have jobs. This report also showed that of disabled people with jobs, nearly a third of them only had part-time employment. [6]

There is not a great deal of research regarding how productive disabled employees are compared to non-disabled ones, but what there is tends to show that disabled people generally achieve ratings for their performance at work that are equal to or higher than the non-disabled (Lee and Newman, 1995; Stine, 2000). A willingness to hire more disabled people makes for a wider field of candidates and so makes it more likely that a company can find workers of great talent to suit their employment. It is also beneficial to society for people with disabilities to be employed because it adds to the pool of taxpayers and reduces the cost of government-funded assistance for people with disabilities. It has been estimated (Riley, 2006) that employing more people with disabilities can reduce the welfare bill by up to $37 billion each year. Another benefit to a company that hires disabled people is that they can help to find ways of serving consumers with disabilities,

[5] https://www.census.gov/newsroom/releases/archives/miscellaneous/cb12-134.html
[6] https://www.bls.gov/news.release/disabl.nr0.htm

which could significantly enhance profitability. It has been noted that the number of disabled consumers in the US is around 54 million people (Friedman et al., 2006), and this market is expected to be over 100 million come 2021. [7] People with disabilities earn more than $1 trillion each year. Most companies do not pay attention to this enormous consumer base; a company with a greater number of disabled people on its staff would be able to tap into this market due to a better understanding of the requirements of disabled people and the problems they have to overcome.

Question six examines whether characteristics generally attributed to females, e.g., compassion and altruism will make for a more LGBT-friendly environment with more women on the board of directors. The hypothesis is that there is a positive correlation between female representation on the board of directors and a more welcoming atmosphere for LGBT employees. As with people with disabilities, this could be significant for companies as being more welcoming towards LGBT employees will increase the field of potential candidates for any post. 2.5% of people in the USA are LGBT, representing many millions of possible candidates (Johnston and Malina, 2008). Research has demonstrated that LGBT workers are still discriminated against in the workplace, which is frequently detrimental to their physical and mental health. A survey by the Wall Street Journal demonstrated that almost two-thirds of CEOs have a problem with the concept of having homosexuals on their management committee (Martinez, 1993). Previous research has shown that if a company is not welcoming to LGBT workers, LGBT employees have lower levels of job satisfaction (Griffith and Hebl, 2002; Ragins and Cornwell, 2001). In such an environment LGBT employees have a greater likelihood of poor performance (Button, 2001), will have their health placed more at risk (Kalichman and Nachimson, 1999) and have a higher rate of turnover (Tejeda, 2006). A summary of the substantial amount of research showing how prevalent

[7] The same study notes that there are around 750 million people with disabilities around the world.

discrimination is and its results has been undertaken by King and Cortina (2010). Research by Johnston and Malina (2008) and Wang and Schwarz (2010) has demonstrated that being more welcoming to LGBT employers is positively correlated with improvements in share prices. It has been shown (Day and Schoenrade, 2000) that having policies aiming at inclusion for LGBT employees helps to make companies more competitive in terms of attracting the best employees and creating a wider customer base. It is also been shown that having policies that are not welcoming to LGBT workers can damage company performance (Bell et al., 2011; Huffman et al., 2008). Thus, a company may decrease its value and its profits by not having policies that create a friendly atmosphere for LGBT workers.

Question seven relates to whether an increased female representation on the board of directors improves a company's ability to expand into overseas markets. This is an important question as expansion into overseas markets has been shown to have a positive correlation with company profits in terms of returns on investment and sales (Vernon, 1966), because it enables companies to enjoy scope and scale economies (Kogut, 1985). Expanding into overseas markets also improves a company's experience and education, allows it to find more economical and unique resources (Kobrin, 1991), access to new markets, and more understanding of competition (Porter, 2008; Jung, 1991). There is a great deal of research as to why some companies expand into overseas markets, and some do not, but there is next to no research as to whether greater female representation on the board of directors has any influence over this (see for e.g., Eriksson et al. 1997). Indeed I can find no studies that have investigated this. The hypothesis is that greater female representation on the board of directors will have a positive correlation with income from overseas investments. Examining this hypothesis will show whether more females on the board of directors will allow for better penetration into overseas markets.

Alongside the possible financial positives of having more gender diversity on the board of directors, there are ethical questions regarding the lack of representation for women on boards of directors. It has been argued that, in ethical terms, companies should increase female representation not simply because it is seen as financially advantageous but because it is the fair and proper thing to do (Brammer et al., 2007). This research demonstrates that by increasing female representation on the board a company's culture can be improved. This, in turn, allows a company to make better ethical decisions.

1.3. Hypotheses

For the purposes of clarity, the hypotheses are numbered and restated below.

H1: The proportion of women on a board of directors has a positive association with the proportion of female executives in a company's five highest-earning executives.

H2: Higher female representation on a board of directors has a positive association with the female/male executive mean salary ratio.

H3: The percentage of women on a board of directors has a positive association with a company's record in promoting women and minorities.

H4: The percentage of women on a board of directors has a positive association with the company promoting a better work/life balance.

H5: The percentage of women on the board of directors has a positive association with a more welcoming environment for employees with disabilities.

H6: The percentage of women on the board of directors has a positive association with a more welcoming environment for LGBT workers.

H7: The percentage of women on the board of directors has a positive association with increased revenue from overseas business.

1.4. Findings summary

This research finds that increased female representation on boards of directors has a positive association with the proportion of females amongst a company's five best-rewarded executives, closes the gender pay gap, increases the promotion chances for females and minorities, and creates a more welcoming environment for LGBT workers. This research finds no association between female representation on a board of directors and revenue from overseas business.

1.5. What this research contributes to the literature

Bertrand and Hallock (2001) undertook research into the pay gap between men and women at the executive level. Their research looked at the five highest-paid executives in a company. Their findings showed that in this area female executives received 45% lower remuneration than male executives. 75% of the disparity was shown to be attributable to the fact that female executives generally work in smaller companies and it is less common for them to be chair of a Board of Directors or CEO. They are also on average younger than their male counterparts. Once these variables are taken into account, the gender pay gap for these executives drops to 5%. This research implies that the gender pay gap can be explained to some degree by the fact that as there are not as many women on boards of directors female workers are paid less due to the fact that male executives tend to regard females as less competent. The findings of this research may

contribute to the wider body of literature that has examined the gender pay gap (Abraham, 2017; Gupta et al., 2018).

The amount of research available regarding the factors that make a company more welcoming towards disabled employees is limited. However, Stone and Colella (1996) have demonstrated that the ways in which disabled individuals are treated by a company are influenced by elements in the environment including legislation and a company's reward system, values and norms. This research adds to that study by demonstrating that one particular characteristic of an organization, having higher female representation on the board of directors, makes a company more welcoming to disabled individuals.

Research regarding company policies for LGBT employees is quite limited, although there is more research in this area than there is in research into policy regarding the disabled. I can find no research that has looked at the ways in which greater female representation on a board of directors can create a more welcoming environment for the disabled and LGBT individuals. This research thus makes a contribution to the growing literature regarding LGBT employees (Coffman et al., 2016; Newburry et al., 2015).

This research adds to the already substantial amount of literature regarding female representation on boards of directors (e.g., Abdullah et al., 2017; Abdullah et al., 2016; Luckerath-Rovers, 2013; Seto-Pamies, 2015). The majority of researchers looked at company performance, with some looking at the decision-making process. However, I have been unable to find any research focusing on HR policy in this area. This research employs society identity theory, upper echelon theory, and the gender schema theory to put the case that greater female representation on the board of directors will influence HR policy, especially those policies in respect of minorities and females.

This research investigates a question of social importance; Title VII of the Civil Rights Act of 1964 was made law in order to bring greater justice to society. The law is applicable to companies with 15 employees or more. It applies equally to government employers and private companies. This law states[8]:

> It shall be an unlawful employment practice for an employer –
>
> 1. to fail or refuse to hire or to discharge any individual, or otherwise to discriminate against any individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, colour, religion, sex, or national origin; or
>
> 2. to limit, segregate, or classify his employees or applicants for employment in any way which would deprive all tend to deprive any individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's race, colour, religion, sex, or national origin.

The findings of this research tend to agree with the concept that females will be more empathetic and offer better treatment to LGBT and disabled employees, and therefore demonstrates that increasing female representation on the board of directors may lessen discrimination. There is an indirect implication the companies with greater female representation at board level will be less likely to tolerate discrimination in the workplace and so will have a greater likelihood of adhering to Title VII.

[8] https://www.eeoc.gov/laws/statutes/titlevii.cfm

CHAPTER II

RELATED LITERATURE AND DEVELOPMENT OF HYPOTHESES

2.1. Board of directors

Boards of directors are appointed by shareholders and have a responsibility to uphold their interests. Boards of directors have two important functions. Agency theory proposes that the most important role for a board of directors is to reduce agency difficulties[9]—i.e., making sure that senior management is working in the interests of shareholders (Hillman and Dalziel, 2003). This theory notes that directors appoint CEOs, make decisions regarding their remuneration, and supervise CEOs to ensure that they operate in line with regulations. Researchers following this theory examine whether independent directors and the oversight they have a company finances in such areas as remuneration based on equity have a positive correlation with company performance (Dalton et al., 2003; Dalton et al., 1998). Alternatively, the theory of resource dependence proposes that the most important duty of the board of directors is to bring resources to a company, e.g., offering advice on strategy born out of their reputation, experience and network (Boyd, 1990; Dalton et al., 1999).

Hillman and Dalziel (2003) have proposed that the monitoring duty of a board of directors and the resources they offer are linked. Their research offers an integrated framework which combines both elements. They propose that there are particular resources that increase the effectiveness of the monitoring role. Furthermore, effective monitoring means that a board of directors' resources can be better employed. They refer to the research of Korn and Ferry (1999)

[9] The agency problem is inbuilt in the design of a corporation. The managers (agent) work on behalf of the shareholders (owners) of the firm. The managers will want to work on their own behalf rather than the on the shareholders. This is called as the agency problem. The board of directors are elected by the shareholders to minimize such agency problem. Therefore, the board of directors job is to monitor the shareholders.

which demonstrated, through surveying a number of boards of directors, that directors offer both monitoring and advice to companies. The same conclusions were drawn from research by Schwartz-Ziv and Weisbach (2013). This research looked at minutes from board meetings of eleven Israeli companies, and noted:

> We analysed a unique database from a sample of real-world boardrooms – minutes of board meetings and board-committee meetings of eleven business companies for which the Israeli government holds a substantial equity interest. We used these data to evaluate the underlying assumptions and predictions of models of boards of directors. These models generally fall into two categories: "managerial models" that assume that all is play a direct role in managing the firm, and "supervisory models" that assume that balls monitor top management but do not make business decisions themselves. Consistent with the supervisory models, our minutes-based data suggest that boards bend most of their time monitoring management: approximately two thirds of the issues boards discussed were of a supervisory nature, and they were presented with only a single option in 99% of the issues discussed, and they disagree with the CEO only 2.5% of the time.(Schwartz-Ziv and Weisbach, 2013:349).

Following the failures of Enron and WorldCom, a greater focus has fallen on what boards of directors actually do. Research into the role of boards of directors covers a number of elements of business, for example, accounting, management, and finance. Researchers looked at what makes boards effective, especially in terms of monitoring. It is frequently suggested that when a board of directors is too large, it becomes dysfunctional and makes it more likely that a CEO will be controlling a company, as it militates against the ability of the board of directors to successfully monitor CEO activity (Yermack, 1996). Some researchers show that small boards of directors carry out their duties more effectively (Yermack, 1996). This research showed an inverse correlation between the size of the board of directors and Tobin's Q (which measures the value of a company). It was also demonstrated that a small board of directors would usually have superior financial ratios and encourage better performance by the CEO. This research accords with Jensen (1993), who stated: "as groups increase in size they become less effective because the coordination

and process problems overwhelm the advantages from having more people to draw on." Research in Singapore and Malaysia (Mak and Kusnadi, 2005) drew similar conclusions, which suggests that this is the case globally.

Research has also examined the influence of the number of non-independent and independent directors that make up a board (Dalton and Dalton, 2005). A non-independent director is one who, as well as being paid to be a director, either owns part of the company or derives some other financial benefit from it. Independent directors are those who gain no profits from the firm apart from the remuneration they receive for acting as directors. Research has been undertaken into how effective boards of directors are in overseeing managers. If there are more non-independent directors on a board of directors than independent ones, it is hard for independent directors to be heard. Lipton and Lorsch (1992) articulate this: "In fact, the norms of behavior in most boardrooms are dysfunctional. They discourage directors from speaking out, especially if they are going to be critical of management, and they inhibit independent directors from asserting leadership among their peers (p. 66)".

The failure of Enron and WorldCom caused new regulations to be put in place that demand the majority of company directors on board are independents. This increase in the numbers of independent directors, unfortunately, has not led to an improvement in company performance. Dalton and Dalton (2005), who undertook meta-analysis, explained that:

> A careful review of extant research on the relationship between board composition and firm financial performance demonstrates little consistency in findings. When confronted with a substantial body of empirical research yielding disparate findings, it is appropriate to employ an analytical technique referred to as meta-analysis. Meta-analysis enables the researcher to aggregate a body of empirical research data and draw conclusions regarding a relationship of interest (i.e. the relationship between board composition and firm financial performance). We led such a research effort, with an interesting result (Dalton, Daily, Ellstrand and Johnson, 1998). We analysed 159 studies over a 40-year time frame, and found no evidence of a systematic relationship between board composition – in its many

> manifestations – and firm financial performance. Not only were independent directors not associated with firm performance, but inside, outside and affiliated directors were not associated with higher or lower firm financial performance either. (Dalton and Dalton, 2005 p.592).

Over the last 10 years, academics have employed micro-level data to look at why this increase in the numbers of independent directors has not had the desired effect. It has been noted (Cohen et al., 2012) that companies have often appointed "independent" directors who fit the definition laid down by law but are not truly independent. Micro-level data has illustrated that companies generally choose "independent" directors who are in tune with the company and believe that it has good prospects. As an example, a company would tend to employ sell-side analysts who have a rose-tinted view of a company's prospects. In the same vein, Ma and Khanna (2016) have stated that "independent" directors do not always have the level of independence we might expect. Employing Chinese data (in China it is compulsory to disclose any dissent amongst a board of directors) they revealed that societal pressures and reciprocal dealing tend to undermine the independence of directors. It was revealed that the most likely cause of dissenting opinions amongst directors is when the implicit social relationship between directors has broken down. One example of this is the fact that an independent director is more likely to go against the board's opinion when the chairperson who was responsible for the independent director's appointment retires or resigns. In other research, Cao et al. (2014) revealed that independent directors who have a good social relationship with the rest of the board receive inside information regarding the company and will use this information to participate in share dealing for their own profit. This tends to imply that there is a mutually beneficial understanding between "independent" directors and company executives.

In those environments with stricter regulation, e.g., the USA, adding more independent directors may enhance company performance. Certain research does appear to imply this. As an

example, if a company takes on more independent directors, these independent directors will insist upon enhanced disclosure to enable them to carry out their tasks, and so corporate disclosure will improve (Armstrong et al., 2014). Nguyen and Nielsen (2010) looked at how a company's share price was affected by the unexpected deaths of independent directors. It was revealed that if an independent director should die unexpectedly, on average, the share price will fall by 0.85%. They stated that such "negative abnormal returns are significantly different from zero and important in economic terms. Given an average market capitalization of $4 billion, the sudden death of an independent director reduces the firm value by almost $35 million."

Research has further shown that an independent director will perform better if they have experience that is relevant to the company's titular industry. It has been shown (Wang et al., 2015) that having independent directors with experience of a company's industry greatly lessens the likelihood of managers attempting to artificially increase their earnings. Furthermore, having independent directors on the pay committee acts as a block on excessive CEO remuneration.

2.2. Research regarding gender diversity on boards of directors

In this section I focus on research regarding gender diversity on boards of directors.

2.2.1. The effect of female directors on firm performance

Much research has been undertaken to discover if having more women on a board of directors will make a company perform better. Taken as a whole, this research has produced varied results. Whether or not female directors enhance company performance is highly dependent upon individual circumstances.

In the USA, company performance and female representation on the board of directors is positively correlated, but it is not clear whether increasing the number of female directors is actually responsible for companies performing better. The well-known Catalyst Report by Joy et

al. (2008) is often mentioned with regard to the relationship between female representation on boards and company performance. This research took data between 2001 and 2003 and created a ranking for 520 US firms based on the representation of women on their board of directors by percentage. This cohort was separated into four subsets of 130 companies, which were measured using four performance indicators, these being the return on invested capital, return on sales, return on assets, and return on equity. For all the performance indicators, it was revealed that companies with the greatest percentage of women on the board of directors performed 40% better than those with the lowest. It must be noted that there are some weaknesses in the Catalyst Report, including the fact that it only employs univariate analysis.

Much research has been undertaken to see whether such a correlation is really susceptible to close scrutiny and whether it is maintained when employing multivariate analysis. The majority of research has demonstrated that the positive associations found by the Catalyst Report hold good under more rigorous analysis. The correlation between having more women on boards and company performance was investigated by Campbell and Minguez-Vera (2008); examining Spanish companies, they revealed that Tobin's Q was higher for those companies with more female representation amongst the directors. Tests were undertaken to eliminate the effects of reverse causality, i.e., the chance that it did not have more females on the board of directors that made a company more valuable, it was simply the fact that companies with high market values were more inclined to appoint female directors. Luckerath-Rovers (2013) undertook a study that looked at the differences in performance between companies with female representation on the board and companies with all-male boards. 99 Dutch companies were investigated for this research; Luckerath-Rovers stated that the Catalyst Report was statistically unsound, and so felt there was a need to subject its findings to further testing. The author was also interested in finding out what

affect female directors had on Dutch firms' performance. The results of the research showed that companies with female directors outperform those with all-male boards. Amore et al. (2014) took data related to Italian family-run businesses to see whether having more women on a board of directors improved company performance. It was revealed that having female directors caused a significant improvement in company performance if the CEO is female; it was also found that this effect is most powerful in smaller companies and those based in locations where traditional prejudices against women were less notable. An investigation was undertaken (Erhardt, Werbel, and Shrader, 2003) into whether there was a correlation between female representation on the boards of directors and returns on investment and assets; 127 large companies in the US were examined, and a positive correlation was revealed under multivariate analysis. A study by Carter et al. (2003) looked at the Fortune 1000 firms to see if there was a correlation between a diversity of genders on boards and company performance. The study found that "after controlling for size, industry, and other corporate governance measures, we find significant positive relationships between the fraction of women or minorities on the board and firm value" (Carter, Simkins, and Simpson, 2003, p.33).

On the other hand, much research has been undertaken which has not revealed these positive correlations between the number of female directors and company performance. Ahern and Dittmar (2012) undertook research into the effects of newly introduced Norwegian regulations that introduced a minimum quota of 40% females on boards of directors. Prior to the regulation being introduced, women accounted for just 9% of directorships in Norway. The research revealed that having to fill its quota meant that companies were appointing female directors who had lower levels of competence and a negative effect on company performance, causing stock prices to fall, Tobin's Q to fall, and bad decisions to be made regarding acquisitions. Danish companies between

1998 and 2001 were investigated by Rose (2007). Using cross-sectional analysis, they found no notable correlation between the percentage of women on a board of directors and Tobin's Q; this goes against much previous research. The same lack of correlation was found by Carter et al. (2010) when looking at companies in the USA. The authors of this research stated that their findings "are consistent with a contingency explanation because the effect of the gender and ethnic diversity of the board may be different under different circumstances at different times. Over several companies and time periods, the results could offset to produce no effect." (Carter, D'Souza, Simkins, and Simpson, 2010, p.396)

Research by Abdullah et al. (2016) has looked at the theoretical reasons why greater female representation on boards of directors and company performance may be dependent on context and the ways in which company performance improvements are measured. They point out that in the majority of nations, there tends to be a negative perception of women holding employment which offers them control, authority, and power. Men have a far greater representation amongst investors, and men tend to view women less favorably, being more cautious about making investments in companies with women in senior management positions (Bigelow and Parkes, 2006). As one would predict, such bias is more marked in certain nations than others. In those countries or regions where women are regarded as less capable, markets would have no expectation of improved performance when companies appoint female directors. In these countries or regions, it may indeed be the case that the market reacts negatively to female appointments. This is despite the fact that when company performance is measured with accounting techniques, it is demonstrable that female directors offer enhancements. Abdullah et al (2016) employed Malaysian data and revealed that for those companies with a greater percentage of female directors, measures that imply market support – market value, Tobin's Q – fell, but measures derived from accounting, i.e., ROA, rose.

The research proposes a number of hypotheses regarding the ways in which female representation on the board of directors and company performance may be correlated. Firstly, they propose that the correlation will be less strong in companies that are owned by families or government in comparison to publicly owned companies. It is proposed that the first two types of firms will generally employ women who already have a connection with the firm, instead of selecting women based solely on their competence. With a family-owned firm, a family member is most likely to be appointed, and with government-owned firms women who have political connections will be favored. This means that the quality of female directors will be low and so they are unlikely to positively influence company performance. Secondly, the researchers propose that the true benefit of female directors derives from the fact that women are better at monitoring and conflict resolution than men, and so they will be most effective in companies where inadequate monitoring is affecting performance. It is proposed that in companies where ownership is more highly concentrated, female directors will be particularly successful. Thirdly, the researchers claim that female directors have a greater positive effect if the board of directors has a higher level of diversity. They propose that female directors find it easier to have their views heard on ethnically diverse boards and that when boards are ethnically diverse, they are more open to differing views and more willing for everyone on board to be allowed a meaningful input. The Malaysian data employed by this research offered empirical evidence for each of these propositions.

Other research has shown that simply having a single female director on board has no significant effect, but when several women are appointed a company's performance will be increased (Amore et al., 2014). This research proposes that other researchers may not have found a positive correlation between female representation on boards of directors and company performance as they have not allowed for the fact that it only starts to have a positive correlation

with company performance once this representation becomes around 30% or higher.

Hillman et al. (2007) looked at what factors influenced the percentage of women on boards of directors. The research led to their proposing a quartet of hypotheses. Firstly, they propose that large companies are more likely to appoint female directors, as they are more closely scrutinized by society, and so feel a greater pressure to conform to societal expectations. The second hypothesis was that industries employing greater percentages of females would be more likely to benefit from female directors and they would be more inclined to appoint them. The third hypothesis was that companies operating across multiple businesses and markets would find a diversity of perspective beneficial and so would be more likely to appoint female directors. Finally, the researchers hypothesized that if a company has links with other companies that have female directors, it will be less expensive for them to find qualified female directors, and so they will be more likely to appoint them. This research took a sample of 1000 public traded US companies with the highest sales revenues between 19 92,003. All these hypotheses were supported, i.e., companies were more likely to appoint female directors if they have directors who are also directors at other companies which have female directors, if they are large in size, if their business is conducted across a range of industries and markets, and if they employ a large number of females.

2.2.2. Female directors and company decisions

Certain research is focused on particular aspects of company decisions as opposed to pure performance. Some studies have examined the part played by diversity in a company, or how transparent it makes a company. Gul et al. (2011) found that high female representation on boards has a tendency to provide better information on stock prices. Research revealed that the correlation was due to large companies having better disclosure. Previous research was used as evidence that

informativeness about stock prices was improved by greater female representation in two ways. The first of these was that more evenly balanced boards have better discussions and are more likely to discuss difficult problems than all-male boards (McInerney-Lacombe et al., 2008; Clark, 2005; Stephenson, 2004). In general, boards of directors with greater female representation are better at communicating (Joy et al., 2008). Secondly, it was shown that women offer improved oversight/monitoring regarding managerial reports and actions because they are more likely to attend board meetings and to participate in committees responsible for auditing and corporate governance (Adams and Ferreira, 2009; Hillman et al., 2007).Srinidhi et al. (2011) demonstrated that increased female representation on boards is positively correlated with quality of earnings. Chinese data has shown that greater female representation on boards lessens occurrences of securities fraud and its extent, mainly in male-dominated industries (Cumming at al, 2015). It has been shown (Abdullah et al., 2017) in Malaysia that increased female representation has a negative correlation with earnings management but is positively correlated with better information regarding reporting earnings. Some research has examined the impact greater female representation on boards has on company strategy. Miller and Carmen Triana (2009) revealed that gender diversity on a board increases innovation and argued that this is why company performance improves with increased gender diversity on the board. These benefits do not always appear; Triana et al. (2013) have argued that when company performance is positive, female representation on the board of directors promotes changes in strategy, but equally when a company is performing poorly it holds back changes in strategy.

The researchers argue, using threat-rigidity theory, that the "board will usually be motivated to restrict information and centralize authority during times following low firm performance in order to simplify decision-making" (Triana, Miller, and Trzebiatowski, 2013, p.2). When firms are

performing badly, increased gender diversity benefits are not so obvious. Indeed it may promote conflict which can block strategic changes. This research also demonstrated that the greater the power held by female directors, the greater the correlation between increased gender diversity and strategic change.

2.2.3. Female directors and social performance

Certain research has examined the ways in which company social performance is affected by board composition. It has been shown (Bear et al., 2010) that greater female representation on boards has a positive correlation with companies having better reputations and increased corporate social responsibility (CSR). It was also shown that greater gender diversity on a board boosted a company's reputation through CSR, i.e., more women directors encouraged greater CSR. It has also been shown (Siciliano, 1996) that more gender-diverse boards perform to a higher level socially. Greater diversity seems to have an association with firms being perceived as good to work for (Bernardi et al., 2006) and more ethical (Bernardi et al., 2009). Miller and Carmen Triana (2009) investigated what role greater female representation played in company performance. It was shown that greater gender diversity amongst directors improves a company's reputation and capacity for innovation, which leads to enhanced performance.

2.2.4. Importance of female numbers on boards

It has been argued (Kanter, 1977) that male directors, who are nearly always in the majority, view female directors as women first and individuals second. This gives them a tendency to dismiss suggestions from female directors. It has been shown (Konrad et al., 2008) that this effect can be mitigated if there are 3+ women directors.

2.3. The difference when boards have women directors

In order to comprehend the ways in which a board of directors can be different with a

substantial representation of females, we must first examine the differences between males and females. We will firstly review the literature regarding these differences, and then examine the ways in which they could affect the behavior of a board of directors.

2.3.1. Female self-schemas versus male self-schemas

The ways in which a woman perceives both herself and the world around her can differ considerably from the way a man perceives these things. Competitiveness, ambition, compassion, and willingness to take risks can differ considerably between the sexes. The psyche of the individual is created through life experience. Gender schema theory (developed in Bem, 1981, extended in Bem, 1993) proposes that children discover what society feels male and female roles are at an early age. As the child grows this discovery influences the individual's expectations, feelings regarding the division of labor, attitude to reproduction, and numerous other attributes of the personality.

According to Bem (1993, p.603), "no other dichotomy in human experience appears to have as many entities linked to its distinction between female and male." Once a child reaches adulthood, it has developed a self-schema. The gender identity of the individual is linked to "sex-typing," as Bem describes it. This is created through all the experiences one has whilst growing up, including experience of parents, education, cinema, books, popular culture, etc. Such experience has its effect on the ways in which the individual absorbs and organizes information. Opinions and behaviors that match a gender stereotype are created by gender schemas. It has been noted that men and women have different self-schemas (Konrad et al, 2000).

A self-schema may be defined as the agglomeration of an individual's experience, beliefs, and generalized view of themselves, created from stable long-term memory. It has been argued (ibid) that men have a self-schema rooted in the societal values and norms presented for the male,

including independence, aggressiveness, and the need to provide; likewise women have a self-schema rooted in the societal values and norms presented for females, for example, submission, nurturing, and creating a home. In the overwhelming majority of cultural environments, women are raised to be caring, compassionate, and wary of conflict. This makes it more probable that a woman will be less ambitious, more caring, and more altruistic than her male counterparts.

2.3.2. Differences in selfishness between male and female

Research has demonstrated that women have a tendency to greater generosity than men. In 1874, Charles Darwin stated: "Woman seems to differ from man in mental disposition, chiefly in her greater tenderness and less selfishness… man delights in competition and this leads to ambition which passes too easily into selfishness" (Darwin, 1874, p.586). Much research has been undertaken to see if there is any truth in this statement. One of the most important works on this subject in recent years is by Eckel and Grossman (1998), who undertook experiments which prove that women are notably more inclined to generosity than men.

The experiments involved recruiting freshman college students from a number of different universities. Each student was given an envelope containing ten one dollar bills and a second envelope containing ten plain pieces of paper. They were instructed to remove ten units in total from both envelopes, e.g., they could take eight pieces of paper and two dollar bills, and that would mean they could keep the two dollars. If they wished, they could take all of the dollar bills, leaving only the pieces of paper. That would give them $10. They were informed that anything they left behind would become the property of an unknown individual in another room who was also participating in the experiment. In the experiment, it was shown that, on average, women left twice as much money for the unknown individual as men did. Andreoni and Vesterlund (2001) undertook a modified version of this experiment, and they contend that the correlation between gender and

unselfishness is not as simple as it appears. They state: “when altruism is expensive, women are kinder, but when it is cheap, men are more altruistic. That is, we find that the male and female ‘demand curves for altruism’ cross, and that men are more responsive to price changes” (Andreoni and Vesterlund, 2001, p.293).

Cox and Deck (2006) undertook research into this matter and discovered that women are more or less generous depending on what the social cost is, for example, if others can see whether they are generous or not. In opposition to the findings of Andreoni and Vesterlund’s 2001 experiment, they found that women react more to the cost of generosity than men do.

2.3.3. Differences in compassion between male and female

Mercadillo et al. (2011) investigated the ways in which men and women are compassionate by looking at their brains through functional magnetic resonance imaging while they were being shown images which ought to provoke compassion, for example, images of human beings suffering. The experiment revealed that for women those areas of the brain that control emotions and empathy reacted to the images, which was not the case in men; with men, the images caused a reaction in the areas concerned with social learning. Beutel and Marini (1995) examined the cross-sectional surveys of US high school seniors that have been undertaken every year from 1975, looking at the differences in values between the sexes. They created three means of measurement: “(1) compassion, which reflects concern and responsibility for the well-being of others; (2) materialism, which reflects emphasis on material benefit in competition; and (3) meaning, which reflects a philosophical concern with finding purpose” (Beutel and Marini (1995) p.436).

The research revealed that there were noticeable differences for all three of these measuring mechanisms: women were shown to have a greater propensity for showing concern and feeling

responsible for other humans.[10] Furthermore, it was shown that the differential remained throughout the years between the 1970s and 1990s without any significant change. The differences are present in every social class and are still present even if religious views and social circumstances are taken into account. Sprecher and Fehr (2005) created a scale of measurement which assessed the compassionate love an individual has for other humans and for humanity as a whole. It was shown that women had notably higher levels of compassionate love than men.

2.3.4. Differences in overconfidence between male and female

Many believe that men suffer more from overconfidence than women do. Josh Billings, the humorous American writer, stated, "It ain't what a man don't know that makes him a fool; it's the things he does know, that ain't so."[11] This concept has been examined by psychologists as well as economists. Bengtsson et al. (2005) present an experiment employing data from Stockholm University. The first year economic course has an unusual design at this university, with students being rated as very good, passing, or failing. The examination comprises five questions, with four compulsory and one optional. The top score (very good) is only available to those students who answer all five questions, scoring a very good on all the compulsory questions and a minimum of a pass for the optional question. If a person opts to answer the fifth question, they don't know if they have reached the level of very good in the first four questions; they have to rely on their own assessment. If the individual is happy with simply getting a pass mark, there is no reason for them to attempt the fifth question; it would be a better use of their time to review and improve their answers to the compulsory questions. The researchers used this idiosyncratic test to see which gender was most likely to have the confidence to attempt the fifth question (i.e., believed their first

[10] Women were also less likely to be materialisms and competition, and more likely to seek meaning in life.
[11] https://en.wikiquote.org/wiki/Talk:Josh_Billings.

four answers were all very good and so decided to go for a mark of very good overall). The data for these examinations stretched over many years, so the researchers had a sample size big enough to achieve significant results. The results demonstrated that men (whether they were mediocre or excellent students) were more likely to opt for trying the fifth question.

To test the financial theory that those investors who are overconfident make an excessive number of trades, Barber and Odean (2001) looked at investments in common stock for more than 35,000 households, employing data obtained from a significant broker. It was revealed that men make far more trades than women; almost 45% more. Furthermore, they made more unsatisfactory trading decisions. Due to their excessive trading, men fell behind women in terms of investment success by around 2.65%. The financial choices of CEOs of both genders were examined by Huang and Kisgen (2013). Their findings accorded with the notion that CEOs have more overconfidence when they are male, making more acquisitions and taking on more debt, two decisions that make investors less confident. Returns on investment in mergers are 2% lower for male CEOs than female, and there is a corresponding shortfall in terms of debt.

2.3.5. Differences in preference for competition between male and female

An investigation was undertaken (Niederle and Vesterlund, 2007) into whether there is a difference between men and women in terms of preference for competitive or non-competitive environments, and whether in laboratory tests this would be demonstrated by different economic outcomes. This investigation was inspired by the findings of psychologists who claim that women are less competitive than men, for example, it can be seen that men frequently prefer competitive sport more than women do. The subjects were split into pairs of either women or men and told to add up sets of five two-digit numbers. The researchers did not expect to find any ability differences between the sexes. Participants were asked to undertake the calculations at a piece rate, and then

in tournament conditions. With piece rate calculations, individuals were recompensed depending on their own productivity, no matter what their partner produced, i.e., the subjects were paid for each calculation they made. In tournament conditions, the payment was not made on the basis of how each contestant performed but on the differential between them. Once both types of tasks were completed, participants were informed of their overall performance, but not how they did in comparison to their partner. Participants were then asked to undertake the calculations again, with a choice of being compensated by a piece rate or through playing a tournament. It was shown that more than twice as many males (73%) chose to play a tournament compared to females (35%). Extra tests were performed to see if men preferred tournaments because their overconfidence led them to believe that they would win in the competition, or whether it was because they were more prepared to take risks. These extra tests suggested that men were more likely to choose tournament play than women because men prefer competition and have high levels of overconfidence.

Avoiding competition may be a sensible choice for women because research has shown that women tend to suffer poor performance when an environment is competitive. In laboratory experiments, Gneezy et al. (2003) discovered that men perform better the more competitive the environment becomes, whereas women perform worse. It was revealed that the differential becomes even greater when the competition involves pitting women against men.

2.3.6. Differences in preference for risk between male and female

An investigation was undertaken by Sapienza et al. (2009) into the biological reasons that males and females might be averse to risk. Taking samples of saliva from MBA students, they took measurements of their testosterone levels. As was predicted, it was shown that men are notably less risk-averse than women and that men have notably higher levels of testosterone. It was demonstrated, as predicted, that the lower the level of testosterone the greater the aversion to

risk, but when the samples were analyzed referring to participant gender, it was shown that this is only true in the case of women.

Hartog, Ferrer-i-Carbonell, and Jonker (2002) found a link between the characteristics of individuals and a willingness to take risks. Willingness to take risks was assessed by means of a survey. This showed that females have higher levels of risk aversion than males. Researchers have found that females are more likely to avoid risk-taking behaviors, for example taking illegal drugs or participating in criminality (Cooperstock and Parnell, 1982; Kandel and Logan, 1984; Gottfredson and Hirschi, 1990). The ways in which male and female faculty members allocated their retirement assets was assessed by Arano et al. (2010); it was found that single male professors were the most likely to invest in risky assets with their retirement funds. The research also looked at the ways in which married couples allocated their retirement funds; female faculty members revealed that 33% of them had been told to invest more of their assets in stocks by their spouses, but this was true of only 14% of males. Even allowing for the influence of a spouse, female faculty members still invested less of their assets in stocks. Male faculty members who had been told by their spouses to invest more in stocks had 20% higher stock holdings than female faculty members who'd been told the same by their spouses. This demonstrates that even when a spouse influences a woman to invest more of her retirement assets in stocks, she will still be more risk-averse than a man whose spouse has influenced him in the same way. This appears to imply that women are more averse to risk than their husbands. Baldiga (2013) studied risk-taking behaviors during examinations. Her research demonstrated that women would be less inclined to take chances with multiple-choice questions the higher the risk of making a guess becomes. The author summarised her research thus: "Our test consists of practice questions from SAT II history tests; we vary whether a penalty is imposed for a wrong answer and the salience of the evaluative nature of the

task. We find that when no penalties are assessed for a wrong answer, all test takers answer every question. But, when there is a penalty for wrong answers, women answer significantly fewer questions than men. We see no differences in knowledge of the material or confidence in the test takers, and differences in risk preferences explain less than half of the observed gap." (Baldiga, 2013:434). It was shown by Jianakopolos and Bernasek (1998) that in terms of making decisions about finances, single women are more averse to taking risks than their male counterparts. Their research looked at the proportion of an individual's entire wealth that was invested in risky assets.

2.3.7. Differences in empathy between male and female

In general, researchers found that women have more empathy than their male counterparts. A working definition of empathy is that it represents an ability to comprehend how others are feeling and to share in their emotions. Empathy relies on the recognition of emotions in others, feeling the same emotion as others, and having emotional triggers that are fired by exposure to the emotions of others. Empathy can also be defined as "the process by which an individual vicariously feels another person's emotional state" (Zajdel et al., 2013, p.586).

Research has demonstrated that empathy has both a genetic and an experiential element. It has been noted (Christov-Moore et al., 2014) that data "in nonhuman animals and younger human populations (infants/children) offer converging evidence that sex differences in empathy have phylogenetic and ontogenetic routes in biology and are not merely cultural byproducts driven by socialisation" (p.604). Ontogenesis refers to the ways in which an organism develops between fertilization and maturity. Phylogenesis refers to the way in which a given group of organisms evolves. In other words, the amount of empathy a person has is dependent on their ancestral genetics and also random influences starting at fertilization. Zajdel et al. carried out research using elementary pupils in which they were shown film clips of "bittersweet" incidents that were likely

to provoke a mixture of emotions. It was shown that girls were noticeably superior in emotion-based tasks than boys, showing a high level of empathy. Hojat et al. (2002) undertook research which demonstrated that female medical students have a higher level of empathy than male ones. Empathy was measured with 20 survey questions answered on a seven-point instrument. Research has also been undertaken into urban matters that demonstrate our social welfare programs are affected by the presence of female leaders. It has been shown (Holman, 2014) that in cities with female mayors a significantly higher proportion of resources will be devoted to social welfare programs. This becomes even more noticeable when there is a high proportion of women on the city council (ibid). Surrey (1985) noted that: "Research and clinical observations show that most women have a greater ability for relatedness, emotional closeness, and emotional flexibility than do most men. The capacity for empathy, consistently found to be more developed in women, can be seen as a central organizing concept in women's relational experience" (p.2).

2.4. How does a female presence on a board of directors distinguish it?

The section below discusses how female directors are different than male directors.

2.4.1. Boards containing female directors and diversity of views

Hambrick and Mason (1984) proposed an upper-echelon theory suggesting that in high-level management teams the background of the managers influences the decisions that are taken. As has been suggested by gender schema theory (Bem, 1981, 1983), the female life experience is very different to that of the male, and so when they serve on board, they have unique perspectives. Resource-based theories suggest that firms can achieve competitive advantages by embracing gender diversity. This viewpoint suggests that diversity can offer rare and difficult to copy resources that can offer major competitive advantages to companies (Barney, 1991; Lado et al., 1992).

Much research uses diversity as this type of rare and hard to copy resource. The following two studies seem to emphasize this. Watson et al. (1993) undertook experiments which followed the ways in which two groups interacted and performed in a particular task for 17 weeks; one of the groups had considerable diversity, and the other was homogenous culturally. To begin with, both groups performed at around the same level. As time went on, however, the more diverse group showed significant performance enhancements related to the number of different points of view and different suggestions they created in problem-solving. McLeod et al. (1996) demonstrated that diverse groups tend to produce superior concepts than homogeneous ones. These two pieces of research revolved around ethnic and racial diversity, but the same mechanism works with gender-diverse groupings.

Women have a different point of view to their male counterparts as they come from a different background and have had a different experience of life. These different backgrounds enable them to introduce concepts into the boardroom that would simply not be there if the board was all-male. Having female directors offers a board of directors a chance to broaden its perspectives and to have a better understanding of suppliers, customers and the market (Carter et al., 2003). The same point is made by Shrader et al (1997); by employing a resource-based perspective, they suggest that females can offer unique perspectives that assist in solving problems as a team and so offer companies a competitive edge.

2.4.2. Female directors and quality of monitoring

It has been demonstrated (Adams and Ferreira, 2009) that on average men will be worse attendees at board meetings than women. They found that female directors will be 30% better at attending than men. Female directors also show better participation in subcommittees that undertake monitoring. When female directors are on board, male directors improve their

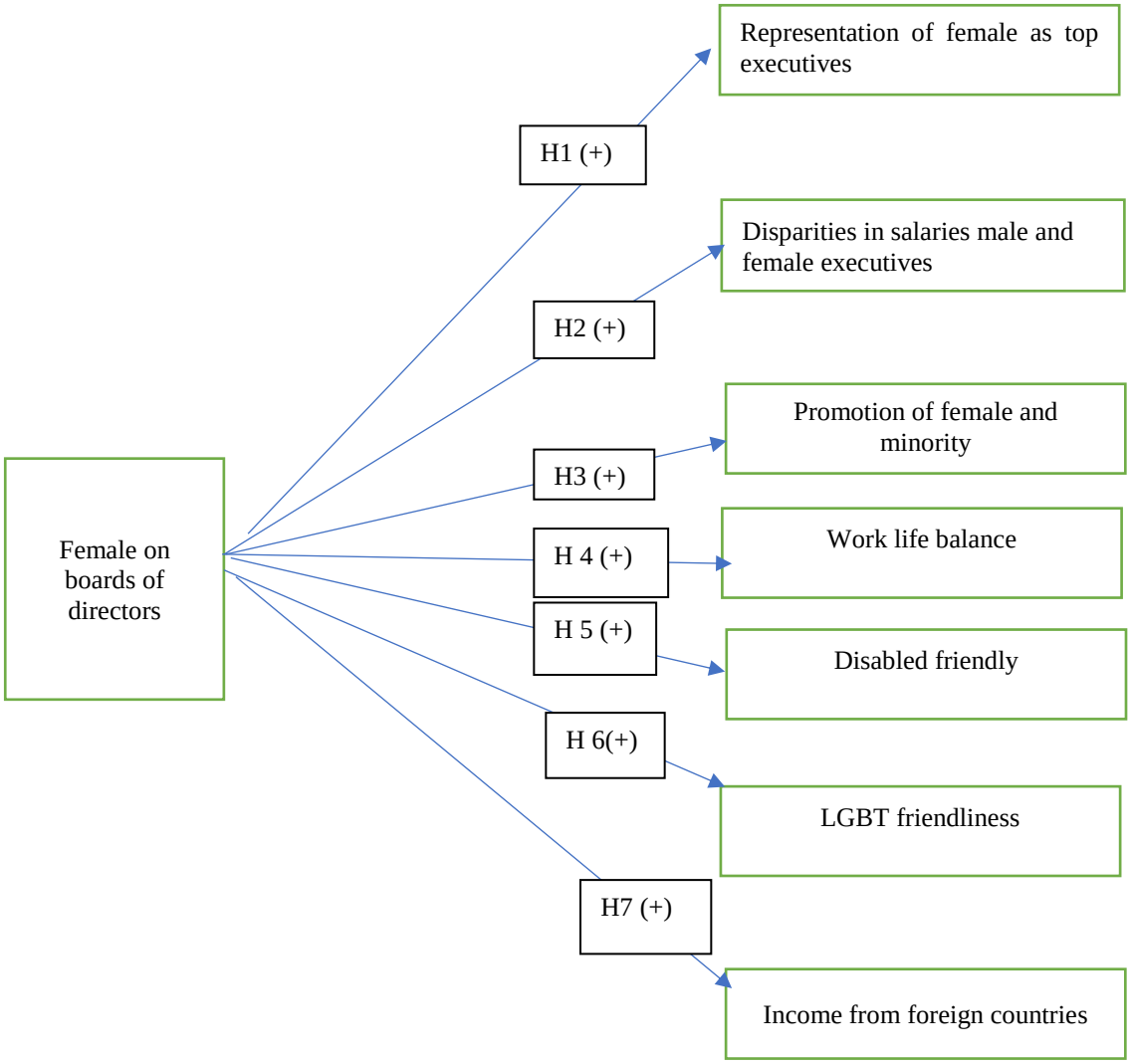
attendance by 9%. The research undertook analysis to see whether male directors became better attendees because of gender or peer pressure. It seems that, in line with psychological thinking, male directors improve their attendance as they are competing with other men in order to impress their female directors. The following study is relevant in this instance: an experiment was undertaken by Van Vugt and Iredale (2013) where all participants were asked to play a computer game. At the outset, each participant was given £3 and told that they could keep the money for themselves or place it in a group account, where it would be doubled and then divided equally between six participants chosen at random. When participants were given this choice, they were being observed either by a man, a woman, or nobody. Men were three times more likely to donate their £3 if they were being observed by a woman; the likelihood of them donating also increased if the woman was perceived as being more attractive.

Another way of looking at the ways in which female representation on the board of directors can improve its monitoring effectiveness is to take an agency view. With an agency framework, the directors are seen as principals, and managers are seen as agents. The directors must carry out monitoring with regard to the managers. Gender diversity amongst the directors could make the board more effective in terms of monitoring, as diversity leads to more open debate, which in turn encourages action and more in-depth questioning of management (Carter et al., 2003). Carter et al. define board diversity as the percentage women, African Americans, Asians, and Hispanics on the board of directors and go on to show that firms that have a diverse board have higher firm value.

2.5. Hypotheses

Figure 1 illustrates the hypotheses used in this research. The figure also provides summary of each of the hypotheses.

Figure 1: Summary of the hypotheses



2.5.1. Women's representation on boards and in top executive positions

This section discusses representation of female on board of directors in comparison with male directors.

2.5.1.1. Women as top executives

Helfat et al. (2006) offer a summary of the three reasons usually put forward to explain

why there are so few women holding senior management positions: these are based around people, situations, and the social system. In relation to people, it is asserted that women have fewer ambitions, tend to come off worse in competition, and make career choices that allow them to care for their family which militates against them reaching the highest echelons. In relation to situations, it is asserted that female employees have a completely different experience of organizations compared to men and that women do not reach the highest echelons because organizations are biased against employing them or offering them promotion. In relation to the social system, it has been suggested that society, politics and the government all combine to conspire against women being able to reach the highest echelons. In societal terms, for example, men often believe that women cannot cope with certain jobs, and in governmental terms, there are insufficient policies in place to help women to progress in the workplace while still balancing family and career.

Davies-Netzley (1998) has examined the ways in which women perceive their progress through the ranks of corporations and the ways they can reach senior management by taking a survey of both sexes who have become executives. She found that white men and women have different approaches to getting on within corporations. White men felt that most important factors for success were individual ones, i.e., working hard, being ambitious and staying focused, but white women felt that networking and collaboration with peers were more important. Ibarra (1993) has explained that female employees find it more difficult to join networks and that they will be excluded from the most important ones, which hampered their ability to progress. She noted that while individuals "tend to interact with others who are similar in socially significant ways, attendance is highly constrained by the availability of similar others within the social groups to which an individual belongs" (Ibarra, 1993, p.66). She further states: "Women and minorities

usually have a much smaller set of "similar others" from whom to develop professional relationships based on identity-group homophily. The personal networks of both male and female entrepreneurs, for example, tend to contain mostly men (Aldrich, Reese, & Dubini, 1989), as do the networks of an organization's dominant coalition (Brass, 1985). Thus, any potential preference for interacting with same-sex or same-race individuals is highly constrained by their availability" (Ibarra, 1993, p.67).

Women often have to put their careers on hold in order to raise a family, and so their networks are less stable, and also, due to the fact that there are few women in the higher echelons, they may not enjoy the same benefits as men.

2.5.1.2. How gender diversity on board affects the view of female top executives

Company recruitment will be affected by the self-schema of female directors, and inherent bias will often lead human resource managers to employ a person who fits with the self-schema of executive gender (Oakley, 2000).

Some studies have suggested that women have a prejudice towards other women. The definition of prejudice is the tendency to filter and experience so that we do not see what actually is, but what we believe is. It has been hypothesized (Goldberg, 1968) that women place a higher value on work done by men than that by women, even if the work is exactly the same. To examine this hypothesis, Goldberg took a group of female college students, split them into two random groups, and asked them to assess a particular article. One group was given an article supposedly written by John T.McKay, and the other group was given an article that was exactly the same except it was supposedly written by Joan T.McKay. The students came to the conclusion that the male writer was extremely profound and that the female was not impressive. However, Levenson et al. (1975) repeated this experiment and could not find evidence of female prejudice against their

own gender; in fact, they found females tended to favor their own gender. It is possible that in the years between 1968 and 1975 the ways in which women viewed other members of their sex have been modified. A meta-analysis of this subject was undertaken by Swim et al. (1989) and reach the conclusion that there is little difference between female and male perceptions of females' work.

Employing the arguments put forward in subsection 2.5.14, this hypothesis is proposed:

> **H1:** There is a positive correlation between the percentage of women on a board of directors and the percentage of women in a company's five best-paid executives.

2.5.2. Females on boards and the gender pay gap

Social identity theory states that individuals have a tendency to look more favorably on those who are within their group than outsiders (Tajfel, 2010; Tajfel and Turner, 2004; Hogg and Terry, 2000). If there is a higher percentage of females on board, it is more likely that they will employ a female CEO, and she, supported by her board, is more likely to employ females in top executive positions. Empirical research tends to confirm this. Bell (2005) has found this to be the case in firms led by women: when the CEO is female, high-ranking female executives enjoy remuneration between 10% and 20% higher than they do in the same type of company where a man is in charge. Shin (2012) revealed that if a company has a woman as CEO and female representation on the compensation committee of the board, the gender pay gap between top executives is smaller than elsewhere. Even if women are not represented on the board's compensation committee, they might still have an influence on board decisions in a way that will make members of the board behave more warmly to each other. Also, female representation amongst the directors will tend to promote policies in favor of women at all levels of the company,

which will make it more likely that the best female employees will stay with the company and be promoted. This means that in companies like this woman in senior management are usually of this very high quality and so command higher salaries. Based on the facts above, the following hypothesis is proposed:

> **H2:** There is a positive correlation between the amount of female representation on a board of directors and the female executive: male executive mean salary ratio.

2.5.3. Female representation on boards and female promotion

Social identity theory suggests that females are more likely than males to recognize other women's talents. Furthermore, they will be more empathetic towards their own sex, having an understanding of the challenges faced by women that men do not (Christov-Moore et al., 2014). Investigations have demonstrated that when women reach senior positions, they generally pass regulations that benefit women (Bratton and Ray, 2002; Thomas, 1991), demonstrating that they have more empathy for the challenges women face. Thus if a woman applies for a job in a company which has a higher percentage of women amongst their directors, she is more likely to get a fair hearing from her fellow women, who may then persuade the other directors to employ her. This also applies in terms of retaining female employees and the number of opportunities for promotion. Female representation on a board of directors makes it likely that company rules will be changed or amended to facilitate promotion for females.

In light of the above, the following hypothesis is proposed:

> **H3:** There is a positive correlation between the percentage of female directors on board

and internal promotion for females and members of minorities.

2.5.4. Female representation on boards and the work/life balance environment

Working women will generally have more empathy for the challenges fellow working women face and when holding a position of authority they will generally try to help them. The following cases illustrate this. India introduced a law in 1992 mandating that one-third of the headships of village development committees had to be exclusively reserved for females. Chattopadhyay and Duflo (2004) looked at the ways in which policy was affected by this dramatic increase in the number of female heads of the village development committees. It was revealed that when women were in charge of a committee, the greater investment would be made in infrastructure beneficial towards women. Bratton and Ray (2002) looked at Norwegian data and found that when there were more females in Parliament, it was more likely that childcare provision would be increased. Thomas (1991) looked at state legislatures in the US to see if a higher percentage of female members would influence policy; it was revealed that those states with the highest proportion of female legislators were more likely to introduce and pass bills related to women's, children's, and family concerns. A number of other researchers have also demonstrated that the more women there are in legislative positions of power, the more likely a legislature is to pass legislation beneficial to women, children, and social welfare (Carroll, 2001; Norton, 1999; Swers, 2002).

The evidence cited above shows that there is a reasonable expectation that greater female representation on a board of directors makes a company more empathetic towards the challenges women face, for example balancing family life and work life. Such companies will generally make greater efforts to create a better work/life balance, this being generally more important for females

than males. The following hypothesis is therefore proposed:

H4: There is a positive correlation between female representation on a board of directors an environment that is more conducive to creating a work/life balance.

2.5.5. Female directors and welcoming attitudes towards disabled people

Lengnick-Hall et al. (2008) undertook interviews with 38 executives from different sectors to explore the reasons why companies tend to avoid hiring individuals with disabilities. The results showed that the majority of CEOs possess a stereotyped view of disabled people and do not take active steps to hire them. It has been noted (Delsen,1989) that whether or not people with disabilities are hired can be dependent on the macroeconomic environment, e.g., government policies, technological developments, and occupational structures. It was also shown that the hiring of people with disabilities was dependent on more disabled-friendly businesses being created. As already noted, women generally have more compassion, and having females on boards of directors makes the debate on policy more open-minded. Thus the following hypothesis is proposed:

H5: There is a positive correlation between female representation on boards of directors and a more welcoming environment towards those with disabilities

2.5.6. Female directors and a welcoming environment for LGBT employees

It is frequently the case that those people who set a company's LGBT policy are not personally LGBT. This means that to have policies that are welcoming to LGBT employees, compassionate leaders are needed. Women, having a greater capacity for compassion and care, are

generally better disposed to consider what challenges LGBT people might have in a firm. The following hypothesis is therefore proposed:

H6: There is a positive correlation between female representation on boards of directors and a welcoming environment for LGBT employees.

2.5.7. Female directors and overseas income

Expanding overseas is a big decision for any company. A board of directors will generally have the biggest say in making this decision. Dundas and Richardson (1980) have examined some of the things that have to be considered in relation to expanding overseas. One of the most important questions is should companies remain dedicated to their primary product line, or should diversification be attempted? To examine this question, they devise four types of corporate strategies, which could focus on single products, dominant products, related products, or unrelated products. They proposed that external factors are the primary influence on which strategy should be adopted. Duhaime and Grant (1984) have suggested, however, that the primary influence on the areas into which a firm may or may not expand is what goes on within a company, not outside.

Having women on the board of directors can influence the decision-making process. Research has suggested that more diverse boards can be more creative and innovative (Bantle and Jackson, 1989; Wiersema and Bantel, 1992). This research is predicated on upper echelon theory (Hambrick and Mason, 1984), which suggests that the ways in which individuals view challenges to a company (e.g., competition, expansion, nature of risk) depend on their perspective. Women have different perspectives to men due to their different experiences, and women may interpret situations in a very different way to men. As men and women see things so differently, involving

women in decision-making means that the situation facing the company will be thoroughly analyzed, offering better chances for the final decision to be the right one. When companies wish to expand overseas, if females are on the board of directors then strategies are likely to be better designed, and so there is less chance of failure; thus, companies with a greater percentage of female representation on the board will be likely to have higher foreign income. In the light of this, the following hypothesis is proposed:

H7: There is a positive correlation between the percentage of female representation on a board of directors and overseas income.

CHAPTER III

METHODOLOGY

3.1. Empirical Method

This is the empirical model employed for testing for H1:

$$\textit{Minimum one female executive} = \beta_0 + \beta_1 \textit{ \% of female directors} + \beta_2 \textit{ \% of independent directors} + \beta_3 \textit{ total number of directors} + \beta_4 \textit{ ln(assets)} + \beta_5 \textit{ return on assets} + \beta_6 \textit{ debt to assets} + \beta_7 \textit{ time trend} + \textit{Industry Dummies} + \textit{Year Dummies} + \varepsilon. \quad \text{Equation (1)}$$

These variables represent the following:

Minimum one female executive =	A dummy variable which equals one if a company has at least one woman in its top five highest-earning executives.
% of female directors =	Percentage of female representation on the board of directors.
% of independent directors =	Percentage of directors on the board who are independents.
% total number of directors =	Total number of directors.
% ln (assets) =	Natural logarithm of total assets.
% return on assets =	Net income:total assets ratio.
debt to assets =	Total debt:total assets ratio.
time trend =	Years from 1900.
Industry Dummies =	Industry dummies from two-digit standard industry

identification (SIC) codes.

Year Dummies = Year dummies from a year from which data is derived.

This data is analyzed at the firm-year level. The dependent variable is an indicator variable, and so a logit model is employed to undertake the analysis. In order to assess robustness, a linear probability model has been employed, i.e., OLS regression analysis. To further assess robustness, *% of female execu* has been employed as an alternative dependent variable.

The control variables have been chosen in line with current literature (e.g., Cumming et al., 2015; Dezso and Ross, 2012). As an example, researchers implied that company decisions are influenced by the number of people on the board of directors (Yermack, 1996; Jensen, 1993; Mak and Kusnadi, 2005), and how many of them are independents (Armstrong et al., 2014).Women directors may be more open to innovation, and on small boards of directors, women directors may have more opportunity to change things. Research has also demonstrated that company size and industry sector is influential in terms of the choices it makes when recruiting, e.g., larger companies and companies which make larger profits are generally more open to employing female directors (Hillman et al., 2007). Therefore, controls must be introduced regarding the size of company, company profits, industry, size of the board, and percentage of independent directors on the board.

This is the empirical model used for testing H2:

$$Female{:}male\ salary\ ratio = \beta_0 + \beta_1\ \%\ of\ female\ directors + \beta_2\ \%\ of\ independent\ directors + \beta_3\ total\ number\ of\ directors + \beta_4\ ln(assets) + \beta_5\ return\ on\ assets + \beta_6\ debt\ to\ assets + \beta_7\ time\ trend + Industry\ Dummies + Year\ Dummies + \varepsilon. \quad \text{Equation (2)}$$

The dependent variable here, *female: male salary ratio*, is continuous, so an OLS is

employed. The control variables are identical to equation (1). The analysis is undertaken at the level of firm-year. If the *% of female directors* coefficient is positive, this will demonstrate that when more female directors are employed, the gender pay gap should close. If this hypothesis is accurate, *% of female directors* should be a positive significant figure.

This is the empirical model used for testing H3:

$$promotion\ of\ females\ and\ minorities = \beta_0 + \beta_2\ \%\ of\ female\ directors + \beta_2\ female\ ceo + + \beta_3\ \%\ of\ independent\ directors + \beta_4\ total\ number\ of\ directors + \beta_5\ ln(assets) + \beta_6\ return\ on\ assets + \beta_7\ debt\ to\ assets + \beta_8\ time\ trend + Industry\ Dummies + Year\ Dummies + \varepsilon. \quad \text{Equation (3).}$$

Promotion of females and minorities, the dependent variable, assumes a value of 1 if a firm has made significant improvements[12] in promoting women and minorities. An indicator variable which is set at 1 if a company has made significant steps forward in promoting females and minorities, especially if they have been given senior management responsibilities related to profit and loss activities.

Otherwise it is 0.

As the dependent variable is an indicator variable, a logic model is employed. The remaining control variables are identical to equation (1), apart from the fact that a new control variable is introduced, this being whether the company has a female CEO. If this is the case, the variable has a value of 1, if not, a value of 0.

This is the empirical model used to test H4:

$$work\ life\ balance = \beta_0 + \beta_1\ \%\ of\ female\ directors + \beta_2\ female\ ceo + \beta_3\ \%\ of\ independent\ directors + \beta_4\ total\ number\ of\ directors + \beta_5\ ln(assets) + \beta_6\ return\ on\ assets + \beta_7\ debt\ to\ assets + \beta_8\ time\ trend + Industry\ Dummies + Year\ Dummies + \varepsilon. \quad \text{Equation (4).}$$

[12] One example of an initiative by which it is possible to promote females and minorities is to provide these employees with direct profit-and-loss responsibilities within the organization.

Work life balance, the dependent variable, is an indicator variable that assumes a value of 1 if a company can demonstrate that it offers its employees substantive and helpful benefits like flextime, elder care, or childcare. As the dependent variable is an indicator variable, a logic model is employed. The other control variables are identical to equation (3). This is the empirical model used to test H5:

$$disabled\ people\ friendly = \beta_0 + \beta_1\ \%\ of\ female\ directors + \beta_2\ female\ ceo + \beta_3\ \%\ of\ independent\ directors + \beta_4\ total\ number\ of\ directors + \beta_5\ ln(assets) + \beta_6\ return\ on\ assets + \beta_7\ debt\ to\ assets + \beta_8\ time\ trend + Industry\ Dummies + Year\ Dummies + \varepsilon. \quad \text{Equation (5).}$$

Disabled people friendly, the dependent variable, is an indicator variable which is rated at 1 if the company has effective established programs for hiring disabled people, or has a good reputation for employing disabled people. The control variables are identical to equation (4)

This is the empirical model used to test H6:

$$lgbt\ friendly = \beta_0 + \beta_1\ \%\ of\ female\ directors + \beta_2\ female\ ceo + \beta_3\ \%\ of\ independent\ directors + \beta_4\ total\ number\ of\ directors + \beta_5\ ln(assets) + \beta_6\ return\ on\ assets + \beta_7\ debt\ to\ assets + \beta_8\ time\ trend + Industry\ Dummies + Year\ Dummies + \varepsilon. \quad \text{Equation (6).}$$

lgbt friendly is the dependent variable, which is an indicator variable which is set at one if a company has significantly favorable LGBT employment policies, particularly if it offers the partners of LGBT employees the same benefits as heterosexual partners or spouses. Otherwise, the value is set at 0. The control variables are identical to equation (5).

This is the empirical model used to test H7:

$$\%foreign\ income = \beta_0 + \beta_1\ \%\ of\ female\ directors + \beta_2\ female\ ceo + \beta_3\ \%\ of\ independent\ directors + \beta_4\ total\ number\ of\ directors + \beta_5\ ln(assets) + \beta_6\ return\ on\ assets + \beta_7\ debt\ to\ assets + \beta_8\ time\ trend + \beta_9\ market\text{-}to\text{-}book\ ratio + Industry\ Dummies + Year\ Dummies + \varepsilon. \quad \text{Equation (7).}$$

% Foreign income is the dependent variable, calculated by the foreign income ratio divided by total assets. As this is a continuous variable, an OLS regression analysis is employed. The control variables are identical to equation (5), apart from the fact that there is a control for the market value: book value ratio.

Whenever the dependent variable is a binary variable, a logic model has been employed. Logic models, according to the literature, are frequently used for binary dependent variables. Hoetker (2007) states: "The logit and probit models have become critical parts of the management research's analytical arsenal, growing rapidly from almost no use in the 1980s to appearing in 15% of all articles published in Strategic Management Journal in 2005" (p.331). In the last 30 years or so, logit models have become more prominent than probit models.[13] When we have a binary dependent variable, that does not conform to the linearity assumption that can be made in standard regressions. Prior to employing a logit model, checks must be made for the presence of outliers and multicollinearity. With logistic regressions, changes in probability are not constant (so non-linear) with the change in constants in the right-hand side variable. The literature that has scrutinized the effects of board diversity on binary variables has employed the logit model (e.g., Cumming et al., 2015; Minguez-Vera and Lopez-Martinez 2010; Wilson et al., 2013).

When the dependent variable is continuous, OLS is employed. This technique is frequently employed for studying relationships between two continuous variables while maintaining constancy for other variables, especially with secondary data. As secondary data is employed, this study has employed OLS in common with the majority of research studying the effects of gender diversity for boards on continuous variables (e.g., Luckerath-Rovers, 2013; Dezso and Ross, 2012; Abdullah et al., 2016).

[13] https://statisticalhorizons.com/whats-so-special-about-logit

The control variables employed for this study are generally derived from previous research (e.g., Cumming et al., 2015; Dezo and Ross, 2012) that has looked at how the diversity of gender on boards affects company performance. As an example, previous research has controlled for the size of company, sector, time, and performance measures, and this is measured. All the tests in this research are controlled for company size and sector. Larger companies are likely to have a greater degree of social responsibility and so good HR practices; larger companies are also more likely to have women on the board of directors. Controls have also been imposed for the sector of industry, as a company's HR policies and their willingness or otherwise to appoint female directors may be influenced by the sector in which the company works. Controls have also been added for company profitability, as it is possible that companies that are doing well may offer their employees different treatment to firms that are struggling.

3.2. Data

This section discusses specifics about gathering data.

3.2.1. Data Collection

Data for this research was gathered from several sources. The data related to board characteristics was gleaned from RiskMetrics, which can be accessed via Wharton Research Data Services (WRDS).[14] WRDS is an online platform that allows researchers to gather many types of data about companies. It mainly focuses on companies in North America. Compustat, which can be accessed via WRDS, supplied company balance sheets and income statements. WRDS also allows access to Execucomp, from which information regarding the names and gender of executives, along with their remuneration, can be harvested. This data was employed to calculate the percentage of female representation among senior executives and the gender pay gap.

[14] https://wrds-web.wharton.upenn.edu/wrds/

In order to gain data regarding work/life balance, treatment of minorities, attitude towards disabled persons and LGBTs and promotion, data was taken from MSCI ESG KLD STATS, also accessible via WRDS.[15] This dataset was created by KLD STATS, an independent company that collates information in the public domain (including newspaper reports, government reports, non-governmental sources, annual reports, regulatory filings, disclosures, and proxy statements) and rates companies as to their involvement or otherwise in such areas as environmental protection, products, treatment of employees, attitude to human rights, commitment to diversity, involvement with community etc. This research looked at the strength of variables in relation to the treatment of employees. The way in which the variables were constructed, and the sources employed can be found in Appendix A.

The data set employed crosses a number of different disciplines (e.g., Harjoto and Jo, 2011; Walls et al., 2012; El Ghoul et al., 2011; Kim et al., 2012). KLD scores have been taken from 1991 onwards, but from 1991 to 1993 they only related to S&P 500 companies. In 1993 coverage was extended to encompass Russell 3000 firms; these are the 3000 biggest publicly traded companies. The dataset assesses companies in the categories of diversity, environment, product, community, employee relations, and human rights. Under each of these headings, there are several subcategories, and indicator variables for these are provided by the dataset, e.g., the employee relations category has subsets related to attitude towards LGBT and another for attitude towards the disabled. This dataset offers Committee on Uniform Security Identification Procedures (CUSIP) numbers that may be employed as solid identifiers for merging with the Compustat dataset.

Director information can be found from 1996 to 2014, but the sample for this research

[15] The MSCI ESG KLD STATS DATA SET was created by KLD Research & Analytics

begins in 1997, which is when the gender of executives was first listed. The sample for directors finishes in 2014.

The sample selection was made in the following way. Firstly, all Compustat data between 1997 and 2014 was taken provided that all data was available.[16] As above, 1997 was chosen as the starting date as it is only from that time that direct agenda was recorded. This data was employed to create the central research variable for this research.

With this dataset, we had 175,226 firm-year observations. All companies from the financial and utility sector were removed (25,535 and 15,150 respectively), using the SIC industry codes Compustat supplied. Then all firm-years in which the percentage of female directors was not available were removed (116,655). The sample size dropped significantly as board data was only available for S&P 500 companies (the 500 largest companies by market value).[17] Then, in sequence, firm years were removed if they could not provide the variable of at least one female executive (2108), promotion of females and minorities (742), work/life balance (9), welcoming to disabled people (745), female CEO (3029) and debt to assets (13). All this data is summarised in Panel A; Appendix B. KLD STATS stopped recording the variables work/life balance, promotion of female and minorities, and LGBT friendly in 2011, with welcoming to disabled people being discontinued in 2009. After all of these variables were removed, we arrived at a sample of 4560 firm-years, relating to 1053 companies. To guard against outliers, I winzorized the variables at percentiles one and 99. The process of choosing the sample is summarised in Panel A of Appendix B.

Panel B presents observation distribution by year. Observations between 1997 and 2000

[16] I also remove firms for which there are duplicates based on 6 digit CUSIP and year. I remove because director's data is based on six digit CUSIP data.
[17] COMPUSTAT on the other hand covers virtually all Public Corporation listed in the U.S.

less than hundred and 50, but this gradually increases, and post-2002 the majority of years have a sample size over 450.[18]

3.2.2. Summary Statistics

The summary statistics are presented in Table 1. Female director average percentage is 0.104, i.e., boards had an average of 10.4% female members. This table also demonstrates that only around 25% of companies had more than 16.7% female directors. The highest percentage of any company was 50% female directors. We can also see that 25.5% of firms had at least one woman as one of their five best-paid executives. The ratio of female: male salaries has a mean of 0.818, showing that with companies where there is at least one woman in the five highest-paid executives, the woman will generally be one of the lowest paid. Other means are promotion of females and minorities (0.245), work/life balance (0.099), welcoming to disabled people (0.026) and welcoming to LGBT people (0.206). In other words, for around 24.5% of firm-years companies are favourable to female and minority promotion, 9.9% of firm-years show a good work/life balance, 2.6% of firm-years were welcoming to disabled people, and 20.6% of firm-years were welcoming towards LGBT people. The foreign income mean is 0.021, i.e., for the companies in this sample, 2.1% of income derives from overseas.

The average number of directors on the board was around 9, and the percentage of independent directors was 71.8%. This data is aligned with previous studies that have asked similar questions of comparable data. For example, a study performed by Jiraporn et al. (2018) found that the average board size was 9.5 and the mean percentage of independent directors was 70.9%.

[18] Until 2000, KLD STATS only covered S&P 500 Index, and Domini 400 Social Index. In 2002, it included the 1000 largest US companies. In 2002, it started to include Large cap social index. Since 2003 the coverage has also included 2000 Small Cap US companies, and Broad Market Social index. For more information see: http://cdnete.lib.ncku.edu.tw/93cdnet/english/lib/Getting_Started_With_KLD_STATS.pdf

Table 1: Summary Statistics

This table offers a summary of the statistics for the sample employed in the research. N=4560, except for *Female:male salary ratio* for which the N=1163.

Variable	mean	sd	median	p25	p75	min	max
% of female directors	0.104	0.091	0.111	0	0.167	0	0.5
Minimum one female executive	0.255	0.436	0	0	1	0	1
% of female executive	0.061	0.116	0	0	0.2	0	0.8
Female:male salary ratio	0.818	0.372	0.729	0.607	0.91	0.183	3.308
promotion of fem and minority	0.245	0.43	0	0	0	0	1
work life balance	0.099	0.299	0	0	0	0	1
disabled people friendly	0.026	0.159	0	0	0	0	1
lgbt friendly	0.206	0.404	0	0	0	0	1
foreign income	0.021	0.036	0.005	0	0.033	-0.163	0.176
% of independent directors	0.718	0.148	0.75	0.625	0.833	0.2	0.923
total number of directors	9.183	2.308	9	7	11	3	18
female ceo	0.04	0.195	0	0	0	0	1
ln(assets)	7.588	1.376	7.507	6.583	8.46	4.633	11.878
return on assets	0.049	0.103	0.058	0.023	0.095	-1.845	0.338
debt to assets	0.5	0.2	0.509	0.359	0.63	0.074	1.602
time trend	104.757	3.273	105	103	108	97	109

Figure 2 shows the distribution of the percentage of female directors for each year from 1997 to 2009. For 1997, companies had on average 9.1% female directors, and in 2009 they had 10.9%. 12% is the highest level, reached in 2000.

Figure 2: Percentage of female directors by year
This figure shows the fluctuations in percentage of female directors over the timescale covered by the study.

Figure 2 continued

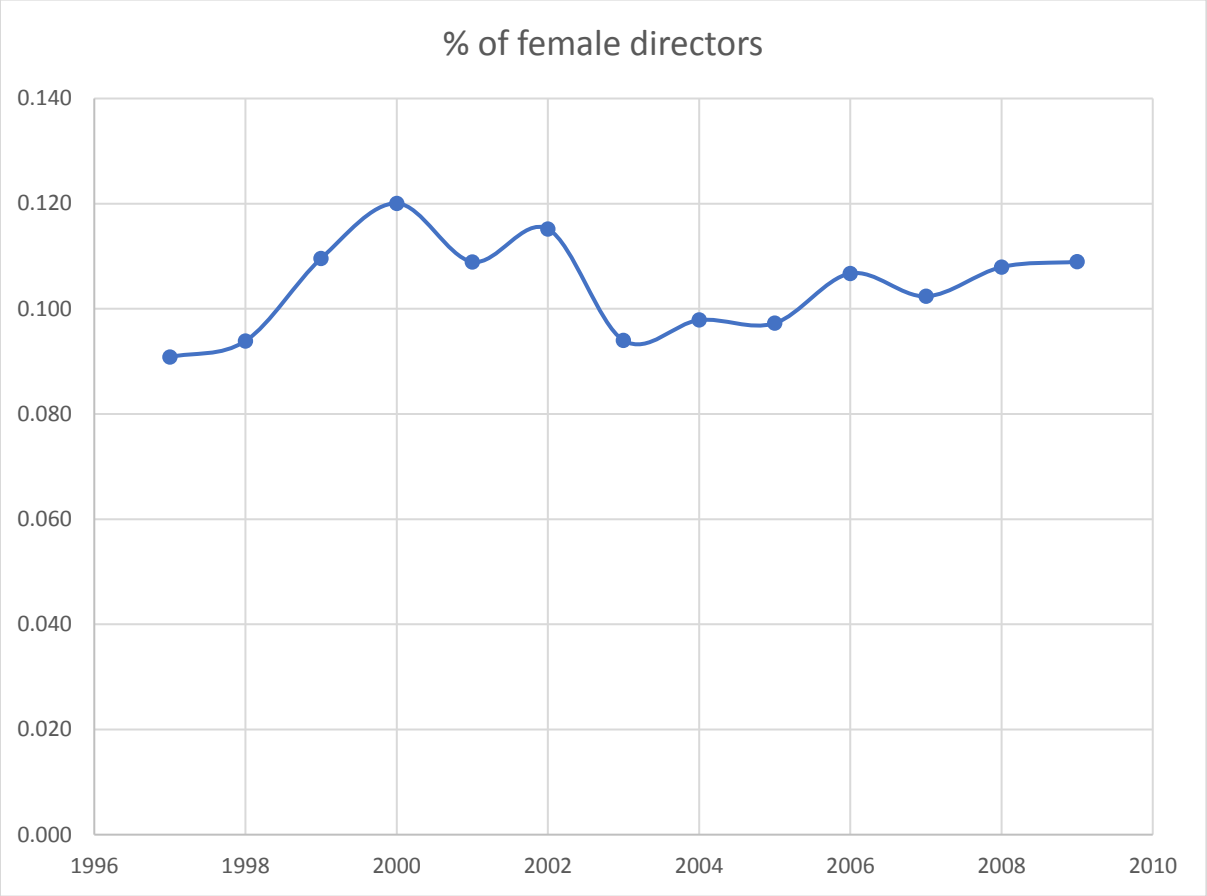


Table 2 shows the correlations, with p-values in brackets. These figures demonstrate that there was a positive correlation between the percentage of female directors and having at least one female executive, % of female executives, female: male salary ratios, promotion for females and minorities, work/life balance, welcoming to disabled people, welcoming to LGBT people, and foreign income. For of these instances, the p-values imply a statistically significant correlation. The correlation coefficients also demonstrate that the percentage of female directors has a positive correlation with asset size, the total number of directors, and the percentage of independent directors, suggesting that multivariate analysis is required.

Table 2: Correlations

This table shows Pearson's correlation. The p-value is in parentheses.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1)	*% of female directors*	1.00															
(2)	*at least one female executive*	0.17	1.00														
		(0.00)															
(3)	*% of female executive*	0.18	0.93	1.00													
		(0.00)	(0.00)														
(4)	*Female:male salary ratio*	0.27	.	0.09	1.00												
		(0.00)	(1.00)	(0.00)													
(5)	*promotion of fem and minority*	0.19	0.46	0.46	0.09	1.00											
		(0.00)	(0.00)	(0.00)	(0.00)												
(6)	*work life balance*	0.24	0.04	0.07	0.08	0.16	1.00										
		(0.00)	(0.01)	(0.00)	(0.00)	(0.00)											
(7)	*disabled people friendly*	0.10	0.01	0.05	0.11	0.05	0.31	1.00									
		(0.00)	(0.32)	(0.00)	(0.00)	(0.00)	(0.00)										
(8)	*lgbt friendly*	0.27	0.10	0.13	0.09	0.22	0.39	0.24	1.00								
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)									
(9)	*foreign income*	0.07	-0.04	-0.04	-0.05	0.03	0.19	0.08	0.18	1.00							
		(0.00)	(0.01)	(0.01)	(0.09)	(0.03)	(0.00)	(0.00)	(0.00)								
(9)	*% of independent directors*	0.18	-0.00	-0.01	-0.06	-0.02	0.08	0.02	0.15	0.12	1.00						
		(0.00)	(0.94)	(0.49)	(0.05)	(0.15)	(0.00)	(0.15)	(0.00)	(0.00)							
(10)	*total number of directors*	0.31	-0.05	-0.04	-0.08	0.07	0.25	0.16	0.19	0.11	0.05	1.00					
		(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)						
(11)	*female ceo*	0.19	0.33	0.38	0.55	0.16	0.03	0.09	0.05	-0.03	-0.04	0.03	1.00				
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.08)	(0.00)	(0.00)	(0.03)	(0.00)	(0.05)					
(12)	*ln(assets)*	0.30	-0.07	-0.07	-0.05	0.07	0.34	0.26	0.36	0.23	0.17	0.56	0.02	1.00			
		(0.00)	(0.00)	(0.00)	(0.09)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.15)				
(13)	*return on assets*	0.02	0.01	0.02	-0.09	0.02	0.05	0.01	0.04	0.30	-0.02	0.03	0.01	0.04	1.00		
		(0.14)	(0.38)	(0.12)	(0.00)	(0.23)	(0.00)	(0.55)	(0.01)	(0.00)	(0.25)	(0.04)	(0.67)	(0.00)			
(14)	*debt to assets*	0.26	-0.03	-0.03	-0.08	0.02	0.12	0.09	0.07	-0.04	0.19	0.36	-0.01	0.42	-0.15	1.00	
		(0.00)	(0.03)	(0.08)	(0.00)	(0.11)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.61)	(0.00)	(0.00)		
(15)	*time trend*	0.02	0.05	0.06	0.00	-0.07	-0.02	-0.03	0.16	0.04	0.31	-0.16	-0.01	-0.06	-0.01	-0.09	1.00
		(0.15)	(0.00)	(0.00)	(0.90)	(0.00)	(0.21)	(0.05)	(0.00)	(0.01)	(0.00)	(0.00)	(0.56)	(0.00)	(0.72)	(0.00)	

CHAPTER IV

RESULTS

4.1. Hypothesis 1

This section discusses the results of hypothesis 1.

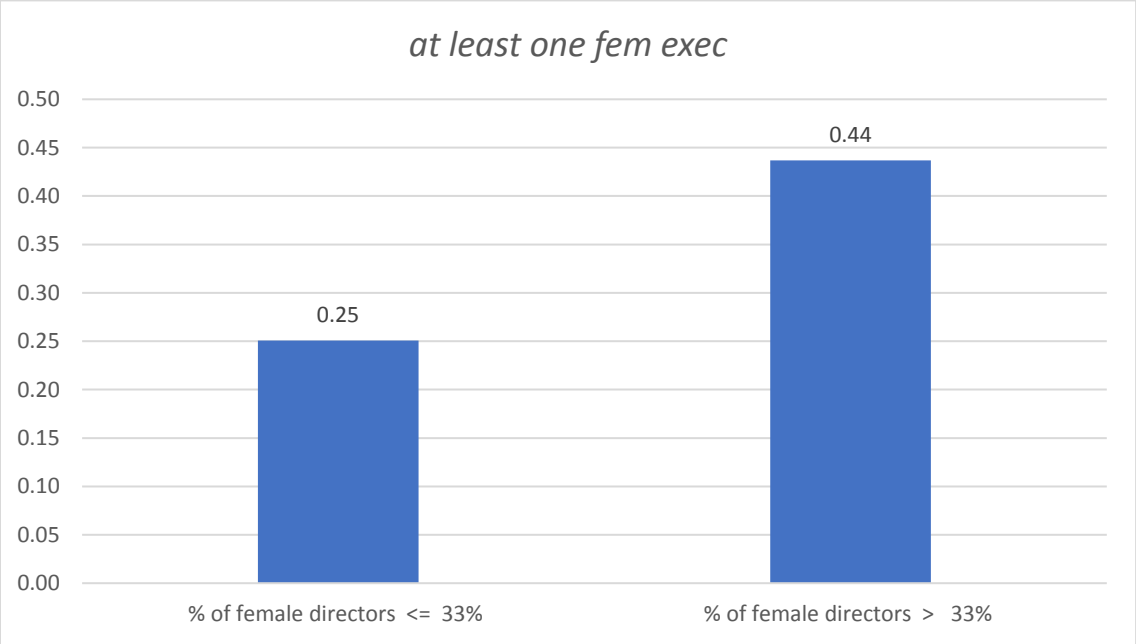
4.1.1. Univariate results

Hypothesis 1 is supported by the univariate results. Those companies with a greater percentage of female directors have a greater likelihood of having at least one of their five best-paid executives being female. The univariate results were derived using the following method: firstly, the sample was split into two groups depending on whether they had more or less than 33% female directors. Hundred and three firm-years had more than 33% female directors, and 4457 firm-years had less. Panel A of Table 3 offers a graphic presentation for the mean for these two groups when having at least one female executive. In firms where the percentage of female directors was lower than 33%, 25% of them had at least one female executive; if the percentage of female directors was above 33%, 44% of these companies had at least one female executive. Applying a two-tailed test for the difference shows significance with p-value <0.001.

Table 3: Percentage of female directors/female presence
This table shows the results of the test *H1: The proportion of women on the board of directors has positive association with the proportion of female executives in a company's five highest-earning executives.* Panel A offers a graphical representation of the univariate results. It shows the mean for the variable *at least one fem exec* for both groups depending on whether the percentage of female directors is greater or lesser than 33%. Panel B shows the results of a logit model with a dependent variable of *Minimum one female executive* which is set at 1 if a company has at least one female executive. Panel C shows the results of the OLS regression with a dependent variable of *% of female execu* which represents the percentage of the five highest-paid executives who are female. In parentheses are p-values based on robust standard errors clustered by firm. *, **, *** represent significance at 10 %, 5% and 1 % respectively. Appendix A describes how all the variables were constructed and their sources.

Table 3 continued

Panel A – Univariate results



Panel B: Multivariate tests: The positive correlation between percentage of female directors and the presence of at least one female in the five highest-paid executives.

	(1)	(2)	(3)
	Dependent variable = *Minimum one female executive*		
% of female directors	4.314***	5.551***	4.106***
	(0.000)	(0.000)	(0.000)
% of independent directors		-0.438	-0.030
		(0.337)	(0.950)
total number of directors		-0.042	-0.083**
		(0.236)	(0.023)
ln(assets)		-0.173***	-0.081
		(0.009)	(0.234)
return on assets		0.299	-0.240
		(0.595)	(0.623)
debt to assets		-0.289	-0.534
		(0.432)	(0.201)
time trend		0.041*	0.034
		(0.054)	(0.138)
Year dummies	NO	YES	YES
Two Digit SIC Industry dummies	NO	NO	YES
Observations	4,560	4,560	4,526
Pseudo R2	0.025	0.045	0.099

Table 3 continued

Panel C: Multivariate tests: The positive correlation between the percentage of female directors and the percentage of female executives

	(1)	(2)	(3)
		Dependent variable = *% of female execu*	
% of female directors	**0.226*** **	**0.291*** **	**0.212*** **
	(0.000)	**(0.000)**	**(0.000)**
% of independent directors		-0.034	-0.014
		(0.136)	(0.528)
total number of directors		-0.002	-0.003**
		(0.261)	(0.037)
ln(assets)		-0.009***	-0.004
		(0.004)	(0.176)
return on assets		0.025	-0.002
		(0.304)	(0.942)
debt to assets		-0.008	-0.018
		(0.632)	(0.362)
time trend		0.002**	0.001*
		(0.010)	(0.080)
Year dummies	NO	YES	YES
Two Digit SIC Industry dummies	NO	NO	YES
Observations	4,560	4,560	4,560
R-squared	0.034	0.057	0.125

4.1.2. Multivariate results

Hypothesis 1 is also supported by the multivariate results. Firms with high percentages of female directors have a greater likelihood of having a minimum of one female executive (when many control variables are held constant).

Logit analysis results with a dependent variable of at least one female executive are shown in Panel A, Table 3. Column 1 has no control variables, column 2 has controls for every variable except industry dummies, while column 3 controls all variables, industry dummies included. The

column 3 sample size is slightly smaller as logit analysis takes out any observations from industries where all values for at least one female executive has a dependent variable of one or zero. For each of these three columns, the percentage of female directors is 1%, being both positive and significant, demonstrating that percentages of female directors make it more probable that there will be at least one female executive. In column 3, the coefficient for a percentage of female directors is 4.106. Using this coefficient, we can see that increasing female directors by one standard deviation will make it 44% more likely that there will be one female executive ((exp (4.106*0.09)-1)*100) = 44%)).

Panel B reports the results of OLS, with the percentage of female executives being the dependent variable. For the percentage of female directors, in all regression analysis, the coefficient is positive and significant, demonstrating that higher percentages for female directors have a correlation with high percentages for female executives in companies. Taking the coefficient for column 3, a single standard deviation for the percentage of female directors creates a 2% increase in the number of female executives (0.212*0.091*100).

4.2. Hypothesis 2

This section discusses the results of hypothesis 2.

4.2.1. Univariate results

Hypothesis 2 is supported by the univariate results. The results shown in Panel A of Table 3 demonstrate that when the percentage of female directors is greater than 33%, the female: male salary ratio is 1.18, whereas when it is less than 33%, the female: male salary ratio is 0.80. This is a significant difference at 1% on the basis of a two-tailed t-test. Thus, we can say that when companies have more than 33% female directors, the pay of female executives is higher.

Table 4: Female:male salary ratio and female director percentage
This table shows the results from the test for *H2: Higher female representation on the board of directors has a positive association with the female/male executive mean salary ratio.* Panel A presents a graphical representation of the univariate results. It represents the mean of the variable *ratio of female to male salary* for both groups on the basis of whether the percentage of female directors is greater or lesser than 33%. Panel B shows the results of the OLS regression with a dependent variable of *ratio of female to male salary*, i.e. the ratio of the average salary for a woman and the average salary for a man in the five highest-paid executives. Panel C shows the results of logit model with a dependent variable of *high female to male salary*, this being an indicator variable with a value of 1 when the *ratio of female to male salary* exceeds the median, and 0 when it does not. In parentheses are p-values based on robust standard errors clustered by firm. *, **, *** represent significance at 10 %, 5% and 1 % respectively. Appendix A describes how all the variables were constructed and their sources.

Panel A – Univariate results

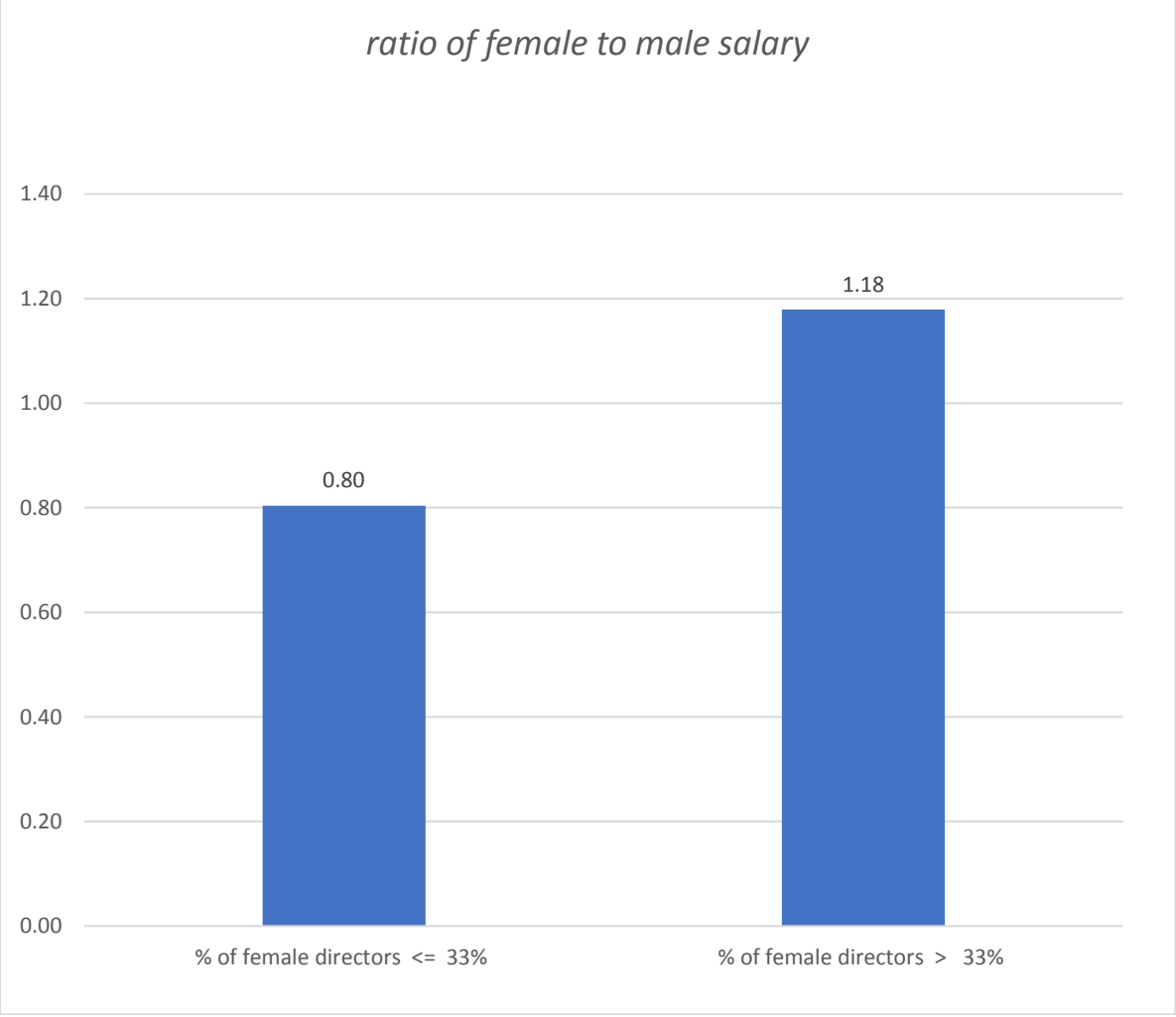


Table 4 continued

Panel B: Multivariate tests (OLS): There is a positive correlation between the percentage of female directors and female:male salary ratios.

	(1)	(2)	(3)
	Dependent variable = *ratio of female to male salary*		
% of female directors	1.032***	1.302***	1.215***
	(0.000)	(0.000)	(0.000)
% of independent directors		-0.215**	-0.224**
		(0.023)	(0.027)
total number of directors		-0.020**	-0.027**
		(0.029)	(0.018)
ln(assets)		-0.001	0.008
		(0.946)	(0.654)
return on assets		-0.325**	-0.309**
		(0.016)	(0.025)
debt to assets		-0.208**	-0.168*
		(0.019)	(0.068)
time trend		0.010**	0.014**
		(0.040)	(0.019)
Year dummies	NO	YES	YES
Two Digit SIC Industry dummies	NO	NO	YES
Observations	1,163	1,163	1,163
R-squared	0.071	0.128	0.214

Panel C: Multivariate tests (Logit): Female executive pay is higher when the percentage of women on a board is higher.

	(1)	(2)	(3)
	Dependent variable = *high female to male salary*		
% of female directors	2.811***	2.802***	2.572**
	(0.005)	(0.005)	(0.016)
% of independent directors		-0.377	-0.683
		(0.536)	(0.287)
total number of directors		1.819***	2.166***
		(0.000)	(0.000)
ln(assets)		-0.019	0.009
		(0.699)	(0.871)
return on assets		-0.079	-0.063
		(0.338)	(0.528)

Table 4 continued

debt to assets		-2.770**	-3.181**
		(0.012)	(0.014)
time trend		-1.341**	-1.184**
		(0.012)	(0.032)
Year dummies	NO	YES	YES
Two Digit SIC Industry dummies	NO	NO	YES
Observations	1,163	1,163	1,131
Pseudo R-squared	0.013	0.100	0.149

4.2.2. Multivariate results

Hypothesis 2 is also supported by the multivariate results. Companies with higher percentages of female directors have a greater likelihood of highly paid female executives. Panel B of Table 4 shows the multivariate results. For testing the hypothesis, we employed the coefficient reported in column three. This coefficient has a p-value of <0.001 and is positive and significant. On the basis of this coefficient, a single standard deviation for the percentage of female directors causes a 0.11 increase (1.215*0.091 = 0.111) in female: male salary ratio.

If we split female: male salary ratio into two groups around the median and develop an indicator variable that shows if a company has high female pay compared to male pay, the multivariate results still hold good. This variable is the high female: male salary, and as predicted it has a positive correlation with the percentage of female directors on a board. This result is presented in Panel C of Table 4.

4.3. Hypothesis 3

This section discusses the results of hypothesis 3.

4.3.1. Univariate results

Hypothesis 3 is supported by the univariate results which suggest that those companies

with a higher percentage of female directors are more likely to favor promotion for female and minority employees. When the percentage of female directors is less than 33%, promotion for female and minority employees is 0.24, whereas when it is over 33%, it is 0.48. There is significance in a two-tailed test for the difference with a p-value >0.001. This resulted is presented graphically in Panel A of Table 5.

Table 5: The probability of promotion for females and minorities related to the percentage of female directors

This table shows the results of the tests for H3: *The percentage of women on the board of directors has a positive association with the company's record in promoting women and minorities*. Panel A offers a graphical representation of the univariate results. It shows the mean for the variable *promotion of fem and minority* for both groups on the basis of the percentage of female directors exceeding or being lower than 33%. Panel B shows the results of the logit model with a dependent variable of promotion of *fem and minority*, an indicator variable set at 1 if a company has a positive attitude towards promoting females and minorities and 0 when it does not. In parentheses are p-values based on robust standard errors clustered by firm. *, **, *** represent significance at 10 %, 5% and 1 % respectively. Appendix A describes how all the variables were constructed and their sources.

Panel A – Univariate results

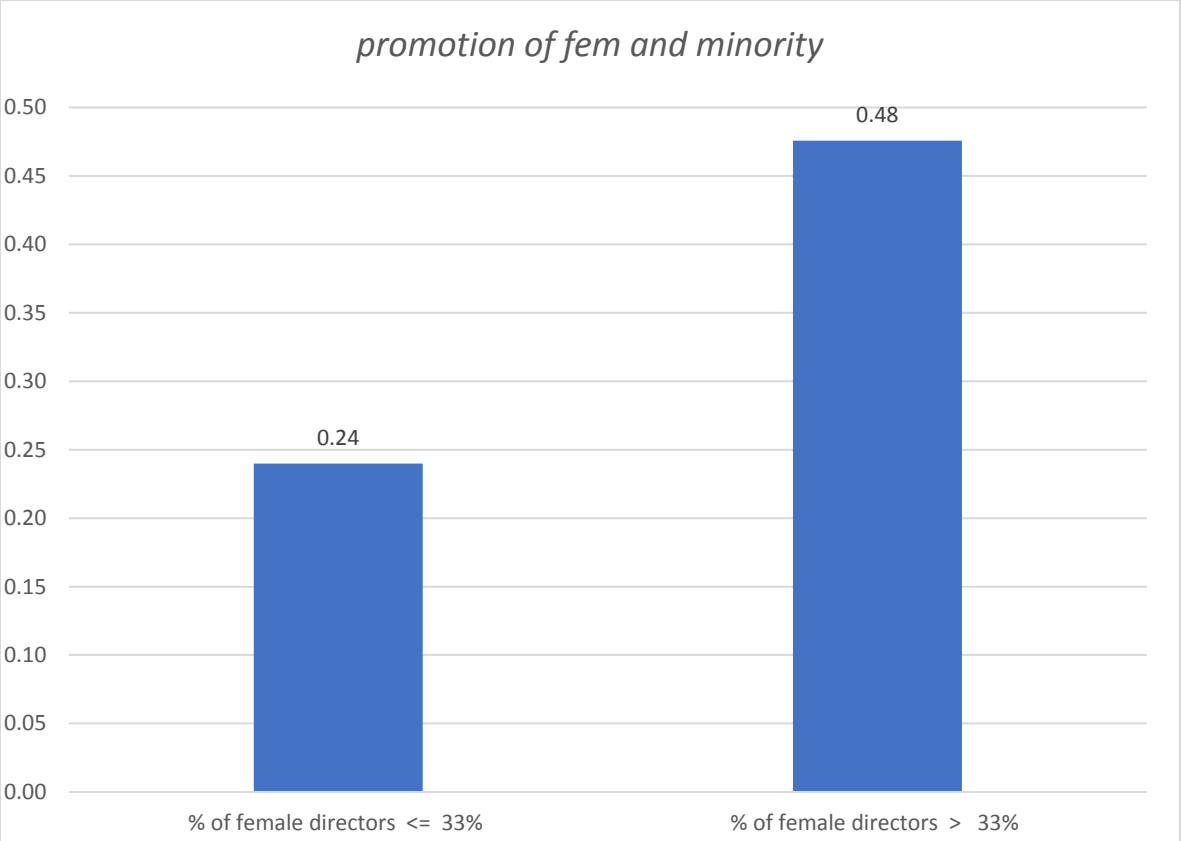


Table 5 continued

Panel B: Multivariate tests: There is a positive correlation between promotion for females and minorities and female director percentage

	(1)	(2)	(3)
	Dependent variable = *promotion of fem and minority*		
% of female directors	4.858***	4.522***	3.409***
	(0.000)	(0.000)	(0.000)
% of independent directors		-0.413	-0.233
		(0.358)	(0.613)
female ceo		1.187***	1.247***
		(0.000)	(0.000)
total number of directors		0.006	-0.014
		(0.873)	(0.696)
ln(assets)		0.046	0.129*
		(0.494)	(0.056)
return on assets		0.076	-0.204
		(0.901)	(0.733)
debt to assets		-0.396	-0.368
		(0.331)	(0.392)
time trend		-0.020	-0.023
		(0.311)	(0.273)
Year dummies	NO	YES	YES
Two Digit SIC Industry dummies	NO	NO	YES
Observations	4,560	4,560	4,467
Prob > chi2	0.000	0.000	0.000
Pseudo R2	0.032	0.053	0.09

4.3.2. Multivariate Results

Hypothesis 3 is also supported by the multivariate results as shown in Panel B of Table 5.

The percentage of female directors' coefficient is positive and significant with a p-value >0.001%. The coefficient remained significant with or without controls for several firm-level characteristics. Taking the percentage of female directors coefficient from Table 5 column 3, a single standard deviation increase for the percentage of female directors makes it 36% more likely that the environment will favor promotion for female and minority employees ((exp (3.409*0.09)-1)*100) = 36%)).

4.4. Hypothesis 4

This section discusses the results of hypothesis 4.

4.4.1. Univariate results

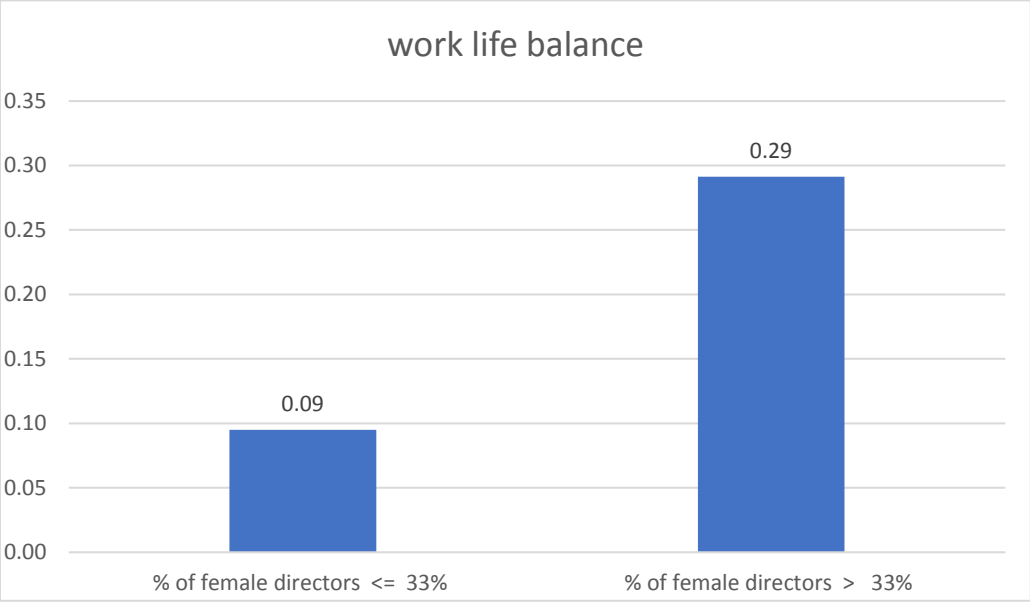
Hypothesis 4 is supported by the univariate results. The results shown in Panel A of Table 6 demonstrate that when the percentage of female directors is below 33%, the mean for work/life balance is 0.09, but when it is above 33%, the same mean is 0.29. This is a significant difference of 1% on the basis of a two-tailed T-test. So with those firms with more than 33% female directors, 29% of them offer a good work/life balance; those firms with less than 33% female directors, only 9% offer a good work/life balance.

Table 6: The probability of an environment offering a good work/life balance and the percentage of female directors

This table shows the results of the tests for *H4: The percentage of women on the board of directors has a positive association with the company promoting a better work/life balance.* Panel A offers a graphical representation of the univariate results. It shows the mean of the variable *work life balance* for both groups depending on whether the percentage of female directors exceeds or falls short of 33%. Panel B shows the results of the logit model with *work life balance* as the indicator variable, set at 1 if the company offers a good work/life balance and 0 if it does not. In parentheses are p-values based on robust standard errors clustered by firm. *, **, *** represent significance at 10 %, 5% and 1 % respectively. Appendix A describes how all the variables were constructed and their sources.

Table 6 continued

Panel A: Univariate results



Panel B: Multivariate tests: There is a positive correlation between a company offering a good work/life balance and the percentage of female directors.

	(1)	(2)	(3)
	Dependent variable = *work life balance*		
% of female directors	8.626***	7.607***	7.718***
	(0.000)	(0.000)	(0.000)
female ceo		-0.391	-0.785
		(0.542)	(0.218)
% of independent directors		0.336	0.991
		(0.703)	(0.325)
total number of directors		0.083	0.062
		(0.189)	(0.365)
ln(assets)		0.714***	1.025***
		(0.000)	(0.000)
return on assets		2.596	2.030
		(0.142)	(0.217)
debt to assets		-0.596	-0.312
		(0.474)	(0.727)
time trend		-0.037	-0.045
		(0.167)	(0.125)

Table 6 continued

Year dummies	NO	YES	YES
Two Digit SIC Industry dummies	NO	NO	YES
Observations	4,560	4,560	3,818
Pseudo R2	0.087	0.233	0.337

4.4.2. Multivariate results

Hypothesis 4 is also supported by the multivariate results showing that a high percentage of female directors makes it more likely that a company will offer employees a good work/life balance. The results can be seen in Panel B of Table 6. There is a positive and significant logit coefficient with p<0.001%. The percentage of female directors coefficient is significant and positive, which suggests that when the other variables are held constant, higher percentages of female directors increase the possibility of a firm offering a good work/life balance. Taking the coefficient of the percentage of female directors from Table 6, column 3, a single standard deviation increase for a percentage of female directors makes it 100% more likely that a firm will offer a good work/life balance (exp (7.718*0.09)-1)*100 = 100.3).

4.5. Hypothesis 5

This section discusses the results of hypothesis 5.

4.5.1. Univariate results

Hypothesis 5 is supported by the univariate results. If the percentage of female directors on the board is over 33%, a company has a greater likelihood of offering an environment that is welcoming to the disabled. A graphic presentation of the univariate results can be found in Panel A of Table 7. When a firm has less than 33% female directors, the mean for welcoming disabled people is 0.03, but when the percentage of female directors is over 33%, the mean for welcoming

disabled people is 0.07, which means that for companies with more than 33% female directors, 7% of them will be welcoming to disabled people, and for companies with less than 33% female directors, only 3% will be welcoming to disabled people.

Table 7: The probability of a welcoming environment to disabled people and the percentage of female directors

This table shows the results of testing for *H5: The percentage of women on the board of directors has a positive association with a more welcoming environment for employees with disabilities.* The table results show that there is a weak correlation between a company being welcoming to disabled people and the percentage of female representation on the board of directors. Panel A shows the univariate results. This shows the mean of the variable *disabled people friendly*, an indicator variable that is set at 1 if a company has a welcoming environment for disabled people and at 0 if it does not for both groups on the basis of whether the percentage of female directors is greater or less 33%. Panel B shows the results of the logit regression with *disabled people friendly* as the dependent variable. In parentheses are p-values based on robust standard errors clustered by firm. *, **, *** represent significance at 10 %, 5% and 1 % respectively. Appendix A describes how all the variables were constructed and their sources.

Panel A: Univariate results

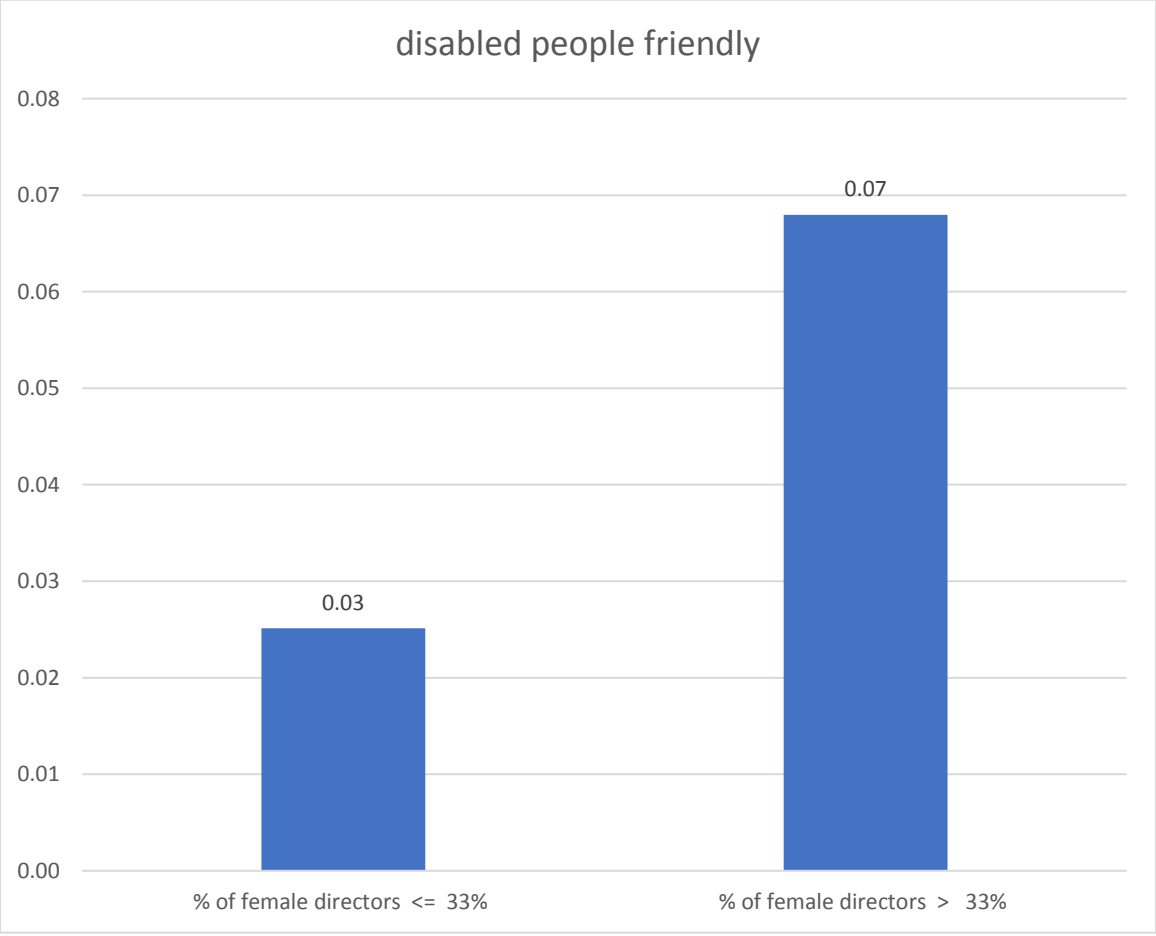


Table 7 continued

Panel B: Multivariate tests: There is a positive correlation between the probability of a firm being welcoming to disabled employees and the percentage of female directors.

	(1)	(2)	(3)
	Dependent variable = *disabled people friendly*		
% of female directors	6.408***	2.430	3.693
	(0.000)	(0.263)	(0.166)
female ceo		1.200*	1.272**
		(0.052)	(0.041)
% of independent directors		-1.050	-0.554
		(0.403)	(0.656)
total number of directors		-0.032	0.064
		(0.728)	(0.585)
ln(assets)		1.278***	1.238***
		(0.000)	(0.001)
return on assets		-0.839	0.470
		(0.643)	(0.845)
debt to assets		-0.399	-0.599
		(0.633)	(0.624)
time trend		-0.067	-0.102*
		(0.206)	(0.083)
Year dummies	NO	YES	YES
Two Digit SIC Industry dummies	NO	NO	YES
Observations	4,560	4,560	2,893
Pseudo R2	0.040	0.301	0.392

4.5.2. Multivariate results

Hypothesis 5 is not supported by the multivariate results; the evidence for the hypothesis with these results is weak to non-existent. These results can be seen in Table 7. When there is no control for firm-level variables (column 1) the coefficient is positive and significant (p-value <0.001), but when the control variables are added the coefficient is reduced and becomes insignificant. Arguably, this could be attributed to the fact that only 3% of the firms in the sample

were officially regarded as being friendly towards disabled employees. As such, my inability to achieve a significant result may be because there was an insufficient representation of disabled-friendly businesses in the sample.

4.6. Hypothesis 6

This section discusses the results of hypothesis 6.

4.6.1. Univariate results

The univariate results support hypothesis 6. When female representation on the board of directors is higher than 33%, companies have a greater chance of having an environment that is welcoming to LGBT employees. These results are shown in graphic form in Figure XX. When the percentage of female directors is below 33%, the mean for LGBT friendliness is 0.20; when the percentage of female directors is above 33%, the meaning of LGBT friendliness is 0.42. In other words, 42% of companies with more than 33% female representation amongst directors have an LGBT welcoming environment, compared to only 20% of those where the percentage of female directors is below 33%.

4.6.2. Multivariate Results

The multivariate results support the hypothesis that a high percentage of female directors makes an environment that is welcoming to LGBT employees more likely. The results are shown in Table 8. The logic coefficient *% of female directors* shows as positive and significant, which suggests that when other variables are constant, having a high percentage of female directors makes it more likely that the environment will be welcoming to LGBT employees. Analyzing the coefficient *% of female directors* (Table 8, column 3), we can see that a single standard deviation increase in this coefficient makes it 53.32% more likely that the firm will have a welcoming environment for LGBTs ((EXP (4.696*0.091)-1)*100 = 53.32).

Table 8: The probability of an environment welcoming to LGBT employees and the percentage of female directors

This table shows the results of testing for *H6: The percentage of women on the board of directors has a positive association with a more welcoming environment for LGBT workers.* The results in this table demonstrate whether or not the percentage of female representation on the board of directors influences a firm's attitude to LGBT employees. Panel A shows the univariate results. This shows the mean of the variable *LGBT friendly*, which is an indicator variable set at 1 if a company is welcoming towards LGBT employees and 0 if it is not for both groups on the basis of whether the percentage of female directors exceeds or is lower than 33%. Panel B shows the results of the logit regression with *LGBT friendly* being the dependent variable. In parentheses are p-values based on robust standard errors clustered by firm. *, **, *** represent significance at 10 %, 5% and 1 % respectively. Appendix A describes how all the variables were constructed and their sources.

Panel A: Univariate results

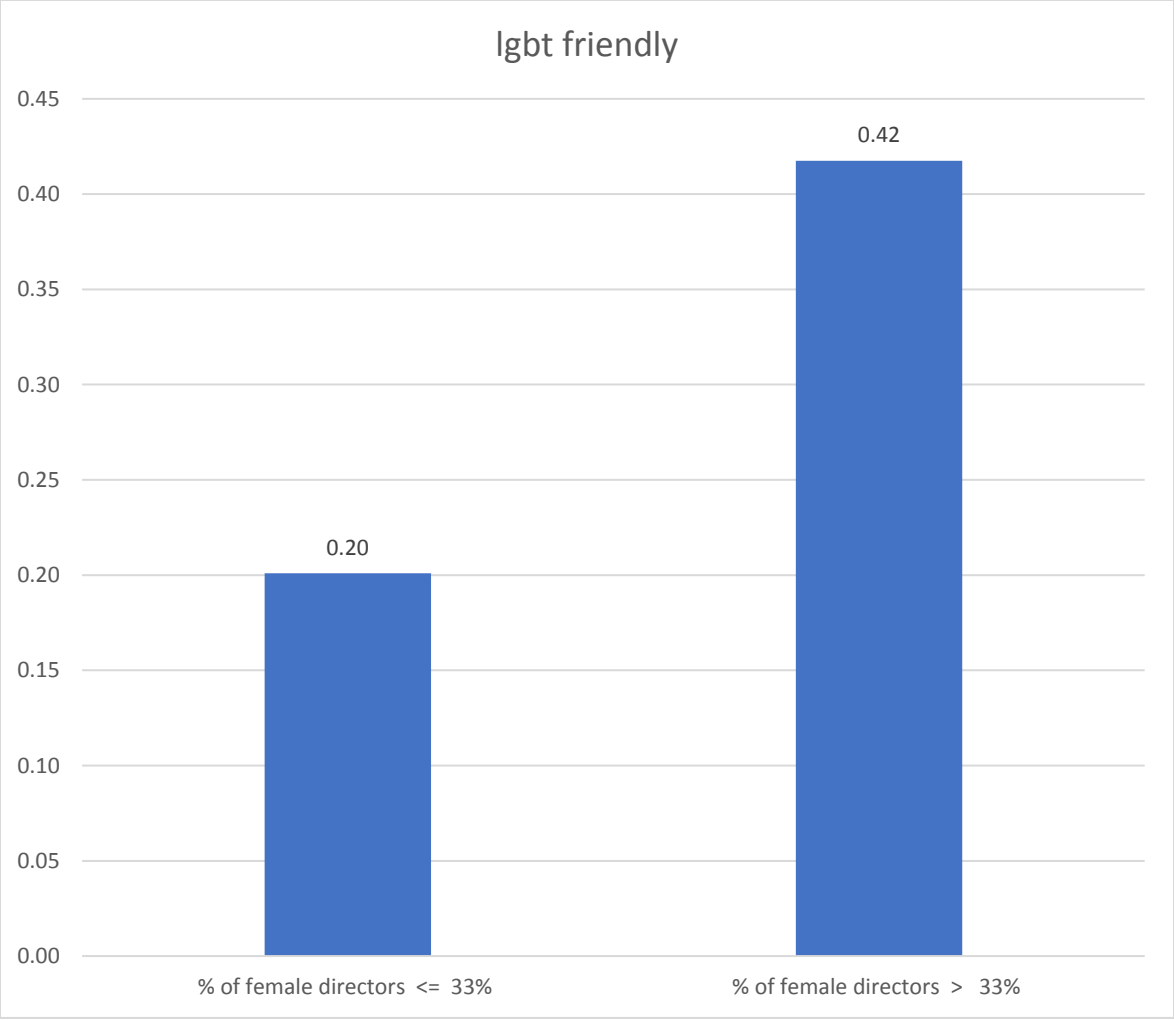


Table 8 continued

Panel B: Multivariate tests: There is a positive correlation between the probability of a firm being welcoming to LGBT employees and the percentage of female directors.

	(1)	(2)	(3)
	Dependent variable = *lgbt friendly*		
% of female directors	7.466***	5.866***	4.696***
	(0.000)	(0.000)	(0.000)
female ceo		0.106	-0.039
		(0.787)	(0.927)
% of independent directors		0.838	1.095*
		(0.135)	(0.060)
total number of directors		0.016	-0.007
		(0.724)	(0.878)
ln(assets)		0.696***	0.967***
		(0.000)	(0.000)
return on assets		0.102	-0.250
		(0.923)	(0.798)
debt to assets		-1.695***	-1.612**
		(0.004)	(0.011)
time trend		0.233***	0.239***
		(0.000)	(0.000)
Year dummies	NO	YES	YES
Two Digit SIC Industry dummies	NO	NO	YES
Observations	4,560	4,560	4,223
Pseudo R2	0.071	0.207	0.289

4.7. Hypothesis 7

This section discusses the results of hypothesis 7.

4.7.1. Univariate results

The univariate results do not infer that a high percentage of female representation on the board of directors increases foreign income. These results can be seen in graphic form in Panel A, Table 9. For both companies that have over 33% female representation on the board of directors and those that have lower than 33% female representation on the board of directors, the mean

foreign income is the same as 0.02. The p-value for the two-tailed test is 0.999.

Table 9: Percentage of female directors and foreign income

This table shows the results of testing for *H7: The percentage of women on the board of directors has a positive association with increased revenue from overseas business.* The results shown in this table demonstrate that there is no correlation between a company's percentage of foreign income and the percentage of females on the board of directors. Panel A offers a graphical representation of the univariate results. This shows the mean of the *% of foreign income* variable (foreign income:total assets ratio) for both groups depending on whether the percentage of female directors exceeds or is lower than 33%. Panel B shows the results of the OLS regression with*% foreign income* being the dependent variable, i.e., foreign income divided by total assets. In parentheses are p-values based on robust standard errors clustered by firm. *, **, *** represent significance at 10 %, 5% and 1 % respectively. Appendix A describes how all the variables were constructed and their sources.

Panel A: Univariate results

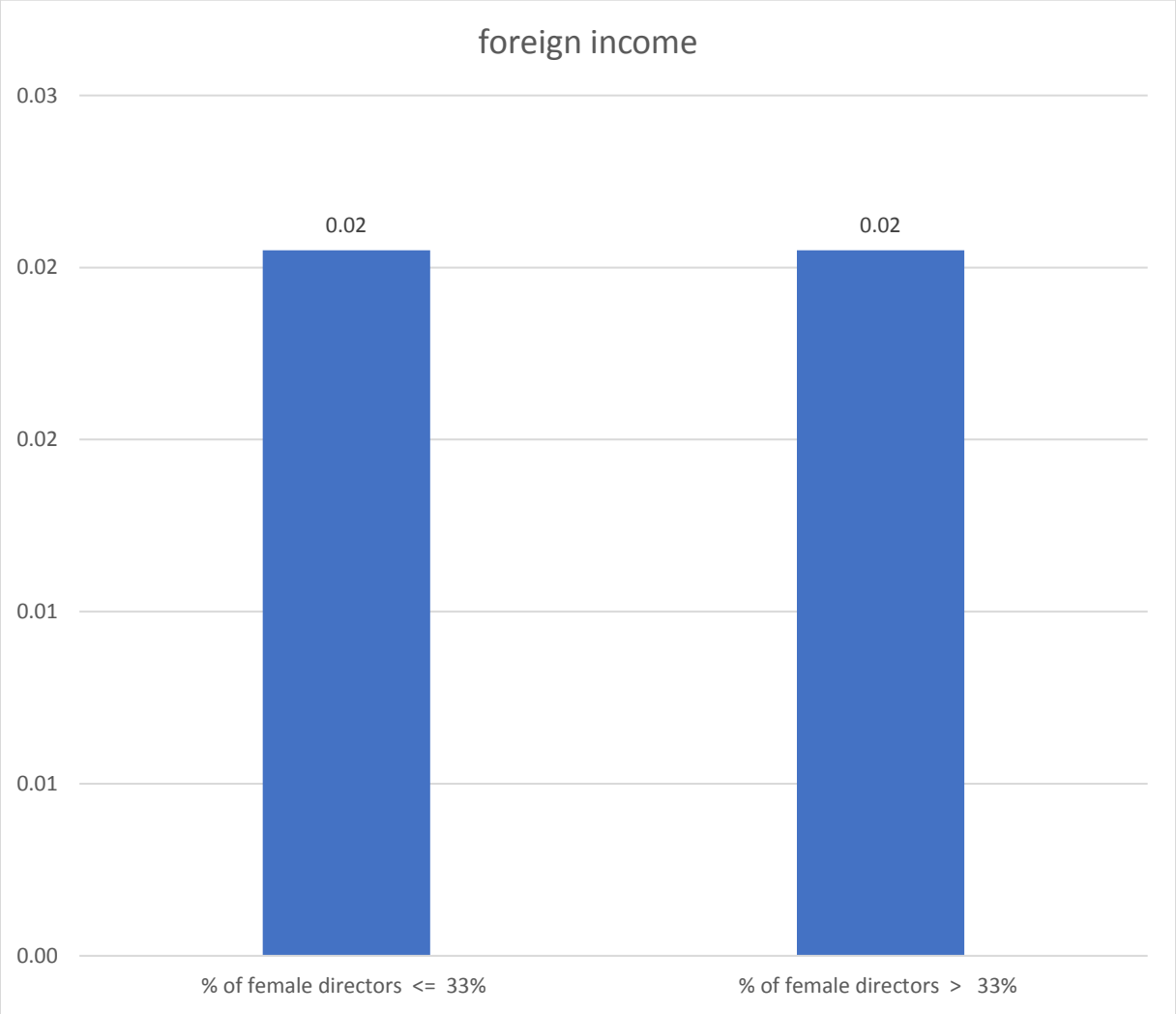


Table 9 continued

Panel B: Multivariate tests: There is no correlation between percentage of foreign income and percentage of female directors.

	(1)	(2)	(3)
	Dependent variable = *foreign income*		
% of female directors	0.027**	0.002	0.016
	(0.041)	(0.905)	(0.170)
female ceo		-0.007	-0.004
		(0.120)	(0.452)
% of independent directors		0.024***	0.005
		(0.000)	(0.430)
total number of directors		-0.000	0.000
		(0.924)	(0.469)
ln(assets)		0.007***	0.006***
		(0.000)	(0.000)
return on assets		0.096***	0.101***
		(0.000)	(0.000)
debt to assets		-0.022***	-0.010*
		(0.000)	(0.087)
time trend		-0.000	0.000
		(0.497)	(0.233)
Year dummies	NO	YES	YES
Two Digit SIC Industry dummies	NO	NO	YES
Observations	4,560	4,560	4,560
R2	0.004	0.164	0.280

4.7.2. Multivariate results

The results shown in Table 8 are for an OLS, with the dependent variable being foreign income. According to these results, no statistically significant correlation exists between the percentage of female directors on board and foreign income, once firm-level controls are included.

I summarize my finding succinctly in Appendix C.

CHAPTER V

DISCUSSIONS AND CONCLUSIONS

5.1. Question 1: answer and implications

Question 1 asked whether there was a positive correlation between female representation on boards of directors and the percentage of the top five highest-paid executives who were female. The answer to this question is affirmative; an extremely positive correlation was demonstrated, and the results were similar in both univariate and multivariate testing. We may conclude from these results that if there are more women on a board of directors, it is more likely that the company will have a high proportion of women in its senior executive ranks. It is possible that this is due to the fact that having more female directors will cause changes in a firm's culture, enhancing the chances of female advancement.

If female directors did not view women as being equal to men in terms of leadership capabilities, it is unlikely that they would promote females to leadership positions, i.e., into the top five highest-paid executives. The findings, therefore, suggest that women place a greater value on female leadership capabilities and therefore support the promotion of women into leadership roles. These results do not concur with Goldberg (1968), whose research showed that women rated the same piece of work more highly when told it was completed by a man than when told it was completed by a woman. The results do, however, concur with Levenson et al. (1975), whose findings showed that women do place a high value on work done by other women.

It could be argued that these results (that companies with more female directors have higher ranked female executives) might come about not due to women directors valuing other women employees more highly than that they do men, but because they create an atmosphere within the

workplace that encourages female success. As an example, if a firm offers support for pregnant employees in terms of extended maternity leave and childcare (e.g., daycare), it will be easier for female employees to continue their careers and gain promotion. This question lies somewhat outside of the remit of this research, but it is certainly possible and would be an interesting point for further research.

This research did demonstrate that there is a positive correlation between female representation on boards of directors and the work/life balance offered by a company. This finding does tend to support the contention that the reason why greater female board representation has a correlation with greater representation of females in higher ranks is that the former condition creates a better work environment for women.

5.2. Question 2: answer and implications

Question 2 asked whether there was a positive correlation between female representation on boards of directors and female executive salaries. The answer to this question was also affirmative, and the results were positive for both univariate and multivariate testing. This result would seem to indicate that female directors value the work of senior female employees more than male directors, offering them a higher scale of reward and not discriminating against them. Such results are in accordance with social identity theory that proposes that women place a higher value on the capabilities of other women than men do (Tajfel, 2010; Tajfel and Turner, 2004; Hogg and Terry, 2000).

The results of this research also accord with previous research that has shown that companies with female CEOs offer high rates of pay to female staff (Shin, 2012; Bell, 2005). These results imply that whether or not a company has a female CEO, higher numbers of women on the board of directors tend to mean that female worker will be better paid. These results also lend

indirect support to the concept that female leaders tend to put women-friendly policies in place, as has been shown by several studies (e.g., Chattopadhyay and Duflo (2004), Bratton and Ray (2002), Thomas (1991), Caroll (2001)). Whilst this research does not show a definite correlation between female leaders and policy changes; it demonstrates that female leaders tend to be more stringent in implementing laws that support female advancement; in this instance, it appears that female leaders are more likely to implement laws requiring equal treatment and outlawing gender discrimination.

5.3. Question 3: answers and implications

Question 3 asked whether there was a positive correlation between female representation on boards of directors and the promotion of females and minorities within a firm. The answer to this question is affirmative: the research found that the higher the proportion of females on a board of directors, the more likely a firm is to encourage female promotion. This is also concordant with social identity theory, as well as the theory that females, in general, will demonstrate greater levels of care and compassion (Christov-Moore et al., 2014).

These results are complementary to the first two hypotheses. They offer oblique support for the concept that greater female representation on the board directors will encourage other female employees to attempt to gain promotion to high levels. The results also suggest that companies with greater female representation on the board of directors have a greater likelihood of having a greater proportion of female executives because the female directors are likely to support their treatment for other female employees.

Limitations of these results must be recognized in as much as the dependent variable amalgamates the level of positivity towards both minorities and females. The data gathered does not permit us to make separate assessments of the positive or otherwise nature of attitudes towards

females and minorities.

However, the results do appear to demonstrate that greater female representation on boards of directors has a positive correlation with a more supportive attitude towards the most disadvantaged.

5.4. Question 4: answers and implications

Question 4 asked whether there was a positive correlation between female representation on boards of directors and whether employees perceived that their company offered them a positive work/life balance. The answer to this question is affirmative. Companies with a high proportion of females on the board of directors seem to create a company environment that is more amenable towards women, and it is recognized that a good work/life balance is more important for women than for men.

These results are supportive of previous research demonstrating that female representation in leadership positions tends to make a company more welcoming towards female employees. It agrees with the findings of Thomas (1991), who demonstrated that those states with a higher proportion of female representation in the legislature had a greater likelihood of introducing legislation that was supportive of women and children. This research implies that this is also the case within companies. Female board members have a greater understanding of the difficulties and requirements of other women and thus have a greater likelihood of persuading a company to put policies in place that improve the work/life balance of their employees, and, as previously stated, this is more important for female employees.

5.5. Question 5: answers and implications

Question 5 asked whether a positive correlation could be found between female representation on the board of directors and the degree to which a company is seen as offering a

workplace environment that is welcoming towards individuals with disabilities. The findings offered weak support for the concept that greater female representation on the board of directors would make a company more welcoming for the disabled. These results are supported by univariate analysis, but the multivariate analysis does not support them.

However, although the results are weak, the research is still useful due to the fact that very little research has been undertaken in this area; the concept that there may be a correlation between female representation on boards of directors and an environment that is welcoming to the disabled should lead to further research in this area. To some degree, the results complement the work of Sprecher and Fehr (2005), Mercadillo et al. (2011), and Beutel and Marini (1995), whose findings demonstrated that females have a greater tendency towards compassion than men. This research implies that this greater capacity for compassion from females may mean that female executive receive better treatment in companies where there is a greater representation of females on the board of directors.

5.6. Question 6: answers and implications

Question 6 asked whether there was a positive correlation between female representation on boards of directors and the perceptions of how inclusive and organization might be towards LGBT employees. The answer this question was affirmative, with the results demonstrating Matt those companies with greater female representation on the board of directors tended to offer more of a welcome to LGBT employees.

This result supports the work of Beutel and Marini (1995) as well as other research (e.g., Hojat et al., 2002) demonstrating Matt women are more empathetic than men. This research suggests that a company tends to be more empathetic towards its employees when it has greater female representation on the board of directors, and this influences the attitude of a company

towards their LGBT employees.

This research also supports the findings of Holman (2014) which showed that cities with female mayors tended to have a greater percentage of their budget earmarked for social welfare programs.

5.7. Question 7: answers and implications

Question 7 asked whether there was a positive correlation between female representation on boards of directors and overseas income. This research shows no evidence that high female representation on boards of directors would lead to an increase in a firm's foreign sales. It is predicted that female representation on boards of directors offers fresh perspectives in the ways in which business issues are addressed and that this would lead to more discussion between directors, promoting greater creativity and innovation (Bantle and Jackson, 1989; Wiersema and Bantle, 1992). It is assumed that this would be helpful to a company in terms of being successful in new markets, e.g., overseas ventures. The findings of this research do not offer support for this assumption. However, this does not invalidate the assumption; it may be demonstrative of the fact that innovation and creativity are not an important element when it comes to overseas profits.

5.8. Overall contribution

Much research has demonstrated that women are very different from men. Their life experiences are different, and this, added to the differences in their genetic makeup, makes them more empathetic, less prone to overconfidence, and more averse to taking risks. Research has also demonstrated that having females on a board of directors will tend to be influential in terms of company strategy. Much research has looked at the correlation between female representation on boards of directors and the financial planning of companies. However, there is far less research related to the ways in which female representation on boards of directors influences human

resource policy, especially in relation to attitudes towards disabled and LGBT employees and the creation of a good work/life balance for employees. Little account has been taken of the fact that women are generally more empathetic and show more kindness to the disadvantaged.

This research aims to make up for the lack of studies in this area. It looks at whether having women on boards of directors influences human resource policy in relation to possibilities of female promotion, work/life balance, the way female executives are treated, and the welcome a company offers to LGBT and disabled employees.

The methodology employed is similar to other management research literature. An OLS multivariate regression was employed, with the dependent variable being continuous, and a logit model with the dependent variable being an indicator variable. Firstly univariate tests were undertaken, followed by multivariate tests. The control variables are similar to other research into management processes looking at the ways in which female representation on boards of directors affected company policy.

The findings of this research demonstrate that company HR policies will change if more female directors are present. A higher proportion of female directors means that female executives will receive greater equality of treatment. Female directors are more empathetic regarding the problems female workers find in the work environment and will be more sympathetic because of this. Companies with a greater representation of females on the board of directors are generally more accepting of females being promoted to the upper ranks of the company. This implies that female directors means other female employees increase their aspirations. This could be due to the presence of positive female role models, and due to the fact that women create an environment within a firm where female success is encouraged. One practical way in which this might manifest itself would be in improved attitudes towards pregnant employees, with a company offering better

maternity leave provision, space for nursing mothers, day-cares, etc. This research has shown that having more female representation on boards of directors means that the work/life balance for employees will be improved. This is due to the fact that women generally require a better work/life balance than most men, and female directors will encourage this. The findings also demonstrate that a greater number of women on the board of directors will make the company environment more welcoming to disabled and LGBT employees. It is proposed that this effect may be due to the fact that women do not just show more empathy towards fellow women, but are kinder and more empathetic with all human beings.

In summary, this research has made a unique contribution to a neglected area. This research is, as far as the researcher is aware, the first examination of the ways in which female representation on boards of directors influences human resources policy in the areas outlined above.

5.9. Practical implications

The implications of this research for managers is that greater female representation on boards of directors will assist in the creation of an improved work environment. Greater female representation on boards of directors may also mitigate against violations of Title VII of the Civil Rights Act of 1964, as this research suggests that there is likely to be less discrimination on the grounds of gender, race, or sexual orientation if female directors are present.

Furthermore, this study suggests that greater female representation on the board of directors might increase productivity. Those workers who perceive their leaders to be highly empathetic have reported high levels of job satisfaction (e.g., Skinner et al., 2005; Philing et al., 1994); high levels of job satisfaction has been shown to have a correlation with improved performance (Shore et al., 1989).

The results of this research imply that greater female representation on boards of directors tends to increase the empathetic culture of the company.

5.10. Research limitations/suggestions for the future

In this section I discuss research limitations for the future.

5.10.1 Causality

The chief limitation of this study is that it does not include as a variable the fact that certain firms, whether because of their location or company history, may be more inclined to recruit female directors and have more female-friendly policies in place, and so they would be more likely to offer positive results in this research that would not be dependent on female representation on their boards of directors. Another possibility is that some firms are good in many ways. These firms perform well, treat their employees well, and have a more gender diverse board of directors. Thus this paper cannot definitively state that the correlation between female representation on boards of directors and the indicators studied is definitely casual.

5.10.2. Future research

There is potential for further research into the ways in which female directors moderate HR policies, both in areas where they may be highly influential and others where they may have no influence. As an example, future researchers may wish to consider whether greater female representation on boards of directors is more influential in certain industries or regions. There is a possibility that female representation on boards of directors may be more influential in those countries where there are fewer female employees in the workforce as a whole. More research could be undertaken regarding foreign companies, and an examination could be undertaken into the ways Hofstede measures moderate the results.

Future research could also undertake an examination of mediating effects. As an example,

this research has shown that more female representation on the board of directors creates a more friendly attitude towards LGBT employees. This could be extended to examine whether female CEOs mediated this effect.

This research could be enhanced by the expansion of the methodology. Future researchers could pay more rigorous attention to the casual impacts of greater female representation on boards of directors. For example, experimental designs could address causality, selection/promotion practices could be integrated into studies of organizational culture, more longitudinal research could be done with organizations that are now initiating diversity growth in board composition, etc. They could also look at whether the beneficial effect of female representation on boards of directors is negated once female representation exceeds a certain level. It is my hope to be able to answer a number of these questions in the future.

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Appendix A

This appendix summarizes all of the variables employed in this research.

Variables	Description	Source
% of female directors	What percentage of the board of directors are female.	Exeucomp
minimum one female executive	This is an indicator variable that is set at 1 if a minimum of one of the five highest-paid executives in the company is female, otherwise it is set at 0.	Exeucomp
% of female executives	What percentage of the five highest-paid executives in a company are female.	Exeucomp
ratio of female and male salaries	The ratio of female pay against male pay.	Exeucomp
promotion of females and minorities	An indicator variable which is set at 1 if a company has made significant steps forward in promoting females and minorities, especially if they have been given senior management responsibilities related to profit and loss activities. If a company has not, the variable is set at 0. No data is available for this variable after 2011.	KLD Stats
work life balance	An indicator variable which is set at 1 when companies offer excellent benefits for employees and/or have programs in place to promote work/life balance such as flexitime, elder care or childcare. Otherwise the variable is set at 0. No data is available for this variable after 2011.	KLD Stats
disabled people friendly	An indicator variable which is set at 1 if a company has hiring policies specifically aimed at increasing disabled representation, has excellent programs for the disabled, or in other ways has an enhanced reputation for employing people with disabilities.	KLD Stats

	Otherwise it is set at 0. There is no data available from this variable after 2009.	
lgbt friendly	An indicator variable which is set at 1 if the company has clearly implemented progressive policies regarding LGBT workers, particularly offering the same benefits to LGBT partners as to heterosexual partners and spouses. Otherwise it is set at zero. No data is available for this variable after 2011.	KLD Stats
% foreign income	Total foreign income divided by total company assets.	Compustat
Market-to-book ratio	Company market value divided by book value.	Compustat
% of independent directors	What percentage of the directors are independents.	Riskmetrics
total number of directors	Total number of directors.	Riskmetrics
ln(assets)	Natural logarithm of total assets.	Riskmetrics
Asset return	Net income:total assets ratio.	Compustat
debt to assets	Ratio of debt and total assets.	Compustat
time trend	Current year – 1900.	Compustat
% foreign income	Total foreign income divided by total assets.	Compustat

Appendix B

Panel A offers a summary of the process for selection of the sample. Panel B shows the yearly frequency.

Panel A

total asset > 0 & year >= 1997 & fyear <=2014 & non-duplicates	175,226
Financial (sich >=4000 & sich <=4999)	-25,535
Utilities (sich >=6000 & sich <=6999)	-15,150
% of female directors missing	-116,655
Minimum one female executive missing	-2,108
promotion of fem and minority missing	-7,422
work life balance missing	-9
disabled people friendly missing	-745
female ceo missing	-3029
debt to assets missing	-13
	4,560

Panel B

Year	Observations
1997	130
1998	138
1999	145
2000	131
2001	231
2002	251
2003	469
2004	504
2005	449
2006	472
2007	457
2008	577
2009	606
	4560

Appendix C

Hypotheses tested	Findings
H1: The proportion of women on a board of directors has a positive association with the proportion of female executives in a company's five highest-earning executives.	Findings are consistent with the hypothesis.
H2: Higher female representation on a board of directors has a positive association with the female/male executive mean salary ratio.	Findings are consistent with the hypothesis.
H3: The percentage of women on a board of directors has a positive association with a company's record in promoting women and minorities.	Findings are consistent with the hypothesis.
H4: The percentage of women on a board of directors has a positive association with the company promoting a better work/life balance.	Findings are consistent with the hypothesis.
H5: The percentage of women on the board of directors has a positive association with a more welcoming environment for employees with disabilities.	Holds in univariate analyses, but nonsignificant association in a multivariate setting.
H6: The percentage of women on the board of directors has a positive association with a more welcoming environment for LGBT workers.	Findings are consistent with the hypothesis.
H7: The percentage of women on the board of directors has a positive association with increased revenue from overseas business.	Findings are inconsistent with the hypothesis.

VITA

Prity Patel
2133 Kristin Drive, Troy, MI 48084
Mobil: (956)-286-5722 Email: ppretty30@gmail.com

Education

Master of Business Administration, 2012
Major: Management
Texas A&M International University, Laredo, Texas

Bachelor of Science, 2004
Major: Public Health
Indiana University, Bloomington, Indiana

RESEARCH

Major field of specialization

Human Resources, Organization Behavior, Management, International Business

Publications

Alikaj, A., Patel, P., Mayfield, J., & Mayfield, M. (2015). Absenteeism Outcomes in Rapport with Hostile Environment: Sexual Harassment. In Decision Sciences Institute & M. Warkentin, Models and Applications in the Decision Sciences: Best Papers from the 2015 Annual Conference - Pearson FT Press - January (1st Quarter/Winter) 3 2016

Teaching Experience

Management of Organizational Behavior, Fall 2018, Wayne State University
Management of Organizational Behavior, Spring 2019, Wayne State University

Presentations

"Gender diversity and firm performance: the moderating role of sales growth", accepted for proceedings at the Decision Science Institute, 2017.

"Effects of corruption and regulation on firm: a multiple-country study", with Wei Ning, Cassandra Wheeler at the Western Hemisphere Trade Center (WHTC) conference, 2015.

"The impact of hostile environment sexual harassment ubiquity and frequency on attitude towards absenteeism and actual absenteeism", with Alikaj, A., Patel, P., Mayfield, J., & Mayfield, M., at Decision Sciences Institute, 2015.

"Audit fees and national culture", accepted for proceedings at the Decision Science Institute, 2014.

Reviewer for Journals
International Trade Journal