The relationship between board gender diversity and firm financial performance and the role of corporate social responsibility

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Abstract

This paper investigates the relationship between board gender diversity and financial performance. Previous work in this area has focused on providing evidence for a direct link between the two factors, which has resulted in mixed, inconclusive evidence. This study includes corporate social responsibility as a moderating influence on this relationship. The dataset consists of 5,077 firm-year observations with 839 firms present. The study was done with data from six emerging markets as identified by S&P Dow Jones Global Equity Index Series. The results indicate a positive interaction between board gender diversity and a firm’s corporate social responsibility engagement and a strong positive association between corporate social responsibility engagement and financial performance.

Keywords: board gender diversity, firm performance, board of directors, corporate social responsibility, emerging markets
1. Introduction

“If the global trend continues at its current rate […], we will be waiting more than 30 years to achieve global gender parity at the board level. […] global gender parity is likely to be concentrated to the few countries that are currently making concerted efforts to overcome the issue, leaving several regions lagging behind.” – Sharon Thorne (Chair, Deloitte Global)

Deloitte’s yearly report on gender balance in the board room describes the slow progress that has occurred in most countries around the world for the past 5 years in real numbers (Deloitte Company, 2019). The report highlights the strong need for gender equality in all layers of the company, especially in board positions. As of now, the countries that score highest in terms of board seats held by women are mostly developed and western countries that feature either gender quotas or strong promotion by the government to include more women in leadership roles (Saeed et al., 2016). The frontrunner of board gender diversity (BGD), Norway, pioneered the first legislation for gender quotas on boards in 2008, which triggered a snowball effect to other countries in the EU (S. C., 2018). The 2017 Gender equality index reported female board representation has nearly doubled over the last ten years in the EU, which indicates the relevance of the research into the effect of board diversity on financial performance (EIGE, 2017). Countries outside these regions however, score much lower on the list, many of which are emerging economies (Deloitte Company, 2019).

Looking into the presence of female representation is important when one considers the untapped potential that women in leadership functions present. Empirical research indicates that the presence of BGD is a resource as positive relationships have been found connecting women representation with board effectiveness such as decreased corporate opacity (Upadhyay & Zeng, 2014) and a greater knowledge base (Erhardt et al., 2003).

Despite these considerations, financial incentives are at the heart of firm motivation and a positive connection between BGD and firm performance is imperative. Even though there is an upward trend
in female representation in the boardroom, the positive relationship between BGD and financial performance has been found to have mixed evidence at best. Most research has focused on trying to establish a direct link between diversity and performance, where some found positive results (i.e. Carter et al., 2003; Erhardt et al., 2003; Campbell & Minguez-Vera, 2008; Terjesen et al.. 2015). However, a multitude of studies also find either a negative relationship like Sharder et al. (1997) or a simple lack of evidence (Dimovski & Brooks, 2006). These mixed results make BGD an interesting avenue of research as there are still gaps left in this field to explain the effects of BGD as a phenomenon. What’s more, the majority of studies that have tried to close the research gap confined themselves to developed countries, leaving room for emerging markets. The contrasting evidence for a direct relationship between BGD and financial performance in the past years, begs the question whether an indirect connection would make more sense in this situation.

Studies have indicated that boards who have a higher proportion of women represented increase a firm’s propensity to engage in CSR initiatives (Bear et al., 2010; McGuinness et al., 2017). This result is found to be even stronger when a gender diverse board has a female leader (McGuinness et al., 2017). Additionally, Bear et al. (2010) outline the connection between a firm’s CSR ratings, its positive impact on corporate reputation and board gender composition. Given there is a research gap for the impact of BGD in emerging markets and research showing promising results in terms of CSR influence on this relationship, the research question of this thesis will be:

How does board gender diversity relate to financial performance with the influence of CSR in emerging economies? The aim is to establish a positive indirect connection between having female representation on the board through analysing whether CSR has an influence in this relationship in emerging markets. The data used to evaluate this relationship comes from the Thomson Reuters Datastream database for six geographically diverse emerging economies: Brazil, Russia, India, China, Poland and Turkey and includes 5,077 observations with 839 firms.
This study first looks at the main relationship between BGD and financial performance with board-, firm- and country-level control variables included in the regression. Afterwards, year, industry and country fixed effects variables are added to control for systemic effects within the model. The outcome of this model featured positive coefficients for BGD but unfortunately insignificant results.

The second hypothesis is aimed to establish the relationship between a firm’s engagement in CSR activities and the financial performance. As described, numerous studies have found that firms who invest more into CSR initiatives, have better financial returns and it is therefore encouraging for firms to engage. The results indicate a strong effect of CSR engagement on financial performance, which fits with previous work.

Lastly, the effect of CSR on the main relationship translates to the introduction of an interaction variable into the model. The regression reports significant numbers for all key variables and a surprisingly negative link between BGD and financial performance in this model.

To conclude, this study adds some insight into the still-present research gap between BGD and firm financial performance through the inclusion of CSR and the context of several emerging markets. Some limitations open up avenues for future research as a wider sample of emerging economies could be included and an extension in proxies for board diversity and financial performance in order to get a more detailed view on the field.

The outline of this thesis follows the standard layout of academic paper, where first the topic is further delineated and the relationship of interested is further explored in the literature review. After, the methodology describes the process of data collection and a description of the models and variables. The next section is a discussion of the summary statistics pertaining to the dataset and a report of the results from the regression and robustness check. Lastly, the paper is concluded with a discussion of the analysis, limitations and suggestions for future research.
2. Literature review

2.1. Board Gender Diversity

Theoretical ambiguity as described above allows further research into the association between female representation on the board and firm performance in addition to the need for research in order to promote gender diversity in the boardroom. BGD represents the proportion of women in director positions, an important topic in the past years. Post & Byron (2014) give a review of the research in BGD and its effects and reports results in the form of favourable returns from stock market reactions but also negative effects such as a drop in shareholder value or no effect. Nonetheless, an increased level gender equality in the workplace is important.

Van der Walt and Ingley (2003) describe that an organization reflects the society in which it operates and should therefore also be expected to represent societal diversity within its board. Adams and Funk (2012) indicate female representation in top management teams is still an issue today in the form of the “glass ceiling” aspiring female managers encounter. They show there is systematic difference between men and women in their core values and risk attitudes. This could be beneficial as Robinson and Dechant (1997) outline an increase in innovation and creativity as well as to an increased understanding of the marketplace and higher quality problem-solving when a diverse group of individuals work together. What is more, Carter et al. (2003) report better management monitoring when a board is diverse, which in turn leads to behavior in line with shareholders’ best interest. In terms of ownership, Bohdanowicz (2015) found that state ownership has a positive relationship with BGD. Historically, most emerging economies like Poland in this study have featured high state ownership and that has recently begun to change (Hoskisson et al, 2000).

In order to further highlight the importance and necessity of a BGD, several studies look at the direct financial effects of female directors in the board. In this avenue of research Carter et al. (2003) provided the first empirical evidence that having women in board positions was associated with the improved financial performance of the firm through the study of 797 firms and reflecting on several
measures of board diversity. Additionally, the proportion of women on the board increased with firm and board size, while it decreased with the number of insiders in director positions. Similarly, Campbell and Minguez-Vera (2008) finds a positive association between BGD and firm financial performance, as estimated by the proxy Tobin’s Q. Female board representation has also been shown to be advantageous in firm commitment to its strategic direction (Erhardt et al., 2003) and a firm’s ability to hold onto their social agency purpose (Siciliano, 1996). Therefore, the first hypothesis expects a positive relationship between BGD and firm financial performance.

**H1: Board gender diversity is positively related to a firm’s financial performance.**

### 2.2. CSR engagement

Higher corporate social performance is desirable given the associated benefits that are discussed in the literature. Vanhamme and Grobben (2009) found that CSR can have a risk-reducing effect when a firm would be exposed to negative publicity. When stakeholders recognise that a company has a history of engaging in CSR activities, a company suffers less reputational damage. Moreover, an extensive study done by Orlitzky et al. (2003) revealed a positive association across a large number of industries and contexts between a firm’s social performance and financial performance, which could primarily be allocated to increased firm reputation.

Increased activity in CSR opportunities, as outlined by Waddock and Graves (1997), has been positively associated with prior financial performance and the future financial performance of the firm. Peloza (2009) also found this positive relationship through studying the financial impact of CSR investments. With financial metrics, Peloza (2009) was able to find a significant relationship between CSR investments and improved financial performance of the firms studied. Lastly, Godfrey and Hatch (2007) also found a link between a firm’s corporate social performance and financial
performance, which leads to the expectation of positive association between CSR and the financial performance of a firm.

**H2:** Corporate social responsibility is positively associated with firm financial performance.

**2.3. Board gender diversity and CSR engagement**

Hillman et al. (2002) makes a strong case in concerning the effect of female board directors and the effect of a more diverse representation of perspectives. Women are more likely than men to have expert backgrounds beside the business and an influence within the community, which could lead to women being more sensitive to CSR opportunities and more effective CSR dealings. The proportion of women on the board has also been linked to the firm’s social performance as well as occupational diversity (Siliciano, 1996). Also, other factors are associated with women and an increased level of CSR undertakings such as a higher propensity for female directors to have expert backgrounds outside of business, a higher likeliness to be a specialist over a generalist (Hillman et al., 2002) and a lower sense of business-orientation which results in higher charitable giving (Wang & Coffey, 1992). What is more, Adams and Funk (2012) researched the differences in gender with regard to the director role and found women to be more benevolent and universally concerned, two traits that can be associated with CSR engagement.

Lastly, Hafsi & Turgut also find a positive association between diversity within the board and the firms corporate social performance in their study.

Therefore, it is expected that a board with a higher gender balance engages more in CSR initiatives, which in turn could lead to better financial performance.

**H3:** The relationship between board gender diversity and a firm’s financial performance is positively influenced by the firm’s CSR engagement.
2.4. Board gender diversity in emerging markets

Abdullah et al. (2014) was the first study to examine the relationship between women on the board and a firm’s financial performance as they researched firms in Malaysia. As most theories are developed and researched in developed markets, it is imperative to see whether results like the effect of women on the board and CSR engagement hold in countries that are still developing and are therefore unpredictable. Tatli et al. (2012) also describes the need for research into high potential economies as the effect of female board representation has been highly documented in developed economies. In this context, studies have been limited in trying to establish a relationship between board diversity and financial performance. Previous research has focused a limited sample in order to test their propositions, including Mauritius (Mahadeo et al., 2012), Turkey (Ararat et al., 2015), Malaysia (Abdullah et al., 2016).

This study will focus on developing economies as identified by the S&P Dow Jones Global Equity Index Series. These indices provide insight into global, developed, emerging and frontier markets and their performance for global investment opportunities. BGD is still underdeveloped in most emerging markets (Deloitte Company, 2019), which leads to a lack of sufficient data. With this in mind, the economies in this study that will be analysed have started to undergo changes in this area and can present a compelling representation of emerging economies across the globe. An extensive yearly study by Deloitte (2019) outlines the progress of 66 countries around the world. Starting with Brazil, the government is underway to introduce a 30% gender quota bill by 2022. The country has established several organizations promoting gender balance in the boardroom including a local UN effort that has set up a program together with the European Union and the International Labor Organization encourage BGD.

China is one of the largest economies in the world but in comparison to other countries one of the most underdeveloped when looking at promoting female representation in top management teams.
Minimal regulation exists encouraging companies to choose directors from different professional background.

Turkey currently has no quotas in place to enforce female participation on board but it is working towards a women’s empowerment action plan, which is due to end in 2023 and was set up in 2018. The strategy is set up by the Ministry of Family, Labor and Social services and encourages having at least one woman on the board.

Poland only recently started encouraging local businesses to consider BGD and established their first organization in 2018 solely focused on promoting gender equality. Legislature does not feature quotas or formal sanctions if companies do not comply with the recommended board gender diversity of their Code of Good Practice, established in 2016.

India features quotas for large and publicly listed companies in terms of female directors and independent female directors since 2013 and initiated regulation for other measures of diversity since March 2019.

Lastly, there are some talks in the Russian business environment about encouraging BGD but so far no bodies or quotas have been set up to support this cause. Legislation does include that discrimination based on gender is illegal as women and men have equal rights.
3. Data Sources and methodology

3.1. Data collection

In order to analyse the relationship between BGD and financial performance, data was gathered from Thomson Reuters Datastream for the years of 2008-2018 for six emerging economies. Datastream is a large source for historical financial data and it includes the Asset4 and Worldscope database. The listed firms for the countries of interest are retrieved through the Worldscope database and the environmental, social and governance data from Asset4. The dataset includes 5077 firm-year observations that include 839 firms spread across the countries in question. This extensive sample is valuable in order to investigate the relationship between BGD and firm financial performance and the association with corporate social responsibility. The Dow Jones Index identifies three major country classifications – developed, emerging and frontier and conducts an annual country classification. The summary statistics include an overview of observations and number of firms per country of interest (Table 1).

In terms of industries, the majority of the sample firms have an industrial purpose (69%). Especially the Chinese sample is skewed towards industrial firms (75%), which could have an effect on the outcome of the study as China is strongly represented in the sample. Campbell and Mínguez-Vera (2007) outline that greater board gender diversity is found in sectors that are close to the final customer, while male-dominated areas are often at the producer side of the supply chain. The data of this study could therefore be skewed towards a lower representation of female directors on the board. After industrial firms, companies that are involved in transportation are the largest sector, an industry which Brammer et al. (2007) as male-dominated due to its distance from the end consumer.

The original dataset has been strongly reduced due to a set of missing data for the main variables of the analysis, namely, BGD and company environmental, social and governance score (ESG), which is a proxy for CSR. Firms that did not have data for all of the variables of interest were omitted from the dataset. Additionally, observations with incomplete information about the control variables were
also taken out of consideration. Lastly, the data is winsorized at the 5% level in order to exclude significant outliers.

3.2. Method

The data was examined through an OLS regression in order to analyse the main relationship. With the three hypotheses that are set up, six separate regressions were run with ROA as the dependent variable. The second, fourth and sixth regression include industry, time and country fixed effects in order to look at the effect these dummies might have on the relationship of interest. The sample is international and therefore, country specific factors could influence the outcome of this study, which indicates the relevance of including a country dummy. The percentage of female directors on the board is represented by “%women” as the first independent variable and the effect of ESG score is taken into account through “ESG”. %women is transformed into a dummy variable in order to have a meaningful result from the interaction variable. The variables and the motivation for their inclusion will be extensively discussed in the next section.

The interaction between “%women” and “ESG” will identify if the indirect relationship exists where female directors influence the level of CSR engagement and therefore also the financial performance of a firm. Additionally, the relationship is controlled by: board size, CEO duality, firm size, firm leverage, industry type and GDP per capita. These variables are included in order to isolate the effect of women on the board and ESG score on ROA as much as possible. Fixed effects include the influence a specific industry might have on the relationship in question and the same goes for the time and country specific influence.

The first model examines the relationship between the percentage of women present on the board and the financial performance of the companies present in the sample. Equal to the other regressions, it is controlled by the board-, firm- and country-level controls mentioned above. The first regression tests this relationship without the inclusion of fixed effects.
(I) \( ROA_{i,t} = \alpha_0 + \beta_1 \%women_{i,t} + \gamma_1 BoardSize_{i,t} + \gamma_2 CEO\text{duality}_{i,t} + \gamma_3 Leverage_{i,t} + \gamma_4 FirmSize_{i,t} + \gamma_5 GDPPC_{i,t} + \gamma_5 Industry_{FE} + \gamma_6 Year_{FE} + \epsilon_{i,t} \)

Corresponding with the other two hypotheses, the following models are tested. Again, the hypotheses are first tested without the fixed effects.

(II) \( ROA_{i,t} = \alpha_0 + \beta_1 ESG_{i,t} + \gamma_1 BoardSize_{i,t} + \gamma_2 CEO\text{duality}_{i,t} + \gamma_3 Leverage_{i,t} + \gamma_4 FirmSize_{i,t} + \gamma_5 GDPPC_{i,t} + \gamma_6 Industry_{FE} + \gamma_7 Year_{FE} + \epsilon_{i,t} \)

(III) \( ROA_{i,t} = \alpha_0 + \beta_1 \%women_{i,t} + \beta_2 \%ESG_{i,t} + \beta_3 ESG \times \%women_{i,t} + \gamma_1 BoardSize_{i,t} + \gamma_2 CEO\text{duality}_{i,t} + \gamma_3 Leverage_{i,t} + \gamma_4 FirmSize_{i,t} + \gamma_5 GDPPC_{i,t} + \gamma_5 Industry_{FE} + \gamma_6 Year_{FE} + \epsilon_{i,t} \)
3.3. Variables

3.3.1. Dependent variable

For the purpose of this study, Return on Assets (ROA) was chosen as a measure to estimate firm financial performance. ROA is defined as the ratio net income to the book value of a firm’s assets (Terjesen et al., 2015). Similar to previous studies, ROA has been extensively used as a proxy to examine a firm’s performance and it will be used in this study to identify whether there is a relationship between board gender diversity and financial performance, which is affected by corporate social responsibility. Similarly, Terjesen et al. (2015), Erhardt et al. (2003) and Marinova et al. (2016) use ROA to determine the effect of female directors on financial performance together with other dependent variables.

3.3.2. Independent variables

Board gender diversity can be found in Thomson Reuters Datastream under Asset4 and gives the percentage of female directors on the board. Similarly, Asset4 contains the ESG score per company per year for thousands of firms. The ESG score is based on a three-part assessment of a company’s performance on environmental, social and governance metrics. The “triple bottom line” as defined by Aguinis and Glavas (2012) is gaining more importance in the public sphere as well as managerial practice with research gap still existing (Godfrey & Hatch, 2007).

In order to look into the effect of CSR engagement on the relationship of interest, a dummy variable is created for board gender diversity where firms that reported higher score than the overall average of female representation, 8.921%, are indicated with “1” and those that score below have a “0”. 
3.3.3. **Control variables**

In addition to the dependent variable and independent variables, control variables were added in order to exclude the effects of board-, firm-, and country-level factors. Since this study looks at the granular level of board characteristics, board size and CEO duality were added as control variables, like Terjesen et al. (2015) and Carter et al. (2003) use in their research. At firm-level, the debt-to-assets ratio and firm size is relevant so as to control for the influence of debt and assets on ESG engagement. Additionally, Datastream developed a General Industry Classification where companies are divided into 6 categories, depended on the services or products they provide. In this sample, firms from the following industries are present: “industrial”, “utility”, “transportation”, “bank/savings & loan”, “insurance” and “other financial”. Skaggs et al. (2012) and Hillman et al. (2007) outline that the type of business strongly affects opportunities for women wanting to take on leadership roles and it is therefore important to consider. Lastly, for Gross Domestic Product per Capita (GDPPC), the World Bank provided yearly data per capita for the countries of interest (Worldbank, National Accounts Data).
4. Empirical analysis and results

4.1. Summary statistics

Table 1 represents the summary statistics for the key variables in the regression. A significant number of companies had zero percent women on the board, while the highest percentage of female directors was 62.5% by a Turkish and Chinese firm. The summary statistics for ESG score given on a scale from 0 to 100 based on a company’s performance in the three environmental categories.

Within the sample, the firms included had a minimum of one board member, likely an owner-manager type of director, and a maximum of 29 individual board directors. In order to meaningfully assess the summary statistics, the numbers for firm size and GDPPC are presented without taking the logarithm of the values. For the regression, the values are decreased by the logarithm, which causes the data to look more normally distributed and display less skewed values.
<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>St. Dev.</th>
<th>Min</th>
<th>Max</th>
<th>No. of firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>735</td>
<td>6.901</td>
<td>7.724</td>
<td>-23.910</td>
<td>95.450</td>
<td>109</td>
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<tr>
<td>ROA</td>
<td></td>
<td>54.625</td>
<td>16.734</td>
<td>11.680</td>
<td>95.450</td>
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<tr>
<td>ESG</td>
<td></td>
<td>0.520</td>
<td>0.500</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>%women</td>
<td></td>
<td>10.170</td>
<td>3.666</td>
<td>2</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Firm size</td>
<td></td>
<td>0.350</td>
<td>0.476</td>
<td>0</td>
<td>1</td>
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<td>27,443,356</td>
<td>75,430,219</td>
<td>102,463</td>
<td>552,252,117</td>
<td></td>
</tr>
<tr>
<td>GDP per capita</td>
<td></td>
<td>1,084.178</td>
<td>1,697.603</td>
<td>8,597.920</td>
<td>13,245.620</td>
<td></td>
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<tr>
<td>ROA</td>
<td></td>
<td>42.783</td>
<td>17.724</td>
<td>8.180</td>
<td>86.63</td>
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<td>0.590</td>
<td>0.492</td>
<td>0</td>
<td>1</td>
<td></td>
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<tr>
<td>%women</td>
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<td>10.710</td>
<td>3.696</td>
<td>1</td>
<td>28</td>
<td></td>
</tr>
<tr>
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<td>0.310</td>
<td>0.463</td>
<td>0</td>
<td>1</td>
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<td>337,279,104</td>
<td>146,278</td>
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<td>1,355.995</td>
<td>3468.300</td>
<td>48,717.290</td>
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<td>846</td>
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<td>7.864</td>
<td>-28.510</td>
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<td>16.070</td>
<td>19.180</td>
<td>94.990</td>
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<td>0.750</td>
<td>0.436</td>
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<td>1</td>
<td></td>
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<tr>
<td>%women</td>
<td></td>
<td>11.360</td>
<td>3.223</td>
<td>4</td>
<td>27</td>
<td></td>
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<tr>
<td>Firm size</td>
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<td>0.370</td>
<td>0.483</td>
<td>0</td>
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<tr>
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<td>46,559,296</td>
<td>150,890</td>
<td>538,983,335</td>
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<td>998.520</td>
<td>2,015.590</td>
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<td>4.276</td>
<td>7.072</td>
<td>-28.570</td>
<td>41.950</td>
<td></td>
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<td>17.370</td>
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<td>8.460</td>
<td>2.580</td>
<td>5</td>
<td>16</td>
<td></td>
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<tr>
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<td>0.124</td>
<td>0</td>
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<tr>
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<td>17,398,512</td>
<td>269,999</td>
<td>90,512,369</td>
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<td>944.872</td>
<td>11,527.590</td>
<td>15,424.050</td>
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<td>Russia</td>
<td>320</td>
<td>8.807</td>
<td>8.167</td>
<td>-20.330</td>
<td>36.360</td>
<td></td>
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<tr>
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<td>15.287</td>
<td>12.520</td>
<td>86.870</td>
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<td>0.480</td>
<td>0.500</td>
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<td>1</td>
<td></td>
</tr>
<tr>
<td>%women</td>
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<td>8.460</td>
<td>2.580</td>
<td>5</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Firm size</td>
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<td>0.351</td>
<td>0</td>
<td>1</td>
<td></td>
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<td></td>
<td>44,332,161</td>
<td>89,574,199</td>
<td>596,376</td>
<td>553,742,973</td>
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</tr>
<tr>
<td>GDP per capita</td>
<td></td>
<td>1,896.001</td>
<td>2,609.502</td>
<td>8,562.810</td>
<td>16,007.090</td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>256</td>
<td>7.527</td>
<td>5.825</td>
<td>-3.320</td>
<td>36.480</td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td></td>
<td>53.928</td>
<td>16.828</td>
<td>14.060</td>
<td>88.980</td>
<td></td>
</tr>
<tr>
<td>ESG</td>
<td></td>
<td>0.600</td>
<td>0.491</td>
<td>0.000</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>%women</td>
<td></td>
<td>11.990</td>
<td>4.005</td>
<td>5.000</td>
<td>29.000</td>
<td></td>
</tr>
<tr>
<td>Firm size</td>
<td></td>
<td>0.140</td>
<td>0.351</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Leverage</td>
<td></td>
<td>24,612,889</td>
<td>33,128,886</td>
<td>74,856</td>
<td>117,693,307</td>
<td></td>
</tr>
<tr>
<td>GDP per capita</td>
<td></td>
<td>11,896.001</td>
<td>2,609.502</td>
<td>8,562.810</td>
<td>16,007.090</td>
<td></td>
</tr>
</tbody>
</table>

Table 1. Summary statistics for the key variables. The table reports the mean, standard deviation, minimum and maximum for the period of 2008-2018. The sample included 5,077 observations from six countries over ten years. The summary statistics are reported per country. The definitions and data sources for the variables are provided in the methodology.
Table 1 gives an overview of the key variables in this analysis per country. China is by far the country with the largest presence in the sample, with 2663 observations and 489 individual firms within these observations. In contrast, the smallest representation for is Polish firms (38 firms), which might have some lead in some underrepresentation in this case. Chinese firms also represent by far the largest firms in the sample with a maximum value for firm size of 4 billion but with a large standard deviation within this selection. Interestingly, Stanwick and Stanwick (1998) find that firms that are larger in size have higher levels of CSR engagement, but given China’s ESG score is comparatively low in the sample. This deviation is explained by the work of Yin and Zhang (2012) who describe the Chinese CSR environment as one placing more importance on ethical leadership and cultural traditions than BGD at this stage due to institutional pressures.

The main variables in this study are the company’s ROA, female representation on the board as indicated by ‘%women’ and ESG score. Overall, Figure 1 shows a steady increase over the ten years analysed in this study for female representation on boards across emerging markets. Both Poland and India have the highest averages in board gender diversity as can be identified in Table 1 but looking at Figure 2, these two country averages can be interpreted significantly different. The presence of female directors on Polish boards seems to have fluctuated strongly in the past 10 years, which would produce a reasonable average of board gender diversity but that would not be consistent with reality if one would solely look at the average. The high fluctuation in female representation on Polish boards could be due to the specific nature of the Polish capital market and ownership structure of Polish firms. This results in less demanding capital markets and companies will therefore be less inclined to implement corporate governance best practices (Bohdanowicz, 2015).

India, however, is a different story. India started in 2008 with the lowest average score in board gender diversity but presents a steady positive climb in the next ten years. These results strongly match the report by Deloitte Company (2019) that shows India as performing strongly in the field of BGD encouragement. While Poland experiences another dip from 2017 to 2018, India’s numbers
remain strongly positive. What is more, several countries experience a strong rise in female board representation from 2016 onwards, especially Brazil, which presented only minimal changes over the years before and this corroborates the research by Deloitte (2019). Especially in the recent years, the countries in question see a rise in organizations that are being established for the cause of BGD and this development can be seen in Figure 3.

Figure 2 shows how the data behaves in terms of average ESG score in the sample. In general. The average score first lowers form 2008 to 2011, after which it experiences an increase for a number of years and another dip in 2017. Figure 4 gives more insight into the seemingly unpredictable development of ESG score. The odd shape of the general development of ESG score in Figure 2 might be due to fluctuating levels in the separate countries in Figure 4, which do not strictly consist of upward trends as can be seen for Turkey and China. This could be due to the lack of focus of Chinese culture on CSR initiatives (Yin & Zhang, 2012) and the lack of international pressure on Turkey’s CSR practices (Ertuna & Tukel, 2010).

Overall, China and Russia score low on both ESG and board gender diversity, as can been seen from Figure 3 and 4. Both present some increase but it is not comparable to the India in Figure 3 and Turkey in Figure 4. Zhao (2012) sheds some light on the poor performance of China and Russia, stating that companies in these countries conduct CSR in a strategic way in order to manage their relationship with the state to make sure they gain political legitimacy. This strategic way of thinking withholds them from responding to international corporate governance calls, which could explain the poor performance.

Brazil’s firms perform high and steady in terms of ESG score (Figure 4) and a Brazilian firm also holds the single highest ESG score in the sample (Table 1).
Table 2 distinguishes whether the main variables in the regression correlate and therefore are not independent. Amongst the key variables in the regression, there seems to be no significant correlation except for some correlation between board gender diversity and ESG (r = 0.082; p<0.05). Between the control variables, however, there is significant correlation among almost all of them and between the key variables such as a negative correlation between ROA and leverage (r = -0.202; p<0.05). Among the control variables there is also strong significant correlation between amongst others CEO duality and firm size (r = -0.078; p<0.05), leverage and firm size (r = 0.247; p<0.05) and between board size and GDPPC (r = -0.115; p<0.05). Due to the correlation between ESG and board gender diversity, a VIF test is necessary to rule out multicollinearity. The VIF value comes out as 1.007, which means multicollinearity can be ruled out as a threat to the study.

### 4.2. Results

In the upcoming regressions, this study aimed to establish a relationship between the key independent variables and the dependent variable ROA. Table 3 outline the results from the six regressions that were ran, three of which excluded the industry, year and country fixed effects. This is done so as to be able to draw a comparison between the models when including controls for systematic differences in risk and performance across industries and time. In the analysis, clustered standard errors were used to account for heteroscedasticity across the observations and avoid bias in the standard errors.
Table 3. This table provides estimated coefficients from regressing financial performance on percentage of women in director positions, ESG score and various board-, firm- and country-specific control variables. The data covers 2008 through 2018. Clustered standard errors are reported in parentheses. The ***, **, and * denotes statistical significance at 1%, 5%, and 10% levels, respectively. The definitions and data sources for the variables are provided in the methodology.

The first two regressions aimed to find a connection between female directors on the board and a firm’s ROA but both coefficients were unfortunately found to be insignificant. Previous studies mentioned in the literature review has found positive, negative and insignificant relationships before this research, this result is therefore not surprising. Three out of five control variables are significantly related to the dependent variable, with a strongly negative relationship for leverage ($r = -0.422; p<0.01$) and firm size ($r = -2.735; p<0.01$). Lastly, with the addition of fixed effects, the adjusted $R^2$ of the model increased from .109 to .166, which delineates a higher fit of the model and proves that the fixed effects have a meaningful effect in this regression. In conclusion, H1 is not supported.

The next model aimed to distinguish a relationship between ESG score and the financial performance of firms. Strong evidence was found for the positive association of ESG, which coincides with what
was expected ($r = 0.031; p<0.01$). This corroborates evidence for hypothesis 2 since the effect remains when the fixed effects are added to the model as the significance remains the same but the coefficient drops somewhat ($r = 0.016; p<0.01$) for ESG score. All but one of the control variables keep the same effect on the dependent variable in the third and fourth regression as previously seen. The last two regressions include the main independent variables in the model and add the interaction variable as well. In this model, the influence of the interaction between CSR and female directors is tested on the dependent variable. Interestingly, the ‘%women’ coefficient becomes negative and strongly significant in the fifth regression ($r = -1.101; p<0.05$), which would indicate that in this scenario the more women are present in director positions, the worse a company will be performing. The ESG variable continues to have a positive and significant effect on ROA. The model reports a strong positive relationship for the interaction variable in this model ($r = 0.025; p<0.05$). A positive coefficient for this variable entails that when a firm has a comparatively high percentage of female directors, there is a positive association with the company’s ESG score and this, in turn, positively affects the financial performance. In the sixth regression, the weak significance of the ESG variable is not present anymore and the coefficient decreases ($r = 0.004; p>0.1$). Lastly, the adjusted $R^2$ of the last model is the highest of the six when fixed effects are introduced (0.168). From the information above, it can be concluded that H3 is supported under these circumstances.

For the robustness test, it is important to address the issue that affect empirical work that concerns the board of directors. Within this field, there is a risk the variables are affected by joint endogeneity. Firm performance can be the result of previous directors and also influence the selection of following directors (Hermalin & Weisbach, 2003). Farrell and Hersch also outline that as talented female directors are scarce, they have the opportunity to pick positions at well-performing firms so if a quota is introduced and companies are looking for female directors, better performing firms might have to adjust the least.
Table 4 Robustness Check. This table provides estimated coefficients from regressing ROA<sub>t+1</sub> on percentage of women in director positions, ESG score and various board-, firm- and country-specific control variables at time t. The data covers 2008 through 2017. Clustered standard errors are reported in parentheses. The ***, **, and * denotes statistical significance at 1%, 5%, and 10% levels, respectively. The definitions and data sources for the variables are provided in the methodology.

<table>
<thead>
<tr>
<th>Dep. Variable = Return on Assets&lt;sub&gt;t+1&lt;/sub&gt;</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>24.737***</td>
<td>23.053***</td>
<td>25.222***</td>
<td>23.657***</td>
<td>25.420***</td>
<td>23.768***</td>
</tr>
<tr>
<td>[1.519]</td>
<td>[1.567]</td>
<td>[1.511]</td>
<td>[1.570]</td>
<td>[1.542]</td>
<td>[1.601]</td>
<td></td>
</tr>
<tr>
<td>%women</td>
<td>0.376*</td>
<td>0.482**</td>
<td>0.040***</td>
<td>0.023***</td>
<td>0.032***</td>
<td>0.122***</td>
</tr>
<tr>
<td>[0.217]</td>
<td>[0.213]</td>
<td>[0.006]</td>
<td>[0.006]</td>
<td>[0.009]</td>
<td>[0.009]</td>
<td>[0.012]</td>
</tr>
<tr>
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<td>[0.161]</td>
<td>[0.168]</td>
<td>[0.170]</td>
<td>[0.168]</td>
<td>[0.170]</td>
<td>[0.277]</td>
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<tr>
<td>women*ESG</td>
<td>0.137</td>
<td>0.162</td>
<td>0.094</td>
<td>0.138</td>
<td>0.094</td>
<td>0.138</td>
</tr>
<tr>
<td>GDPPC</td>
<td>0.137</td>
<td>0.162</td>
<td>0.094</td>
<td>0.138</td>
<td>0.094</td>
<td>0.138</td>
</tr>
<tr>
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<td>4197</td>
<td>4197</td>
<td>4197</td>
<td>4197</td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.094</td>
<td>0.165</td>
<td>0.103</td>
<td>0.167</td>
<td>0.103</td>
<td>0.168</td>
</tr>
<tr>
<td>#Countries</td>
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<td>6</td>
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<td>Time FE</td>
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<tr>
<td>Industry FE</td>
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<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Country FE</td>
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<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
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</tr>
<tr>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

In order to test this, lagged values for ROA are created and the models from the original analysis are ran with this variable instead (Table 4). The results from the test are comparable to the outcome of the main analysis. The coefficient for ‘%women’ however, becomes higher and significant (r = 0.376; p<0.1) and the variable for CSR engagement is strongly associated with ROA<sub>t+1</sub> in both model 3 (r = 0.040; p<0.01) and 4 (r = .023; p<0.01).

In the original analysis, Model 5 show the ESG variable as weakly significant (r = .016; p<.1) and it loses significance when the fixed effects are introduced (r = .004; p>0.1). In the robustness test, the coefficients are also low but remain significant.
5. Conclusion

This thesis has provided some insight into the relationship between BGD and the financial performance of the firm through looking at the CSR activities of the firm as an influencing factor. The relationship between BGD and financial performance has been researched extensively but has given mixed results at best. As an alternative, Joecks et al. (2013) report a U-shaped relationship between BGD and firm performance. According to their research, the relationship is not linear and has a critical mass of 30%, which would lead to higher performance after the threshold has been reached.

This study has several limitations that could influence the outcome. The S&P Dow Jones Global Equity Index Series identifies twenty-two countries within its classification as “emerging”, of which this study used across geographies. A larger sample would lead to a better representation of reality and therefore be a more accurate portrayal of emerging markets as a whole and that would be an avenue for future research.

Secondly, firm financial performance is measured with return on assets in this study. Firm performance can be measured by a number of other proxies such as the standard deviation of ROA. Different measures can lead to different outcomes and the premise of this research can therefore result differently when different variables are used. Moreover, there are numerous non-financial performance indicators available for performance assessment that present opportunities for future research like customer satisfaction or market share. Similarly, the CSR engagement was proxied by ESG score, a measure from Datastream. CSR is a broad term that could include any activity by a company that has positive impact on their internal or external environment.

As mentioned in the data portion of this paper, China might have been overrepresented in this sample, which could lead to the result being biased and the data was constricted by the extend of the Datastream database.
Additionally, this paper only looks at female participation in the board as a measure of board diversity. There are several other metrics that indicate the extensiveness of board diversity other than gender and this study could be extended by including more factors such as i.e. board age and ethnicity. Introducing more elements that comprise board diversity would extend the knowledge of diversity on firm performance and present a more complete picture.

Unfortunately, this study was not able to re-affirm the positive association between BGD and financial performance that was introduced under hypothesis 1. However, the results did support the outcome of the second hypothesis between CSR engagement and firm performance, one that has been documented extensively (Cochran & Wood, 1984; Peloza, 2009; Galbreath, 2018). The data used in this study showed a strong positive association between the ESG score of the emerging market firms and their financial performance and provided support for the interaction between board gender diversity and a firm’s CSR behaviour. The results imply that when more female directors are present in the board, there is an indirect positive association with a firm’s financial performance through improved engagement in the field of CSR. Through the ESG score, this study found that CSR positively moderates the relationship and it would therefore be beneficial for companies to aspire gender diverse boards. Previous studies have indicated gender diversity may impede a firm in their performance in terms of conflict and hindered decision-making (Triana et al., 2013), this analysis suggests differently. Many firms will be introduced to the impact of diversity as board diversity is an important issue in the current business climate, so studies like this are important and shine some light on the consequences and important concerns. This study extends the body of work by its focus on incorporating geographically diverse emerging markets, regions that have the highest catch-up with regard to female board representation (Deloitte Company, 2019).
6. References


Dimovski, W., & Brooks, R. (2006). The gender composition of boards after an IPO. *Corporate Governance, 6(1)*, 11-17


7. Appendix

Figure 1. This figure represents the average percentage of women per year in director positions. The data represents 2008 through 2018 for six emerging markets: Brazil, Russia, India, China, Poland and Turkey.

Figure 2. This figure represents the average ESG score per year. The data represents 2008 through 2018 for six emerging markets: Brazil, Russia, India, China, Poland and Turkey.
Figure 3. This figure represents female board representation per country 2008 through 2018. The lines represent averages per country per year.

Figure 4. This figure represents the ESG score per country 2008 through 2018. The lines represent averages per country per year.