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Department of Economics and Business Economics  
Master's Thesis Economics (MAN-MTHEC)**

# **Board Diversity and CSR Disclosure: Cross-country Evidence**

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Nijmegen, 30 June 2023

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## Summary

This paper aims to research the relationship and impact board diversity has on CSR disclosure for organizations in 4 different countries. With the growing importance of the stakeholder view as opposed to the shareholder view, the significance of CSR disclosure cannot be underestimated. Organizations over the world are thus expected to increase their CSR disclosure.

In this paper, we look through the lens of 4 theories that could explain the increase of CSR disclosure and the potential impact of board diversity: upper echelon theory, legitimacy theory, agency theory and institutional theory. Many studies showed a significant positive impact of board diversity on CSR disclosure. With the help of these theoretical views and previous empirical work, the variables were chosen and regressions were made. A quantitative analysis is used on a sample of organizations from 4 countries: France, Germany, China and India. By looking at the effect per country it becomes possible to compare the results to look for differences and similarities.

Contra dictionary to previous studies and formed expectations from these previous studies the analysis in this paper did not show a significant positive relationship between board diversity and CSR disclosure. Suggesting a much more complex and multifaceted relation between CSR disclosure and other variables in the organizational environment. This paper shows the importance of multiple determinants like financial performance and resource capabilities backed by theories like the resource-based view which can give an opposing insight to the other theories supporting the importance of board diversity.

While this paper does not question the importance of board diversity in itself since it has shown in many previous studies to have a positive impact on many other facets in the organization, it does question the inherent relationship between board diversity and CSR disclosure. It generated future research to study the importance of relationality between board diversity and other potential influences

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## 1 Introduction

The field of accounting has witnessed a paradigm shift in the recent decades, whereby financial accounting has been supplemented with non-financial accounting. This change has amplified the significance of Social Corporate Responsibility (CSR) for companies. Previous research has indicated that CSR and non-financial information are financially material and crucial for investors and other stakeholders (Amel-Zadeh et al., 2018<sup>i</sup>). CSR encompasses a broad range of activities such as reducing carbon emissions, promoting environmental responsibility, and fostering diversity, equality, and inclusion. Corporations have the option of presenting their CSR information either in an integrated report or in a separate report.

Studies have shown that one of the factors within a company that can influence the decision of CSR disclosure of a company is the board composition, in particular the difference between a non-diverse and a diverse board is an important topic for business research.

The pursuit of board diversity is not an organic process, nor is it spontaneous. Rather, active policy-making to promote diversity has become a subject of interest for many countries. This is motivated by a range of factors, including as a remedial response to the existing structures that support inequality (Kogut, Colomer & Belinky, 2014<sup>ii</sup>). If one were to look at ways to align a firm's goals and operational agenda through the lens of agency theory, the ramifications of such structures become evident (Gelfand et al., 2013<sup>iii</sup>). Hence, many have connected the matter of board diversity to firm's performance and outcomes through this theory. Besides, studies have indicated that a diverse board leads to better CSR disclosure (Peng et al., 2021<sup>iv</sup>). Board diversity encompasses multiple dimensions, including gender, age, nationality, and race/ethnicity. This thesis examines four countries with varying policy laws, ranging from no active law to a mandatory 40% quota for female board members, to determine if such quotas yield differing results.

There have been multiple studies about the impact of board diversity on the CSR disclosure in specific countries or multiple countries, but interpreted as a whole. By not comparing results from different countries an elimination of institutional influences takes place. The institutional

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conditions of countries can differ from social norms to a contrast in legislation. Legislation of a country like, gender quota, can have influence on the gender diversity of a board (Allemand, 2014<sup>v</sup>). Several other papers have shown that gender diversity can positively influence the CSR disclosure of companies (Adam & Ferreira, 2009; Peng et al., 2021; Zahra & Pearce, 1989<sup>vi</sup>). This could mean that country specific institutional conditions can indirectly influence CSR disclosure by implementing board diversity quota's and/or legislation. The overarching goal of this thesis is to uncover potential heterogeneities in the mechanisms through which board diversity implicates CSR disclosure in countries with divergent legal, organizational, and social structures. As part of this bigger aim, we will compare and contrast the results for the researched countries to account for the institutional conditions. This is thus far an understudied aspect of the board diversity impact on CSR disclosure. The importance of understanding the differences between countries gives the opportunity for better fitted governance or legislation for a country, which in turn can lead to better CSR performance.

The countries chosen in Europe are Germany and France, while the countries chosen for Asia are India and China. The reason for these countries is the difference these countries have when it comes to culture, working culture and starting point of diversity. A distinction is made between developing countries and already developed countries. India and China are chosen to represent the developing countries, which are chosen from the BRICS countries, because of the size of their economy and population, but also the geographical location which makes them more generalizable for Asian countries. For the developed countries Germany and France have been chosen. The reasons France and Germany have been chosen opposed to a USA is due to the fact that the USA is an already extensively researched county, but is at the same time difficult to generalize due to its differences with other countries. On top of that the USA has many differences in policies within its own country (state laws), which also differ in norms and values. By comparing the results from each country the difference of outcome will show what effect board diversity has in different cultures/countries. This paper will thus contribute to understanding how the variable "board diversity" can have different outcomes for different surroundings. This will further help create possible country specific diversity regulations in the future.

## 2 Literature review

Corporate social responsibility is of growing importance in recent business practices. The reasons for companies to implement CSR reporting in their annual reports can differ. The reason can reach from an ethical perspective to a so called business or fashion perspective (Hartmann et al., 2020<sup>vii</sup>). CSR disclosure is based on societal, environmental and economic aspects in business operations. The ethical reasons for businesses to disclose their CSR practices is because it is fair to the stakeholders, the business reason is because it is good for their business due to happy employees and CSR disclosure being financial material to investors, the fashion reason is because everybody else does it. A factor that has been studied extensively with its regards to CSR disclosure in the board diversity of businesses. The purpose of this literature review is to look at previous studies of Board diversity on CSR disclosure has shown, but also what other factor could play a role in CSR disclosure.

Board diversity can be interpreted in multiple ways. It could be a variety of backgrounds, experiences and perspectives or a combination of them all. It often includes race, ethnicity, gender, age, education and other factors.

### 2.1 Theoretical framework

Both board diversity and CSR disclosure can be described by economic and sociological theories. The theories that can explain both board diversity and CSR disclosure are: *upper echelon theory*, *legitimacy theory*, *agency theory*, *institutional theory*.

#### 2.1.1 Upper echelon theory

The upper echelon theory is a theory by Hambrick & Mason (1984)<sup>viii</sup>. This paper researches the domination coalition of organizations instead of techno-economic factors. The authors state that organizational decisions on strategy and effectiveness are influenced by the cognitive bases of the decision makers. The decision makers being the top managers in this paper. The upper echelon

theory thus entails that these decision and organizational outcomes are predicted by the background and characteristics of the management of a company.

In organizations where there is a lack of diverse representation at the top management, the employees who do not fit the stereotype of that specific organization can feel pressured to try and fit in instead of acting their natural behavior. If we look at the opposite, organizations with diverse representation at the top, the employees are not as likely to act out of stereotypes which does happen more often in non-diverse organizations (Perry et al., 1994<sup>ix</sup>). Domination coalition has a tendency to reproduce and is a form of “homosocial reproduction”. This reproduction being the happening of the individuals in top management hiring and promoting people who are similar to themselves. This leads to fewer individuals different from the current top management to enter the top management (Gelfand et al., 2013<sup>x</sup>).

Due to homosocial reproduction the upper echelon theory is not only linked with the demographic of the board, but rather with the total workforce diversity of an organization which in turn can on itself be seen as a CSR practice. A more diverse management leads to more diverse decisions made which is associated with better returns (Nishii et al., 2007<sup>xi</sup>).

### *2.1.2 Legitimacy theory*

Legitimacy theory explains the existence of a social contract between the norms and values of a community and the organization. For a company to be successful it should maintain this social contract and thus act in conformance with the norms and values of the environment they work in. An important part of legitimacy theory is that the organization is not the main focus, but is rather part of a bigger social system in which they work (Deegan, 2019<sup>xii</sup>).

When a organization is in believe the legitimacy is being questioned by the public it can apply strategies which will change the view of the public on the organization. The usage of the strategies all rely on an external disclosure background (Deegan, 2002<sup>xiii</sup>). The employment of the disclosure can be done in the annual reports of an organization. When bad media or unpreferable

information has been made public which negatively influences the organization the disclosure in annual reports can try to counter the bad news (Lindblom, 1994<sup>xiv</sup>).

Terjesan et al. (2016)<sup>xv</sup> suggests that firms with female directors do not only have a better financial performance, but they also send a message to the community due to the ethical behavior of the organization. Previous studies have shown that women have a tendency to act more law-abiding than males (Akhter et al., 2022<sup>xvi</sup>).

### *2.1.3 Agency theory*

Agency theory is often used withing accounting to research the connection between a principal and agent. This theory describes possible events that can arise within an organization: alignment of the goals of principal and agent, Control by a principal on a agent and the problem of risk sharing (Eisenhardt, 1989<sup>xvii</sup>). The agents make business decisions for the best interest of the principals. This theory assumes that agents will not always do what is best for the principals if they want to maximize their utility.

Board diversity increases venturing risks , which the authors describe as value increasing strategies for increasing the wealth of the shareholders. The reason this happens is because first of all women have different perspectives (Hillman et al., 2007<sup>xviii</sup>). Second off all, women who manage to be on a board were appointed to this function due to excellence in their work instead of connections (homosocial reproduction). As a result the women have more experience and better education compared to their male counterparts (Poletti-Hughes & Del Carmen Briano Turrent, 2019<sup>xix</sup>). The increase of risk-taking would thus bring the risk appetite closer between principal and agent.

An important aspect of agency theory is monitoring and reporting. The agents are monitored to try and make sure they work out of best interest of the principal. The article by Cherian et al. (2020)<sup>xx</sup> show that when a CEO becomes more powerful he or she is more likely to hire out of loyalty instead of competences which is a similar result as the article by Poletti-Hughes & Del

Carmen Briano Turrent (2019). Hiring out of loyalty in turn leads to less independent directors which in turn could badly influence the monitoring and reporting.

#### *2.1.4 Institutional theory*

Institutional theory describes the intangible and informal relationships and cognitive frames that shape an environment. When thinking from an institutional perspective, markets can be seen as fields where firms watch one another and copy actions of other firms (DiMaggio & Powell, 1983<sup>xxi</sup>).

There are multiple economic factors such as level of competition or financial health of an organization that influences the performance and disclosure of CSR activities. There is however a mix of institutional conditions that moderate the effect of these factors. If firms experience a strong state regulations they are more likely to improve in CSR practices (Campbell, 2007<sup>xxii</sup>). This shows there is a possibility for different results in various countries due to the difference in institutional conditions.

Legislation in a country is part of the institutional conditions of that country. The article by Allemand et al. (2014)<sup>xxiii</sup> shows that there is an institutional pressures have influence on gender diversity on boards. This paper presents results that countries who enacted a gender quota for the board of directors also had the highest increase in female representation in the board.

## **2.2 Review of Empirical Works**

Multiple studies have shown a positive correlation between the diversity of a board with the CSR disclosure of a company. One article that does so as well is the article by Adams & Ferreira (2009)<sup>xxiv</sup>. This article researched what influence a gender diverse board in US firms has on the disclosure of CSR information. The authors made use of a sample of 1939 firms over a period of 8

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years (1996-2003). This article does however conclude that diversity has a positive impact due to the weak governance of the firms, but if the governance would be strong it could also be negative due to over monitoring. An article by Chen et al. (2010)<sup>xxv</sup> showed similar results to the article of Adams & Ferreira(2009). Chen however researched Taiwanese companies instead of companies from the USA.

Another study with a similar topic is the article by Zahra & Pearce (1989)<sup>xxvi</sup>. This article does not research the disclosure of CSR information, but instead focusses if US firms who have a diverse board do indeed engage more in practices about social responsibility. 324 US firms were used to do this research and what the 2 authors found is that a diverse board to act in a socially responsible manner e.g. donating and supporting good causes.

These three articles share a common thread: a positive association between board diversity and CSR disclosure as well as socially responsible actions by companies. They are also singularly focused on a developed country. As previously noted, the rationale behind CSR disclosure can vary according to the country in question. So can the results. This documented positive association can be explained by the diversity of perspectives or better representation of previously underrepresented stakeholders.

To solve the problem of a single country analysis the article by Peng et al. (2021)<sup>xxvii</sup> looks at multiple multinational corporations in 4 different countries: China, Japan, the UK and the USA. The authors research how board diversity has impact on the social and environmental disclosure. They divide the board diversity in 3 parts: board gender diversity, educational background diversity and tenure diversity. The results show that gender diversity leads to an increase of CSR disclosure. The other hypothesis from a tenure and educational background were either not significant or did not pass the robustness check. What this paper however did not do with the different countries is compare the results. All the firms from these countries were gathered in a so called data pool and the regression was done as a whole.

Peng et al. (2021) borrowed the scoring of CSR disclosure from Cui et al. (2020)<sup>xxviii</sup> where the scoring is done with a scoring card from 0 to 4 where each number has a different meaning and

description, 0 being 'no disclosure' and 4 being 'quantitative with comparison'. By scoring it this way the authors are able to measure the indicators related to CSR disclosure. The downside of this method is the feasibility of this scorecard when using a larger sample size due to the need of value judgement of when a company fits in which score.

### *2.2.1 Firm Size*

Even though many previous studies have shown how important board diversity can be for CSR disclosure is of course not the only variable that effect the CSR disclosure of a company. Ting (2021)<sup>xxxix</sup> shows that the size of a firm positively affects the firms' CSR disclosure. This paper used Taiwanese listed companies between the periods 2010 to 2016. Due to the larger amount of resources and in accordance lesser relative costs for bigger companies it is easier for larger firms to afford CSR disclosure. However, this study also showed that if a smaller company would indeed disclose their CSR activities it would have more effect on their financial performance than it would for a larger company.

### *2.2.2 Board size*

Outside of the board composition in terms of diversity another factor might be the size of the board. Alabdullah et al. (2019)<sup>xxx</sup> gives an insight into how board size influences CSR disclosure. The article by Zahra and Pearce (1989)<sup>xxxi</sup> which showed that board diversity has an impact on CSR activities, also shows that when a board is "larger" it reduces the CEO's ability to dominate the board of directors of a company. This is also directly related to agency theory and upper echelon theory because of the reduction in independence and monitoring of agents. Alabdullah et al. (2019) Shows that from a sample of Malaysian companies, the board size is positively related to CSR disclosure. The way this article scored the CSR disclosure was by looking at the annual report, when a CSR related item was disclosed it is given the score of "1" and if not disclosed it is given the score "0". The maximum amount that could be scored by a single company is 26. The results showed that most of the companies that scored on the latter end of the scorecard were companies with a larger board.

### 2.2.4 *Developed vs developing countries*

A comparative study has been done by Bhatia & Makkar (2019)<sup>xxxii</sup> which compares the nature of CSR reporting between already developed and developing countries. For the developed countries they make use of US and UK Firms and for the developing countries, they make use of the 5 BRICS countries. The companies they used are all from each country's biggest index. The main finding of this paper is that the CSR disclosure scores from the developing countries are significantly lower than the developed countries. This shows that there is indeed a difference between the countries.

## 2.3 General findings from previous studies

Reference	Data Collection	Finding(s)
<b>Ting (2021)</b>	N = 10.786, publicly listed Taiwanese companies over 6-year period. Value = 1 if disclosed, value = 0 if not disclosed.	The size of a firm is positively related to CSR disclosure of that firm, however effect of CSR disclosure is larger for smaller companies.
<b>Alabdullah et al. (2019)</b>	N = 125, Malaysian companies for 2018. Value = 1 if disclosed, value = 0 if not disclosed.	Most companies with "higher scores" are companies with relatively larger boards. Reduces CEO ability to dominate board.
<b>Meutia et al. (2017)</b>	N = 134, Companies on Indonesian index in 2014. CSR scores obtained by content analysis.	There is a significant difference between industry sectors in the CSR disclosure.
<b>Peng et al. (2021)</b>	N = 140, MNC's from China, Japan, UK and USA. CSR scores obtained by content analysis.	Gender diversity leads to improvement of CSR disclosure. No distinction made between countries.

Table 1: Summary Literature

Table 1 shows a summary of the main empirical findings from previous studies. A finding most of the articles share is the positive relation between Gender board diversity and CSR disclosure/performance. Another observation that can be made is that previous studies either research a singular country or perform a multicountry research, but do not make a distinction between countries (Peng et al., 2021)<sup>xxxiii</sup>. Multiple ways of scoring/measuring CSR disclosures are used. A score of 0 – 1 is used to make a distinction between not disclosed or disclosed and is feasible for larger samples like the paper by Ting (2021)<sup>xxxiv</sup>. Another way of scoring is by using content analysis like the paper by Peng et al. (2021) which scores the CSR disclosure between a score of 0 – 4. This way of measuring would not be feasible with a larger sample due to the need for value judgment.

## 2.4 Hypothesis

With the general findings in previous studies being that a more diverse board increases CSR disclosure the hypothesis in this paper would expect the same. The hypothesis will be divided into 4 groups for each country there will be 1 hypothesis.

France

H1: A more gender diverse board increases CSR disclosure score for at least 2 of the 3 subgroups for French companies.

Germany

H2: A more gender diverse board increases CSR disclosure score for at least 2 of the 3 subgroups for German companies.

China

H3: A more gender diverse board increases CSR disclosure score for at least 2 of the 3 subgroups for Chinese companies.

India

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H4: A more gender diverse board increases CSR disclosure score for at least 2 of the 3 subgroups for Indian companies.

### **3 Methodological approach**

#### **3.1 Introduction to why it is important**

This paper will perform quantitative research of the effect board diversity has on CSR disclosure in 4 countries: Germany, France, India and China. The data from these countries have been received Eikon with a number of firms per country. The firms that have been chosen are the top firms of each country received from that countries index: DAX (Germany), FR40 (France), Sensex and Nifty (India) and SSE40 (China). The data for the organization has been gathered from: RefinitivEikon, BoardEx, CSMAR.

The reason to choose these specific countries is due to several reasons. One reason all of the 4 countries have in common is that all 4 of them are relatively large economies when looking at the world. The data that has been gathered will be over a period of 20 years. Within these 20 years the countries have enacted new regulations which gives the opportunity to research how these regulations influences CSR disclosure.

#### *India*

India is a large emerging economy and has seen a big and significant growth in recent years. Like stated in the literature review firm size can have a significant effect on the CSR activities and disclosure of a firm. On top of that India has changed the policy regarding gender diversity in the board in 2013. The new rule being that it is mandatory for companies to have at least one woman in the board of directors. Since 2013 is in the data sample for this research it is also important to see if this had any influence on both the board diversity and CSR disclosure.

### *France*

France is a large economy which it has been for a longer time now. France is also one of the largest economies in Europe which makes it important to research. Due to the size it can give an insight into local level, but also at a global level. In France there has also been a change in legislation, but for France it happened 2 years sooner. The new law required that by 2017 at least 40% of the board of directors the be women.

### *Germany*

Germany is just like France a large economic player at the global level. At the European level, Germany is even the largest economy when looking at Gross Domestic Product. Unlike India and France, Germany does not have a quota in place to improve the diversity in the board of directors which gives a opportunity to examine different approaches.

### *China*

China is just like India a large, but also still emerging economy. Besides both these countries size in economic power they are also big when it comes to population size which in turn leads to a local level observation, but also has much influence in the global level.

By comparing these 4 countries it is possible to compare the relatively more emerging economies like China and India with the so called older/already existing economic powers. In turn the 4 countries are divided between 2 continents: Europe and Asia. France and Germany amount to approximately 15% and 19% of Europe's population in 2021, which is a cumulative of  $\approx 39\%$  of Europe's total population (Eurostat, 2021). India and China amount to approximately 31% per country, which is a cumulative of  $\approx 62\%$  of Asia's total population.

### 3.2 Control variables

Due to the empirical findings of previous studies in combination with the theoretical framework the variables in this paper are chosen. Outside of the main research variable, many previous empirical works and theoretical views have shown the importance of the following control variables in this paper: Board size and years. The control variable “board size” is integrated due to the empirical findings of Alabdullah et al. (2019)<sup>xxxv</sup> and Zahra and Pearce (1989)<sup>xxxvi</sup> who both gave an insight how board size influences CSR disclosure. The article by Zahra and Pearce (1989) which showed that board diversity has impact on CSR activities, also shows that when a board is “larger” it reduces the CEO’s ability to dominate the board of directors of a company. These empirical findings are also backed by the upper echelon and agency theory.

The variable “years” is added due to an existing gap in the previous literature that is open to research in this paper. By adding years and also looking at the effect of years on CSR disclosure it could become possible to see an trend over the years. Furthermore by being able to see the effect time has on CSR disclosure a better insight could be given how the importance of CSR disclosure is presumably rising in the world, shifting from a shareholder view to a stakeholder view.

### 3.3 Independent variables

Several previous empirical works have shown that gender diversity can positively influence the CSR disclosure of companies (Adam & Ferreira, 2009; Peng et al., 2021; Zahra & Pearce, 1989<sup>xxxvii</sup>). The influence board diversity has on CSR disclosure can be backed by the theoretical framework in this paper. Previous studies have shown that women have a tendency to act more law-abiding than males (Akhter et al., 2022)<sup>xxxviii</sup>. This finding is in line with the legitimacy theory since this is a form of acting in accordance with the norm is an important facet of the legitimacy theory. This combination of empirical findings and theoretical backing leads to the inclusion of this variable in the research. Gender board diversity will be measured as a percentage of women of the total board population. This will ensure that the measurement is as fair as possible.

### **3.4 Dependent variables**

The Dependent variables will be the scores of the CSR activities. In the dataset used the firms from each country is divided into 3 separate classes of CSR disclosure: Environment, Social and governance. This way it becomes possible to score each individual CSR activity within a subgroup. By scoring the individual scores '0' if not disclosed and '1' if disclosed a total score can be made for a specific firm within a certain year. This way a final score can be given to each firm for their total CSR disclosure and per subgroup.

### **3.5 Dropped variable**

As described in the review of empirical work in this paper, the size of a firm, which was measured by the total assets of a company, can have significant influence on the CSR disclosure as proven by previous studies. The reason for dropping this variable from the final dataset is due to the finding of high autocorrelation levels in the preliminary analysis. The high degree of autocorrelation meant the current value shown a relationship with the lagged value of itself. This violates one of the main assumptions of statistics. In order to mitigate for the autocorrelation the decision was made to exclude the variable total assets from the database.

### **3.6 Overview**

In table 2 an overview is given of each variable included in the final dataset. A description is shown what the variable measure is and how it will thus be used. Environment, Social and Governance are the dependent variables and shows how the scores have been given. BOARDDIV is the board diversity for companies, BOARDSIZE is the total number of members on a board and YEARS show the years used in the datasets. Not all datasets have data ranging from 2002 to 2022 due to data constraints.

Variable name	Description
ENVIRONMENT	Total score of environmental related issues, 1 = disclosed, 0 = not disclosed.
SOCIAL	Total score of social related issues, 1 = disclosed, 0 = not disclosed.
GOVERNANCE	Total score of governance related issues, 1 = disclosed, 0 = not disclosed..
BOARDDIV	Shows the percentage of women on boards. 50% thus meaning an even board between men and women.
BOARDSIZE	Total number of members on board of directors for specific organization.
YEAR	Gives the years ranging from 2002 – 2022 in the different datasets.

Table 2: Description of every variable used in regressions

### 3.7 Regression

Since the scores will be a sum of all disclosed CSR activities per subgroup there are 3 different regressions per hypothesis. Each regression represents a specific subgroup: Social, environmental and governance. If for 2 of the 3 regression “board diversity” shows a positive correlation the hypothesis is true.

#### 3.5.1 Hypothesis 1 - France

$$ENVIRONMENT_{France} = \beta_0 + \beta_1 BOARDdiv + \beta_2 BoardSIZE + \beta_3 YEAR + \beta_4 L(ENVIRONMENT) + \epsilon_i$$

$$SOCIAL_{France} = \beta_0 + \beta_1 BOARDdiv + \beta_2 BoardSIZE + \beta_3 YEAR + \beta_4 L(SOCIAL) + \epsilon_i$$

$$GOVERNANCE_{France} = \beta_0 + \beta_1 BOARDdiv + \beta_2 BoardSIZE + \beta_3 YEAR + \beta_4 L(GOVERNANCE) + \epsilon_i$$

#### 3.5.2 Hypothesis 2 - Germany

$$ENVIRONMENT_{Germany} = \beta_0 + \beta_1 BOARDdiv + \beta_2 BoardSIZE + \beta_3 YEAR + \beta_4 L(ENVIRONMENT) + \epsilon_i$$

$$SOCIAL_{Germany} = \beta_0 + \beta_1 BOARDdiv + \beta_2 BoardSIZE + \beta_3 YEAR + \beta_4 L(SOCIAL) + \epsilon_i$$

$$GOVERNANCE_{Germany} = \beta_0 + \beta_1 BOARDdiv + \beta_2 BoardSIZE + \beta_3 YEAR + \beta_4 L(GOVERNANCE) + \epsilon_i$$

### 3.5.3 Hypothesis 3 - China

$$ENVIRONMENTChina = \beta_0 + \beta_1BOARDdiv + \beta_2BoardSIZE + \beta_3YEAR + \beta_4L(ENVIRONMENT) + \epsilon_i$$

$$SOCIALChina = \beta_0 + \beta_1BOARDdiv + \beta_2BoardSIZE + \beta_3YEAR + \beta_4L(SOCIAL) + \epsilon_i$$

$$GOVERNANCEChina = \beta_0 + \beta_1BOARDdiv + \beta_2BoardSIZE + \beta_3YEAR + \beta_4L(GOVERNANCE) + \epsilon_i$$

### 3.5.4 Hypothesis 4 - India

$$ENVIRONMENTIndia = \beta_0 + \beta_1BOARDdiv + \beta_2BoardSIZE + \beta_3YEAR + \beta_4L(ENVIRONMENT) + \epsilon_i$$

$$SOCIALIndia = \beta_0 + \beta_1BOARDdiv + \beta_2BoardSIZE + \beta_3YEAR + \beta_4L(SOCIAL) + \epsilon_i$$

$$GOVERNANCEIndia = \beta_0 + \beta_1BOARDdiv + \beta_2BoardSIZE + \beta_3YEAR + \beta_4L(GOVERNANCE) + \epsilon_i$$

## 4 Results

As stated in the hypotheses and regressions, hypothesis 1 to 4 all include 3 models to test for the hypotheses. There are 3 subgroups per country which include Social, environment and Governance. Each model will explain the influence of the independent variables, the independent variables being: BOARDdiv, BOARDsize and Years. Due to the separation of the 4 countries there is a need for 4 different datasets, 1 for each country. The next part of this paper will thus first of start with the descriptive statistics for each of the databases, the next part will include tables and graphs with the results from the regression models, including an interpretation of these results and look back at the hypotheses given, the last part will then include additional analysis.

### 4.1 Descriptive statistics

Each country researched in this paper has its own database. The databases differ in number of companies and number of time periods researched due to data constraints. While France had most data out of the 4 countries, also dating back to 2002, other countries had more constraints data wise. China did have some companies having data going back to 2002, but these companies can be seen as an anomaly on the whole database since most companies did not have data for a

longer time period. India did have more data in comparison with China, but the data of India did not have companies data from before 2008. Germany had the opposite, with their data constraint being the last 2 years, but did have data going back to 2002.

#### 4.1.1 Descriptive statistics - France

As stated France had extensive data available over multiple years. In table 3 the descriptive statistics are shown of the French database. In total there are 707 observations for French companies. The mean for the dependent variable ENVIRONMENT is 22.79 with a minimum value of 0 and a maximum of 39. The mean for the second dependent variable, SOCIAL, is 26.55 with a minimum value of 0 and a maximum of 47. The mean for the third and last dependent variable, GOVERNANCE, is 34.24 with a minimum value of 8 and a maximum of 64. The 2 independent variables BOARDDIV and BOARDSIZE are relatively straightforward to analyze. The average percentage of women on boards in France over a period from 2002 to 2022 is 25.11%. The lowest percentage of women on a board is 0% while the maximum percentage of women is 64.30%, which means more women than men on a board. BOARDSIZE shows the amount of directors on a board for a specific years. For France the average number of directors on board during a period from 2002 to 2022 is 14.73 with a minimum value of 5 and maximum of 36 directors. The descriptive statistic of YEAR does not show much except for the range which is for this database 2002 till 2022.

Variable	Obs	Descriptive data			
		Mean	Std.Dev	Min	Max
BOARDDIV	707	25.11	16.64	0.00	64.30
BOARDSIZE	707	14.73	3.40	5.00	36.00
ENVIRONMENT	707	22.79	10.29	0.00	39.00
SOCIAL	707	26.55	11.12	0.00	47.00
GOVERNANCE	707	34.24	12.77	5.00	64.00
TOTAL	707	83.57	31.92	8.00	141.00
YEAR	707	11.14	5.82	1.00	21.00
BOARDNAME	707	18.75	10.52	1.00	37.00

Table 3: descriptive data for French dataset.

Figure 1 shows the average of each of the subgroups in France. When looking at the figure there is a clear increase in all 3 the groups. Governance scores of companies show an increase of about 4 times the original scores while Environmental and Social scores increase less in absolute value, but are close to similar in percentage growth.

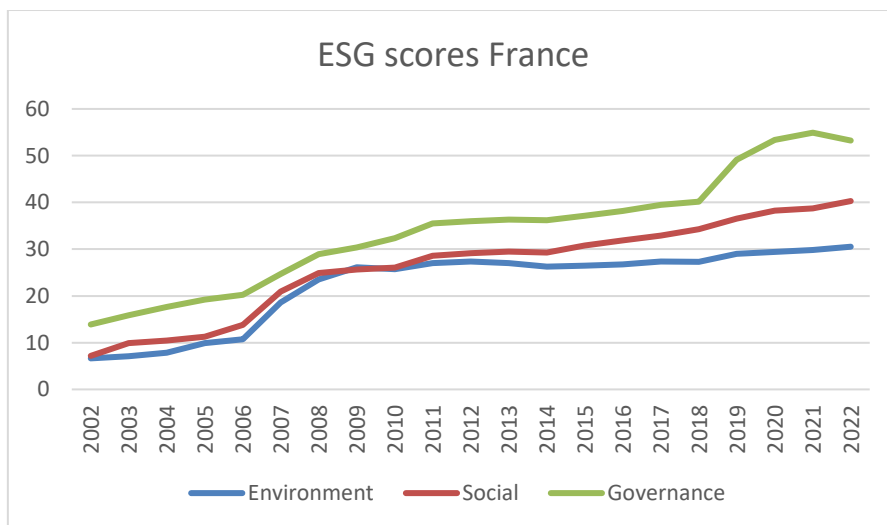


Figure 1: ESG scores (CSR disclosure) over the years in France

Figure 2 highlights the growth in Board diversity. In 2002 the percentage of female was close to just 5%, but if we look at 2022 it is already close to 45%. As stated France issued a new law which required companies to have at least 40% of the board be women. We can see in the graph that on average this has been successful for France, but this does not imply that all companies have succeeded since this is the average of all companies. It is important to note that we thus see a similar growth in board diversity and the ESG scores in France.

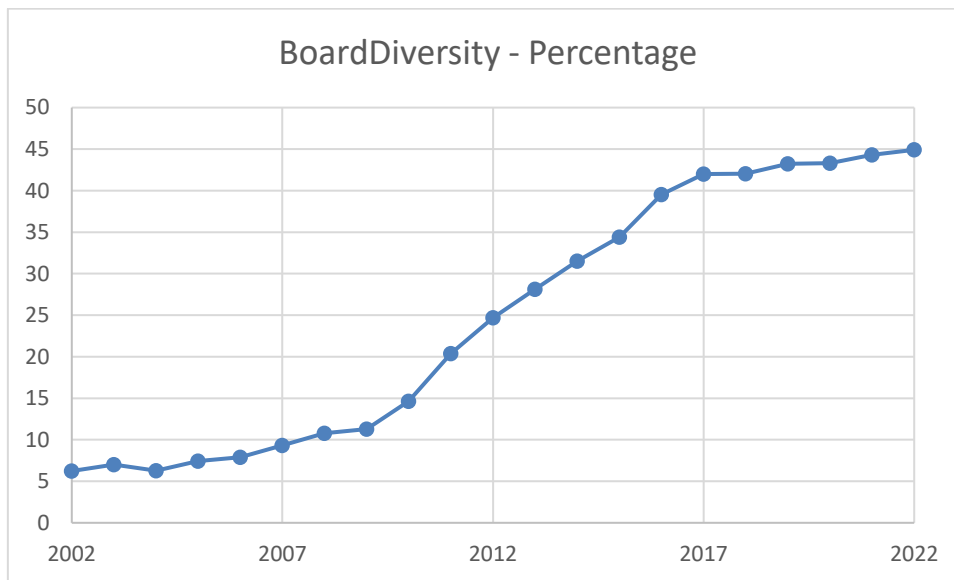


Figure 2: The change in percentage of women on boards in France over the years

#### 4.1.2 Descriptive statistics - Germany

German companies have ESG data available from 2002, but did not have the data available for 2021 and 2022 making it a smaller database in time periods. In table 4 the descriptive statistics are shown of the German database. The mean for the dependent variable ENVIRONMENT is 22.14 with a minimum value of 0 and a maximum of 42. The mean for the second dependent variable, SOCIAL, is 26.36 with a minimum value of 0 and a maximum of 48. The mean for the third and last dependent variable, GOVERNANCE, is 31.37 with a minimum value of 0 and a maximum of 59. The 2 independent variables BOARDDIV and BOARDSIZE are relatively straightforward to analyze. The average percentage of women on boards in Germany over a period from 2002 to 2020 is

14.99%. The lowest percentage of women on a board is 0% while the maximum percentage of women is 42.30%, which means unlike France, Germany has not yet had a company within this database that has had more women than men in their respective boards. BOARDSIZE shows the amount of directors on a board for a specific year. For Germany the average number of directors on boards during a period from 2002 to 2022 is 20.36 with a minimum value of 6 and maximum of 34 directors. The size of the board shows that Germany has a higher average amount of directors per company than France and with a lower variance. The descriptive statistic of YEAR does not show much except for the range which is for this database 2002 till 2020

Variable	<i>Descriptive data</i>				
	<i>Obs</i>	<i>Mean</i>	<i>Std.Dev</i>	<i>Min</i>	<i>Max</i>
BOARDDIV	455	14.99	10.59	0.00	42.30
BOARDSIZE	455	20.36	6.43	6.00	34.00
ENVIRONMENT	455	22.14	10.68	0.00	42.00
SOCIAL	455	26.36	12.10	0.00	48.00
GOVERNANCE	455	31.37	10.94	0.00	59.00
TOTAL	455	79.87	31.89	0.00	137.00
YEAR	455	11.08	5.27	1.0	19.00
BOARDNAME	455	15.22	8.86	1.00	31.00

Table 4: descriptive data for German dataset.

Figure 3 shows similar results as the esg scores in France. In Germany the environmental, social and governance scores all increase in the period from 2002 to 2022. Just like France there is a relatively sharper increase around 2006 which then changes into a more gradual increase over the following years. The order of scores is also similar with Governance scoring the highest followed by social and environment.

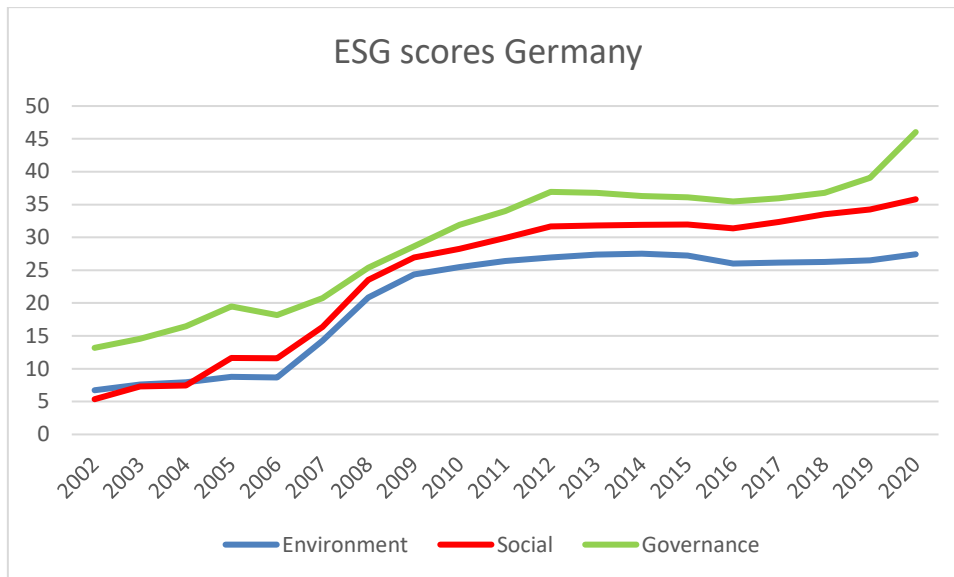


Figure 3: ESG scores (CSR disclosure) over the years in Germany

Figure 4 highlights the Board diversity in Germany over a 18 year period. The starting point is the same year as France, but the end date is 2 years earlier. Both Germany and France have a board diversity of approximately 5% in 2002. However, France already had a average board diversity of close to 45% in 2020 while Germany is stuck just below 30%. We can thus conclude that France had relatively more women on board compared to Germany in 2020.

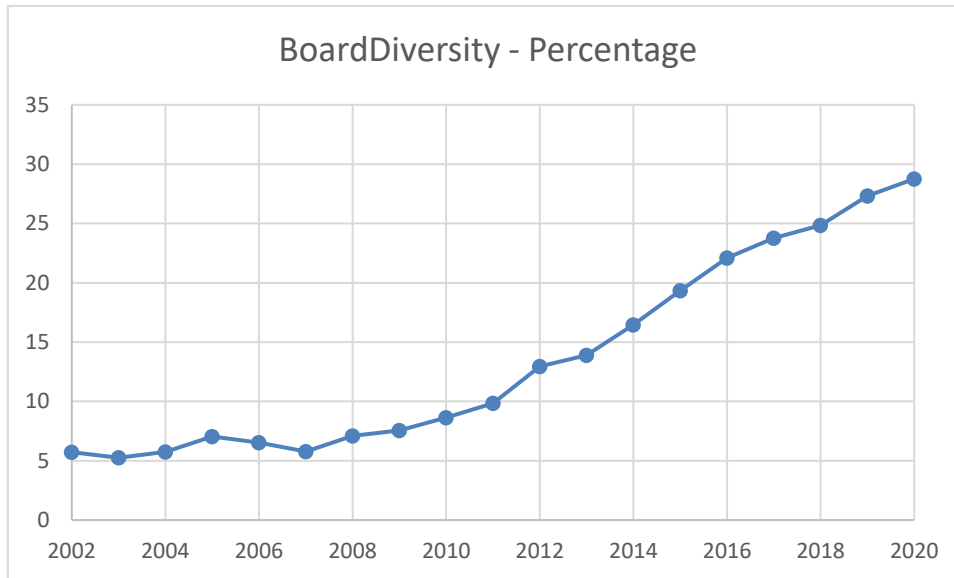


Figure 4: The change in percentage of women on boards in Germany over the years

#### 4.1.3 Descriptive statistics – China

Chinese companies have ESG data available from 2002, but did not have many companies who had available data for those years. In the Chinese database most companies have data available from 2022 to around 2017 making the years before that less reliable in research due to data constraints. In table 5 the descriptive statistics are shown of the Chinese database. The mean for the dependent variable ENVIRONMENT is 12.04 with a minimum value of 0 and a maximum of 33. The mean for the second dependent variable, SOCIAL, is 16.02 with a minimum value of 0 and a maximum of 38. The mean for the third and last dependent variable, GOVERNANCE, is 33.46 with a minimum value of 0 and a maximum of 63. The 2 independent variables BOARDDIV and BOARDSIZE are relatively straightforward to analyze. The average percentage of women on boards in China over a period from 2002 to 2022 is 10.58%. The lowest percentage of women on a board is 0% while the maximum percentage of women is 45.45%. BOARDSIZE shows the amount of directors on a board for a specific year. For China the average number of directors on boards during a period from 2002 to 2022 is 12.27 with a minimum value of 2 and maximum of 28 directors. The descriptive statistic of YEAR does not show much except for the range which is for this database 2002 till 2022.

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Variable	<i>Descriptive data</i>				
	<i>Obs</i>	<i>Mean</i>	<i>Std.Dev</i>	<i>Min</i>	<i>Max</i>
BOARDDIV	427	10.58	9.04	0.00	45.45
BOARDSIZE	427	12.27	4.15	2.00	28.00
ENVIRONMENT	427	12.04	8.20	0.00	33.00
SOCIAL	427	16.02	8.85	0.00	38.00
GOVERNANCE	427	33.46	11.55	0.00	63.00
TOTAL	427	61.53	25.61	0.00	129.00
YEAR	427	15.30	4.33	1.00	21.00
BOARDNAME	427	22.79	14.62	1.00	50.00

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Table 5: descriptive data for Chinese dataset.

Figure 5 shows slightly different results compared to both France and Germany. While in China the scores also increase, it is much less of a significant increase. Mostly the period from 2002 to 2017 shows less of an increase. This could however be due to the fact that most of the Chinese companies have limited data in these years. From 2017 onward a sharper increase can be seen, but still not to the absolute values of German and French companies. Governance scores however are higher than French scores in 2022 and similar to that of Germany, showcasing that Chinese companies record more governance related topics compared to environmental and social topics in their reports.



Figure 5: ESG scores (CSR disclosure) over the years in China

Figure 6 highlights the board diversity change in percentage for Chinese companies. 2 things that can immediately be seen in this figure is first of the data from 2002 to 2005 shows that the few companies that did have data for these periods had no women in the board. Because this sample of companies is relatively small for those years, the anomaly decides the average. The second thing that can be seen is that even after 2006 where there is more data from Chinese companies the percentage of women on boards is much lower compared to France and Germany with the maximum being around 13% in 2011 and 2022. The third and final finding is that unlike France and Germany, China does not have a gradual increase over the years and even declines after 2011.

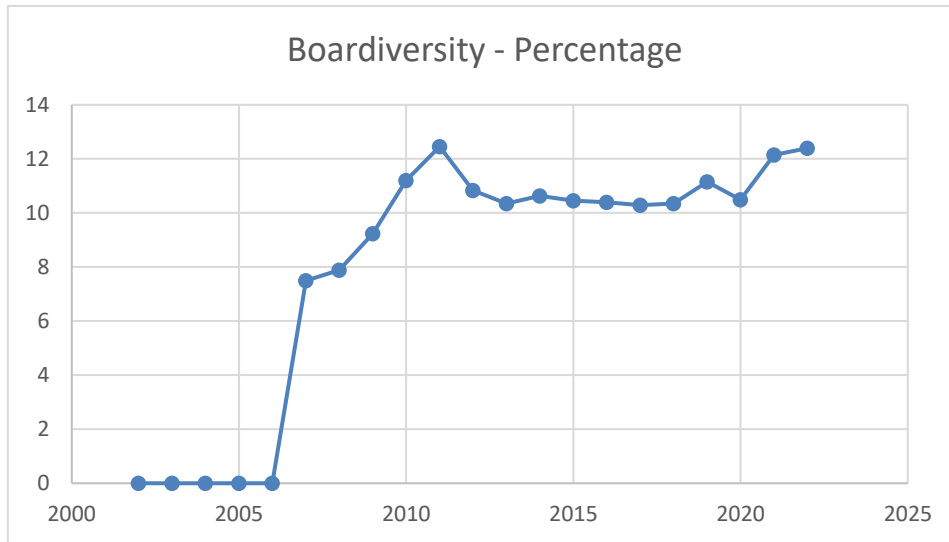


Figure 6: The change in percentage of women on boards in China over the years

#### 4.1.4 Descriptive statistics – India

Indian companies have ESG data available from 2007. In table 6 the descriptive statistics are shown of the Indian database. The mean for the dependent variable ENVIRONMENT is 18.04 with a minimum value of 0 and a maximum of 37. The mean for the second dependent variable, SOCIAL, is 25.82 with a minimum value of 5 and a maximum of 45. The mean for the third and last dependent variable, GOVERNANCE, is 32.54 with a minimum value of 11 and a maximum of 62. The 2 independent variables BOARDDIV and BOARDSIZE are relatively straightforward to analyze. The average percentage of women on boards in India over a period from 2007 to 2022 is 12.61%. The lowest percentage of women on a board is 0% while the maximum percentage of women is 50%. BOARDSIZE shows the amount of directors on a board for a specific year. For India the average number of directors on boards during a period from 2007 to 2022 is 11.99 with a minimum value of 4 and maximum of 27 directors. The descriptive statistic of YEAR does not show much except for the range which is for this database 2007 till 2022.

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<i>Descriptive data</i>					
Variable	<i>Obs</i>	<i>Mean</i>	<i>Std.Dev</i>	<i>Min</i>	<i>Max</i>
BOARDDIV	554	12.61	9.07	0.00	50.00
BOARDSIZE	554	11.99	3.08	4.00	27.00
ENVIRONMENT	554	18.05	8.98	0.00	37.00
SOCIAL	554	25.82	8.88	5.00	45.00
GOVERNANCE	554	32.54	10.68	11.00	62.00
TOTAL	554	76.41	25.48	19.00	136.00
YEAR	554	9.75	4.05	1.00	16.00
BOARDNAME	554	24.07	12.93	1.00	46.00

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Table 6: descriptive data for Indian dataset.

Figure 7 Highlights a few important findings compared to the other databases. First of it can be seen that the starting point in the graph is higher than the other countries which is caused by a different starting date. This also implies that the average scores and board diversity cannot be compared to the other countries if all years would be accumulated. Per year this would however not cause any problems.

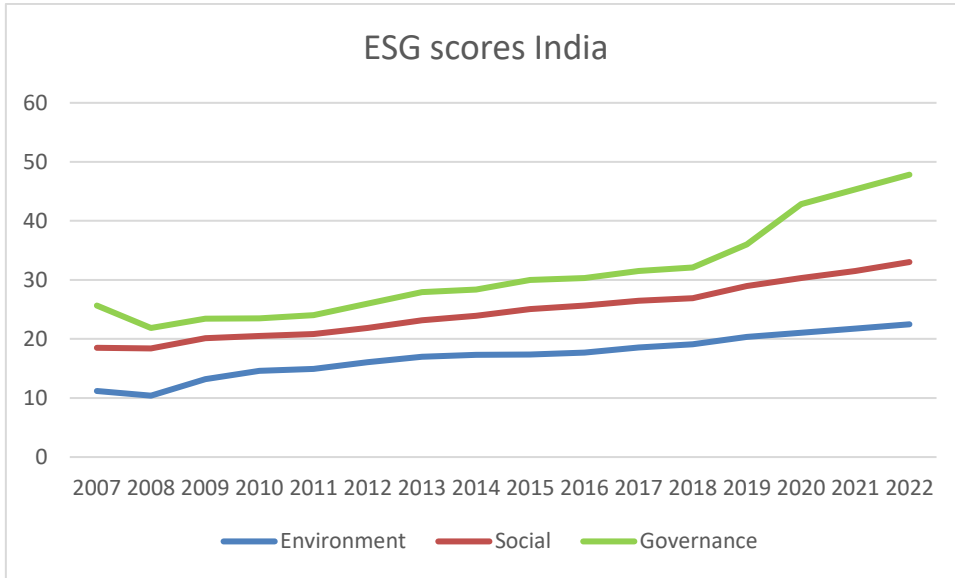


Figure 7: ESG scores (CSR disclosure) over the years in India

Figure 8 shows that over the years the board diversity in India has increased, but is still below the average of both France and Germany. The overall findings are that the non-western countries like India have a lower board diversity when compared to the western countries.

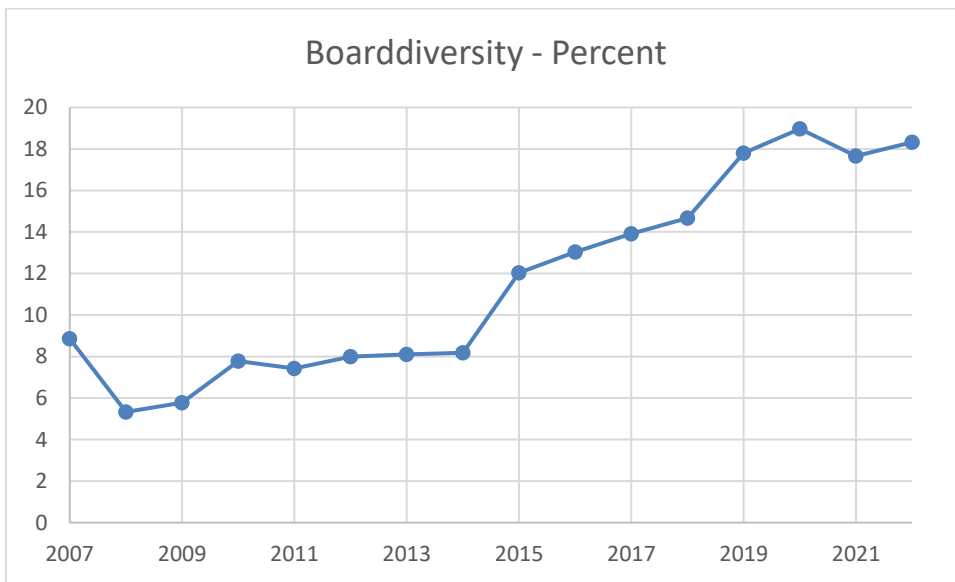


Figure 8: The change in percentage of women on boards in India over the years

## 4.2 Regression analysis

In the next part the regression and their respective results will be analyzed for each country. Due to the use of unbalanced panel data the 2 independent variables will be shown in the results as well as the years. The dependent variable per regression has a lag of 1 to fix for autocorrelation in the models. This is because the last value of the dependent variable has a significant influence of the next value. In the regression tables the lag will this be characterized as “LAG-dependentvariable”, meaning that this variable would be a lag of the dependent variable of that model. All models have employed the use of robust standard errors to account for heteroscedasticity. By using the robust standard errors the heteroscedasticity has been mitigated resulting in a more reliable regression.

<i>DATASETS</i>	<i>ENVIRONMENT</i>	<i>SOCIAL</i>	<i>GOVERNANCE</i>
<i>France</i>	0.6476937	0.3949604	0.4076523
<i>Germany</i>	0.9464313	0.4403899	0.2073684
<i>China</i>	0.5385	0.8250841	0.950385
<i>India</i>	0.9397424	0.9270243	0.8095439

Table 7: P-values for Breusch-Godfrey test.

Table 7 shows the P-value of the Breusch-Godfrey test of each model used in this paper. The Breusch-Godfrey test shows if there is evidence of serial correlation in the residual of the regression models. As seen the value are fairly high number far above a p-value of 0.05 meaning there is no evidence to reject the null and thus implying no autocorrelation in all of the models used.

### 4.2.1 Regression analysis – France

Table 5 shows model 1, 2 and three which represents the regression per subgroup for France including all the variables. Since a lag of the dependent variable has been implemented the variables indicating years, start at 2004, where 2002 is the reference years and 2003 is missing from the list due to the lag. The coefficients for the variables years indicate the expected change for the dependent variable relative to the reference year (2002). The LAG-dependentvar can thus

be interpreted as follows: for model 1 a lag in Environment, for model 2 a lag in Social and for model 3 a lag in Governance.

Variables	Model 1: EnvironmentFrance			Model 2: SocialFrance			Model 3: GovernanceFrance		
	Coeff.	Std. Err.	Sig.	Coeff.	Std. Err.	Sig.	Coeff.	Std. Err.	Sig.
BOARDDIV	0.010366	0.016884	*	-0.036683	0.018113	**	-0.028133	0.019318	*
BOARDSIZE	0.142858	0.053618	***	0.162226	0.057556	***	-0.033934	0.061369	*
Factor(DataYear)2004	0.200382	0.669114	*	-1.313453	0.723495	*	0.347716	0.769447	*
Factor(DataYear)2005	2.550959	0.659691	***	-0.060653	0.714172	*	1.094394	0.762172	*
Factor(DataYear)2006	1.681307	0.646826	***	1.883895	0.700206	***	0.829316	0.747107	*
Factor(DataYear)2007	9.170168	0.648044	***	7.324661	0.715892	***	4.703663	0.751861	***
Factor(DataYear)2008	8.463883	0.731719	***	6.410569	0.803601	***	5.641051	0.797167	***
Factor(DataYear)2009	7.687505	0.814471	***	4.636298	0.869577	***	4.232513	0.85923	***
Factor(DataYear)2010	5.493414	0.868249	***	4.615488	0.891679	***	5.319975	0.89411	***
Factor(DataYear)2011	7.231819	0.876404	***	7.159669	0.921356	***	7.244864	0.954313	***
Factor(DataYear)2012	6.743591	0.920595	***	6.309287	0.991143	***	5.747503	1.038518	***
Factor(DataYear)2013	6.243386	0.945003	***	6.40176	1.024115	***	5.80444	1.072941	***
Factor(DataYear)2014	6.366169	0.958171	***	6.591057	1.053406	***	5.950251	1.104906	***
Factor(DataYear)2015	6.54848	0.972728	***	7.844894	1.077731	***	6.707037	1.132034	***
Factor(DataYear)2016	6.696337	1.017157	***	8.138927	1.150042	***	7.230468	1.199202	***
Factor(DataYear)2017	7.328399	1.042124	***	8.713273	1.192442	***	7.937997	1.244026	***
Factor(DataYear)2018	6.766347	1.053118	***	9.274559	1.212075	***	7.690096	1.265954	***
Factor(DataYear)2019	8.506659	1.063007	***	10.79934	1.248345	***	16.188526	1.292077	***
Factor(DataYear)2020	7.731722	1.092384	***	10.913811	1.294505	***	14.34166	1.482389	***
Factor(DataYear)2021	7.795775	1.109153	***	10.294648	1.338194	***	13.078604	1.589509	***
Factor(DataYear)2022	8.679867	1.205763	***	12.069266	1.454635	***	11.014608	1.714812	***
LAG-Dependentvar	0.67942	0.029278	***	0.650293	0.028762	***	0.679779	0.030737	***
n = 37	N = 669								
Adj-R <sup>2</sup> = 0.905	T = 4-20			Adj-R <sup>2</sup> = 0.9226			Adj-R <sup>2</sup> = 0.93829		

Table 8: France, Results of regressions France Note: \* means statistical insignificance; \*\* means statistical significance at 95% level; \*\*\* means statistical significance at 99% level

The results that can be seen in table 8 show the explanatory power of the variables YEAR has on Environmental, Social and Governance scores. Table 8 shows that time has a significant influence on the scores from companies in France. It can be seen that especially for later years the variable is increasing much more. For the Environmental model 1 all years except 2005 have a statistical significance of 99%. 2004 is however not statistically significant. The Social model 2

shows a 99 statistical significance for 2006 and onwards while 2004 and 2005 are statistically insignificant. Model 3 shows statistical significance at 99% level for 2007 onwards.

The LAG-dependentvar shows a positive correlation with the dependent variable for all three models with a statistical significance of 99%. This implies that a previous score for the dependent variable has a significant influence on the next score. By adding a lag this autocorrelation is solved. In model 1 (Environment) the coefficient of 0.67942 means that the 1 unit increase in the lag variable is related to an increase of 0.67942 in the current variable. For model 2 (Social) this coefficient is 0.650293, and for model 3 (Governance) 0.679779.

The variable BOARDSIZE shows a positive correlation with the dependent variable for model 1 and 2. In model 1 an increase of 1 in the variable BOARDSIZE, meaning 1 extra member in the board, causes an increase of 0.142858 in the environmental scores in France. This observation has a statistical significance of 99%. In model 2, 1 extra member in the board leads to an increase of 0.162226 in social scores. These findings are in line with the empirical work of Zahra and Pearce (1989)<sup>xxxix</sup> which showed that when a board is “larger” it reduces the CEO’s ability to dominate the board of directors of a company, this is also directly related to agency theory and upper echelon theory because of the reduction in independence and monitoring of agents. Model 3 however does not show a statistical significance results in the effect of board size on Governance scores.

Board diversity in table 8 shows not the results expected compared to previous studies. In model 1 a negative correlation with the dependent variable can be seen of -0.010366, this coefficient is however statistically insignificant. The same statistical insignificance can be found in model 3. In model 3 there is also an insignificant negative correlation between board diversity and the dependent variable (Governance). Model 2 however does show a statistical significant result at 95% significance. Model 2 shows that if the board diversity increases by 1 percent (meaning 1 more percent women on board) the Social scores of a company in France decrease by 0,036683. This results is contra dictionary with most previous studies which show significance in

board diversity increasing the CSR disclosure for companies (Adam & Ferreira, 2009; Peng et al., 2021; Zahra & Pearce, 1989<sup>xl</sup>). The findings for France are a surprise if compared to the theories mentioned in this paper. The agency theory explains that women have different perspectives (Hillman et al., 2007<sup>xli</sup>). Second off all, women who manage to be on a board were appointed to this function due to excellence in their work instead of connections (homosocial reproduction). As a result the women have more experience and better education compared to their male counterparts. This would lead to think that board diversity inherently has a positive relation with CSR which of no evidence was found.

The adjusted R-squared values for model 1,2 and 3 are 0.905(model 1), 0.9226(model 2) and 0.93829(model3). This value represents the goodness of fit for the models used to research the hypotheses. Due to the high value for all three models it suggest that the three models have a high explanatory power in the effect on the dependent variable.

#### 4.2.2 Hypothesis 1 results

For hypothesis 1 to hold we should be able to reject the null hypothesis for at least 2 of the 3 models used.

H1: A more gender diverse board increases CSR disclosure score for at least 2 of the 3 subgroups for French companies.

The null and alternative hypothesis are the same for the three models:

H0:  $\beta_{1\text{BOARDdiv}} \leq 0$

HA:  $\beta_{1\text{BOARDdiv}} > 0$

$$ENVIRONMENT_{france} = \beta_0 + \beta_1 BOARDdiv + \beta_2 BoardSIZE + \beta_3 YEAR + \beta_4 L(ENVIRONMENT) + \epsilon_i$$

$$SOCIAL_{france} = \beta_0 + \beta_1 BOARDdiv + \beta_2 BoardSIZE + \beta_3 YEAR + \beta_4 L(SOCIAL) + \epsilon_i$$

$$GOVERNANCE_{france} = \beta_0 + \beta_1 BOARDdiv + \beta_2 BoardSIZE + \beta_3 YEAR + \beta_4 L(GOVERNANCE) + \epsilon_i$$

Since model 1(ENVIRONMENT) and model 3(GOVERNANCE) have a non-significant p value for the variable BOARDdiv we fail to reject the null hypothesis for model 1 and model 3. Model 2 did have a significant p value at a 95% statistical significance, but the coefficient is -0.036683 which is below 0 and thus fail to reject the null hypothesis for model 3 as well. For hypothesis 1 to be true at least 2 of the three models should have rejected the null hypothesis which is not the case, we therefore can say there is no statistical evidence in this paper that shows that board diversity increases CSR disclosure for French companies.

#### 4.2.3 Regression analysis – Germany

Table 9 shows model 4,5 and 6 which represents the regression per subgroup for German companies including all the variables. Since a lag of the dependent variable has been implemented the variables indicating years start at 2004, where 2002 is the reference years and 2003 is missing from the list due to the lag. Model 4,5 and 6 do only go to 2020 due to data constraints. The coefficients for the variables years indicate the expected change for the dependent variable relative to the reference year (2002). The LAG-dependentvar can thus be interpreted as follows: for model 4 a lag in Environment, for model 5 a lag in Social and for model 6 a lag in Governance.

Variables	Model 4: EnvironmentGermany			Model 5: SocialGermany			Model 6: GovernanceGermany		
	Coeff.	Std. Err.	Sig.	Coeff.	Std. Err.	Sig.	Coeff.	Std. Err.	Sig.
BOARDDIV	-0.02708	0.031622	*	0.011895	0.035193	*	-0.039407	0.029851	*
BOARDSIZE	0.221475	0.078733	***	0.227912	0.088583	**	0.169968	0.074018	**
Factor(DataYear)2004	0.490456	1.111929	*	-0.912761	1.243573	*	0.899797	1.052737	*
Factor(DataYear)2005	1.170153	1.115093	*	3.198705	1.246893	**	3.052876	1.068976	***
Factor(DataYear)2006	1.727685	1.120285	*	3.026389	1.280153	**	2.577313	1.107739	**
Factor(DataYear)2007	7.145857	1.083813	***	6.890822	1.264159	***	4.580365	1.07702	***
Factor(DataYear)2008	10.282252	1.140408	***	11.958552	1.345047	***	8.257559	1.131242	***
Factor(DataYear)2009	9.64134	1.246973	***	10.843358	1.514157	***	9.314289	1.254801	***
Factor(DataYear)2010	9.355602	1.313973	***	10.858303	1.60076	***	11.40611	1.3522	***
Factor(DataYear)2011	8.79158	1.347311	***	11.035471	1.643284	***	11.547414	1.464189	***
Factor(DataYear)2012	8.890362	1.395171	***	11.900616	1.716196	***	13.62793	1.560421	***
Factor(DataYear)2013	8.970296	1.40975	***	10.935817	1.76642	***	12.014695	1.665323	***
Factor(DataYear)2014	8.893757	1.44113	***	10.936932	1.789134	***	11.702056	1.678808	***
Factor(DataYear)2015	8.792203	1.46558	***	11.13432	1.809971	***	11.9488	1.680015	***
Factor(DataYear)2016	9.09384	1.495618	***	11.465145	1.84185	***	11.864383	1.69917	***
Factor(DataYear)2017	8.513388	1.505552	***	11.479712	1.861643	***	12.427024	1.708763	***
Factor(DataYear)2018	9.329381	1.529248	***	12.523679	1.907502	***	13.528963	1.743327	***
Factor(DataYear)2019	9.587083	1.588931	***	12.472453	1.988049	***	15.596693	1.822465	***
Factor(DataYear)2020	10.022324	1.635474	***	13.362733	2.050769	***	21.383489	1.939349	***
LAG-Dependentvar	0.655371	0.033672	***	0.584219	0.038844	***	0.498512	0.045554	***
n = 31	N = 424								
Adj-R <sup>2</sup> = 0.8929	T = 1-18			Adj-R <sup>2</sup> = 0.90236			Adj-R <sup>2</sup> = 0.91403		

Table 9: Germany, Results of regressions France Note: \* means statistical insignificance; \*\* means statistical significance at 95% level; \*\*\* means statistical significance at 99% level

The results that can be seen in table 9 show the explanatory power of the variables YEAR has on Environmental, Social and Governance scores. Table 9 shows that time has a significant influence on the scores from companies in Germany similar to that of France. It can be seen that especially for later years the variable is increasing much more. For the Environmental model 4 all years except 2004-2006 have a statistical significance of 99%. 2004-2006 are however not statistically significant. The Social model 5 shows a 99% statistical significance for 2007 and onwards while 2005 and 2006 are statistically significant at 99%. 2004 shows statistical insignificance. Model 3 shows statistical insignificance for 2004, statistical significance at 95% level for 2006 and statistical significance at 99% level for all the other years.

The LAG-dependent variable shows a positive correlation with the dependent variable for all three models with a statistical significance of 99%. This implies that a previous score for the dependent variable has a significant influence on the next score. By adding a lag this autocorrelation is solved. In model 4 (Environment) the coefficient of 0.65537 means that the 1 unit increase in the lag variable is related to an increase of 0.65537 in the current variable. For model 5 (Social) this coefficient is 0.584219, and for model 6 (Governance) 0.498512.

The variable BOARDSIZE shows a positive correlation with the dependent variable for all three models in Germany. In model 4 an increase of 1 in the variable BOARDSIZE, meaning 1 extra member in the board, causes an increase of 0.221475 in the environmental scores in Germany. This observation has a statistical significance of 99%. In model 5, 1 extra member in the board leads to an increase of 0.227912 in social scores with a statistical significance of 95%. Model 6 shows a coefficient of 0.169968. These findings are in line with the empirical work of Zahra and Pearce (1989)<sup>xlii</sup> and this is also directly related to agency theory and upper echelon theory because of the reduction in independence and monitoring of agents. Due to the increase in size of the board the dependence on the CEO could decrease leading to better CSR disclosure.

Board diversity in table 9 shows not the results expected compared to previous studies. In the German models no statistical evidence can be found that an increase in board diversity has impact on the disclosure of the ESG topics. This is just like France contradictory with most previous studies which show significance in board diversity increasing the CSR disclosure for companies (Adam & Ferreira, 2009; Peng et al., 2021; Zahra & Pearce, 1989<sup>xliii</sup>). Just like in France these results come as a surprise if compared with the theories in this paper. From the agency theory and upper echelon an outcome where board diversity did have a significant positive impact was to be expected. Unlike the theories the German database does not show that board diversity has an inherently positive relation with CSR disclosure.

The adjusted R-squared values for model 4, 5 and 6 are 0.8929 (model 4), 0.90236 (model 5) and 0.91203 (model 6). This value represents the goodness of fit for the models used to research the

hypotheses. Due to the high value for all three models it suggest that the three models have a high explanatory power in the effect on the dependent variable.

#### 4.2.4 Hypothesis 2 results

For hypothesis 1 to hold we should be able to reject the null hypothesis for at least 2 of the 3 models used.

H2: A more gender diverse board increases CSR disclosure score for at least 2 of the 3 subgroups for German companies.

The null and alternative hypothesis are the same for the three models:

$$H_0: \beta_1 \text{BOARDdiv} \leq 0$$

$$H_A: \beta_1 \text{BOARDdiv} > 0$$

$$\text{ENVIRONMENT}_{germany} = \beta_0 + \beta_1 \text{BOARDdiv} + \beta_2 \text{BoardSIZE} + \beta_3 \text{YEAR} + \beta_4 L(\text{ENVIRONMENT}) + \varepsilon_i$$

$$\text{SOCIAL}_{germany} = \beta_0 + \beta_1 \text{BOARDdiv} + \beta_2 \text{BoardSIZE} + \beta_3 \text{YEAR} + \beta_4 L(\text{SOCIAL}) + \varepsilon_i$$

$$\text{GOVERNANCE}_{germany} = \beta_0 + \beta_1 \text{BOARDdiv} + \beta_2 \text{BoardSIZE} + \beta_3 \text{YEAR} + \beta_4 L(\text{GOVERNANCE}) + \varepsilon_i$$

Since for all three models no significant statistical evidence can be found on the impact of board diversity on CSR disclosure we fail to reject the null hypothesis for the 3 German models. For hypothesis 2 to be true at least 2 of the three models should have rejected the null hypothesis which is not the case, we therefore can say there is no statistical evidence in this paper that shows that board diversity increases CSR disclosure for German companies

#### 4.2.5 Regression analysis - China

Table 7 shows model 7,8 and 9 which represents the regression per subgroup for Chinese companies including all the variables. Since a lag of the dependent variable has been implemented the variables indicating years start at 2004, where 2002 is the reference years and

2003 is missing from the list due to the lag. The coefficients for the variables years indicate the expected change for the dependent variable relative to the reference year (2002). The LAG-dependentvar can thus be interpreted as follows: for model 7 a lag in Environment, for model 8 a lag in Social and for model 9 a lag in Governance.

Variables	Model 7: EnvironmentChina			Model 8: SocialChina			Model 9: GovernanceChina		
	Coeff.	Std. Err.	Sig.	Coeff.	Std. Err.	Sig.	Coeff.	Std. Err.	Sig.
BOARDDIV	0.025693	0.030238	*	-0.0066202	0.0323682	*	-0.0257616	0.0452333	*
BOARDSIZE	-0.039127	0.08381	*	0.1037641	0.0902291	*	0.0092408	0.1269878	*
Factor(DataYear)2004	0.313019	4.185443	*	14.574059	4.5183982	***	-1.0492464	6.2953691	*
Factor(DataYear)2005	2.164731	3.63527	*	-2.077633	3.9085463	*	-0.7552631	5.4625687	*
Factor(DataYear)2006	1.811759	3.675389	*	3.1163117	3.9603559	*	-0.5144754	5.5212303	*
Factor(DataYear)2007	4.968745	3.669351	*	0.0975496	3.9664849	*	2.0024852	5.51214	*
Factor(DataYear)2008	6.332501	3.307942	*	0.3948165	3.5983105	*	6.154689	4.953376	*
Factor(DataYear)2009	3.733544	3.193735	*	3.7337663	3.4620943	*	5.7536141	4.7677251	*
Factor(DataYear)2010	5.538819	3.164564	*	0.4683842	3.437233	*	3.9272109	4.7210325	*
Factor(DataYear)2011	5.512219	3.164687	*	1.3542034	3.4464956	*	7.6548118	4.709122	*
Factor(DataYear)2012	5.840176	3.177337	*	1.0233233	3.4540799	*	8.8079127	4.7437618	*
Factor(DataYear)2013	5.524622	3.182606	*	0.8173074	3.4569727	*	7.1987688	4.7659139	*
Factor(DataYear)2014	5.357294	3.178558	*	0.9485872	3.4535181	*	7.4047325	4.7509578	*
Factor(DataYear)2015	6.139652	3.162857	*	-0.399085	3.4418451	*	8.1946126	4.7257913	*
Factor(DataYear)2016	7.236604	3.175548	**	1.3370917	3.4516485	*	8.8983909	4.7368077	*
Factor(DataYear)2017	8.515682	3.198683	***	1.9402371	3.4843358	*	9.3155066	4.7509289	*
Factor(DataYear)2018	8.672292	3.201814	***	2.2039293	3.4808991	*	10.6548425	4.7258034	**
Factor(DataYear)2019	9.84337	3.242132	***	3.2608892	3.5212874	*	15.758646	4.7474621	***
Factor(DataYear)2020	10.106064	3.292337	***	3.984457	3.5748545	*	16.7440958	4.837911	***
Factor(DataYear)2021	11.667198	3.333586	***	5.4157343	3.6318519	*	19.9355858	4.9130519	***
Factor(DataYear)2022	12.792333	3.39137	***	5.0935502	3.6853679	*	23.1452843	5.0322692	***
LAG-Dependentvar	0.646902	0.049889	***	0.6777066	0.0487754	***	0.4876598	0.0519103	***
n = 46	N = 377								
Adj-R <sup>2</sup> = 0.79976	T = 4-20			Adj-R <sup>2</sup> = 0.78057			Adj-R <sup>2</sup> = 0.78534		

Table 10: China, Results of regressions France Note: \* means statistical insignificance; \*\* means statistical significance at 95% level; \*\*\* means statistical significance at 99% level

The results that can be seen in table 10 show a much less significance in the variable YEARS compared to the French and German regressions. This can be explained by the severe data constraint China has in the earlier years leading to much less observation compared to the other

databases. For the Environmental model 7, the coefficient in 2016 has a statistical significance of 95% and the years after have a significant level of 99%. In model 8 it can be seen that none of the years except for 2004 is significant. Only 2004 has a significant effect on the dependent variable Social in China with a statistical significance of 99%. Model 9 shows that from 2018 onwards, years has a significant impact on the governance scores in Chinese companies with at least 95% confidence.

The LAG-dependentvar shows a positive correlation with the dependent variable for all three models with a statistical significance of 99%. This implies that a previous score for the dependent variable has a significant influence on the next score. By adding a lag this autocorrelation is solved. In model 7 (Environment) the coefficient of 0.646902 means that the 1 unit increase in the lag variable is related to an increase of 0.646902 in the current dependent variable. For model 8 (Social) this coefficient is 0.6777066, and for model 9 (Governance) 0.4876595.

The variable BOARDSIZE shows unlike France and Germany no statistical significance that board size has an impact on the dependent variable for all three of the Chinese models. This could be due to the data constraint China faces. Board diversity in table 10 shows a similar results to Board size. There is again no statistical significance found in the Chines database. Since the data for China is skewed where some companies have data going back to 2002 and other companies only date back to 2017 the variable expressing the effect of board diversity cannot be easily compared with other values of different companies since only a few companies date back to 2002. Due to this the value of board diversity for company x can only be compared with 1 or 2 companies in that same year. This lack of data explains the lower explanatory power.

The adjusted R-squared values for model 1,2 and 3 are 0.79976(model 7), 0.78057 (model 8) and 0.78534(model9). This value represents the goodness of fit for the models used to research the hypotheses. Due to the high value for all three models it suggest that the three models have a high explanatory power in the effect on the dependent variable.

#### 4.2.5 Hypothesis 3 results

For hypothesis 3 to hold we should be able to reject the null hypothesis for at least 2 of the 3 models used.

H3: A more gender diverse board increases CSR disclosure score for at least 2 of the 3 subgroups for Chinese companies.

The null and alternative hypothesis are the same for the three models:

$$H_0: \beta_1 \text{BOARDdiv} \leq 0$$

$$H_A: \beta_1 \text{BOARDdiv} > 0$$

$$\text{ENVIRONMENTChina} = \beta_0 + \beta_1 \text{BOARDdiv} + \beta_2 \text{BoardSIZE} + \beta_3 \text{YEAR} + \beta_4 L(\text{ENVIRONMENT}) + \varepsilon_i$$

$$\text{SOCIALChina} = \beta_0 + \beta_1 \text{BOARDdiv} + \beta_2 \text{BoardSIZE} + \beta_3 \text{YEAR} + \beta_4 L(\text{SOCIAL}) + \varepsilon_i$$

$$\text{GOVERNANCEChina} = \beta_0 + \beta_1 \text{BOARDdiv} + \beta_2 \text{BoardSIZE} + \beta_3 \text{YEAR} + \beta_4 L(\text{GOVERNANCE}) + \varepsilon_i$$

Since all three Chinese model shows a statistical insignificance for the impact of board diversity on the respective dependent variable we fail to reject the null for all models in China. For hypothesis 1 to be true at least 2 of the three models should have rejected the null hypothesis which is not the case, we therefore can say there is no statistical evidence in this paper that shows that board diversity increases CSR disclosure for Chinese companies.

#### 4.2.6 regression analysis – India

Table 8 shows model 10,11 and 12 which represents the regression per subgroup for Indian companies including all the variables. Since a lag of the dependent variable has been implemented the variables indicating years start at 2009, where 2007 is the reference years and 2008 is missing from the list due to the lag. Model 10, 11 and 12 start from 2007 due to data constraints in the earlier years. The coefficients for the variables years indicate the expected change for the dependent variable relative to the reference year (2007). The LAG-dependentvar

can be interpreted as follows: for model 10 a lag in Environment, for model 11 a lag in Social and for model 12 a lag in Governance.

Variables	Model 10: EnvironmentIndia			Model 11: SocialIndia			Model 12: GovernanceIndia		
	Coeff.	Std. Err.	Sig.	Coeff.	Std. Err.	Sig.	Coeff.	Std. Err.	Sig.
BOARDDIV	-0.004064	0.0247276	*	-0.0002281	0.02182526	*	0.021322	0.030895	*
BOARDSIZE	-0.106929	0.0697211	*	-0.0496943	0.06097468	*	-0.079697	0.087896	***
Factor(DataYear)2009	0.0480109	1.3134382	*	-1.4540251	1.15286138	*	0.484457	1.642284	***
Factor(DataYear)2010	0.7510307	1.2729538	*	-1.8243737	1.11651905	*	-0.294414	1.595376	***
Factor(DataYear)2011	0.5073425	1.2459980	*	-0.5528460	1.09131283	*	1.439853	1.561105	***
Factor(DataYear)2012	0.0942804	1.2273385	*	-0.7372258	1.07511556	*	2.034244	1.544197	***
Factor(DataYear)2013	0.7959640	1.2305313	*	0.21671835	1.07875293	*	3.005841	1.558597	***
Factor(DataYear)2014	0.0968313	1.2311949	*	0.03097803	1.08338795	*	2.276918	1.573933	***
Factor(DataYear)2015	-0.509355	1.2412365	*	0.15410738	1.09594275	*	3.260330	1.587695	***
Factor(DataYear)2016	0.2097265	1.2454550	*	0.44691351	1.10782830	*	2.817311	1.612413	***
Factor(DataYear)2017	0.4814746	1.2522528	*	0.47546078	1.11792653	*	3.712872	1.623644	***
Factor(DataYear)2018	0.8810080	1.2625953	*	0.73542549	1.12876494	*	3.918613	1.646741	***
Factor(DataYear)2019	1.6563816	1.2814502	*	2.49397783	1.14436728	**	7.301219	1.674990	***
Factor(DataYear)2020	1.4557788	1.3035100	*	2.34446939	1.17632121	**	11.642447	1.754041	***
Factor(DataYear)2021	1.2808851	1.3061526	*	2.29720734	1.19260161	*	9.883491	1.893661	***
Factor(DataYear)2022	1.6149588	1.3363615	*	3.11015132	1.22669946	**	10.254112	1.980551	***
LAG-Dependentvar	0.7361992	0.0314650	***	0.69997371	0.03260210	***	0.618550	0.041279	***
n = 46	N = 508								
Adj-R <sup>2</sup> = 0.69139	T = 2-15			Adj-R <sup>2</sup> = 0.80735			Adj-R <sup>2</sup> = 0.85458		

Table 11: India, Results of regressions France Note: \* means statistical insignificance; \*\* means statistical significance at 95% level; \*\*\* means statistical significance at 99% level

The results that can be seen in table 11 show the explanatory power of the variables YEAR has on Environmental, Social and Governance scores. Table 11 that time only has a significant influence in model 12 where governance is the dependent variable. Model 11 only shows significance for 2019, 2020 and 2022 while model 10 shows no statistical evidence for the variable year.

The LAG-dependentvar shows a positive correlation with the dependent variable for all three models with a statistical significance of 99%. This implies that a previous score for the dependent variable has a significant influence on the next score. By adding a lag this autocorrelation is solved. In model 10 (Environment) the coefficient of 0.7361992 means that the 1 unit increase in the lag variable is related to an increase of 0.7361992 in the current variable. For model 11 (Social) this coefficient is 0.69997371, and for model 12 (Governance) 0.618550.

The variable BOARDSIZE shows a negative correlation with the dependent variable for model 12 of -0.079697 meaning if 1 extra member is added to the board the governance scores in India decrease by 0.079697 with a statistical evidence of 99%. The other Indian model show no statistical evidence that board size impacts the dependent variables. This could again be seen as a surprise when comparing with the upper echelon due to the loss of power of the CEO and thus increase of CSR disclosure suggested in these theories.

Board diversity in table 11 shows not the results expected compared to previous studies. In all three Indian model no statistical evidence can be found that board diversity has an impact on the CSR disclosures. This results is contra dictionary with most previous studies which show significance in board diversity increasing the CSR disclosure for companies (Adam & Ferreira, 2009; Peng et al., 2021; Zahra & Pearce, 1989<sup>xliv</sup>).

The adjusted R-squared values for model 10,11 and 12 are 0.69139(model 10), 0.80735(model 11) and 0.85458(model12). This value represents the goodness of fit for the models used to research the hypotheses. Due to the high value for all three models it suggest that the three models have a high explanatory power in the effect on the dependent variable.

#### 4.2.7 Hypothesis 4 results

For hypothesis 4 to hold we should be able to reject the null hypothesis for at least 2 of the 3 models used.

H4: A more gender diverse board increases CSR disclosure score for at least 2 of the 3 subgroups for Indian companies.

The null and alternative hypothesis are the same for the three models:

$$H_0: \beta_1 \text{BOARDdiv} \leq 0$$

$$H_A: \beta_1 \text{BOARDdiv} > 0$$

$$\text{ENVIRONMENTIndia} = \beta_0 + \beta_1 \text{BOARDdiv} + \beta_2 \text{BoardSIZE} + \beta_3 \text{YEAR} + \beta_4 L(\text{ENVIRONMENT}) + \epsilon_i$$

$$\text{SOCIALIndia} = \beta_0 + \beta_1 \text{BOARDdiv} + \beta_2 \text{BoardSIZE} + \beta_3 \text{YEAR} + \beta_4 L(\text{SOCIAL}) + \epsilon_i$$

$$\text{GOVERNANCEIndia} = \beta_0 + \beta_1 \text{BOARDdiv} + \beta_2 \text{BoardSIZE} + \beta_3 \text{YEAR} + \beta_4 L(\text{GOVERNANCE}) + \epsilon_i$$

Since all three Indian model show a statistical insignificance for the impact of board diversity on the respective dependent variable we fail to reject the null for all models in India. For hypothesis 4 to be true at least 2 of the three models should have rejected the null hypothesis which is not the case, we therefore can say there is no statistical evidence in this paper that shows that board diversity increases CSR disclosure for Indian companies.

### 4.3 Overall findings

The main findings given by the regression analysis differ per country. For the western countries in this paper, significance was to be found for multiple variables including board size, years and the lag of the dependent variable. The non-western countries however show very limited significance, only the lag of the dependent variable and certain later years in the models including the total model for Indian governance scores show significance. If we look at the western countries the findings showing a positive relation between board size and CSR disclosure in conformity with the upper echelon theory and empirical findings shown in this paper. However this theoretical conformity cannot be found for board diversity. Both the western and non-western countries showed no positive relation between board diversity and CSR disclosure and thus opposing the thoughts of previous studies.

## 5 Discussion

It is important to discuss the final results in this paper due to the differences it has with many previous studies. Board size did show to have a positive correlation with the CSR disclosure in western countries, which was also proven by Zahra and Pearce (1989)<sup>xlv</sup> and is also in line with agency theory and upper echelon theory. Board diversity however did not show the results as expected if compared to previous studies. The variable board diversity was mostly insignificant over the models and in the case it was significant it showed a very small negative coefficient. It is thus important to know how and why this result differ from many previous studies.

The objective of this paper is to research the impact board diversity has on CSR disclosure. The difference between this paper and many previous paper is the combination of multicountry and multiyear analysis where previous studies had multiple years or multiple countries, but rarely both. Even though this paper has differences the expectation was to find a positive relation between board diversity and CSR disclosure due to previous studies (Adam & Ferreira, 2009; Peng et al., 2021; Zahra & Pearce, 1989<sup>xlvi</sup>).

What can be seen with the eye in figure 1 to 8 in the descriptive statistics section of this paper is that both board diversity and the CSR disclosure scores are increasing over time for all 4 countries in this paper. This paper thus does not question if there is a relation, but questions the causality between the two. A possible reason is the women are not hired due to their skills, but rather for a symbolic reason (Bilimoria, 2006)<sup>xlvii</sup>. The symbolic reason entails that the presence of women on board gives a signal to the employees of that company places value on these matters which in turn improves the reputation (Bilimoria, 2006). This importance in legitimizing the organization is also in line with 2 of the theories discussed in the literature review part of this paper. The legitimacy theory Terjesan et al. (2016)<sup>xlviii</sup> suggests that firms with female directors do not only have a better financial performance, but they also send a message to the community due to the ethical behavior of the organization. The legitimacy theory entails the existence of a social contract between the norms and values of a community and the organization. For a company to be successful it should maintain this social contract and thus act in conformance with the norms and values of the environment they work in. The other theory that can explain this

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phenomena is the Institutional theory which stated that markets can be seen as fields where firms watch one another and copy actions of other firms (DiMaggio & Powell, 1983<sup>xlix</sup>).

Due to increased societal expectations, which includes CSR disclosure, an increase can be seen in funds invested in social, environmental and governance activities (Chan et al., 2013<sup>l</sup>). Women in boards can be seen as a symbolic reason and also send a message to the public as stated by Terjesan et al. (2016)<sup>li</sup> and Bilimoria, (2006)<sup>lii</sup>, this could increase due to the growing popularity of CSR disclosure since gender diversity itself can be seen as a CSR activity. This would in turn explain why board diversity is not significant in this paper, but years is, since we see that over the years CSR disclosure has grown in the 4 countries researched. This paper thus shine slight on the causality of board diversity and gives another viewpoint that board diversity does not cause a better CSR disclosure, but is part of the growing CSR disclosure trend.

It is important to note that the hypotheses in this research paper are informed by certain theories, thus the hypotheses that are formulated are natural extensions of the theories studied. The theoretical pluralism approach acknowledges the coexistence of multiple theories that could explain certain outcomes, thus also conflicting theories and outcomes. Two theories that could explain why board diversity does not have a significant positive effect on CSR disclosure are: Resource-based view theory and path dependency theory. The article by McGuire et al. (1988)<sup>liii</sup> finds the importance of previous financial performance in respect to CSR, another finding in the paper is that accounting measures are better predictors of CSR than market measures are. This could be explained by the resource-based view since this theory claims an organizations competitive advantage can be gained by valuable, rare, inimitable resources (Kraaijenbrink et al., 2009<sup>liiv</sup>). According to this view the importance of board diversity can be questioned if not seen as a resource with these characteristics. The article by McGuire et al. (1988)<sup>liv</sup> showed other factors like profitability of an organization had significant impact on CSR, which in turn questions if board diversity is the main variable causing CSR change. This because other resources have a significant impact on CSR, in line with the resource-based view.

The other important theory is the path dependency theory, the path dependency theory states that the start of a condition is important to its further development. The “path” is thus partly influenced by where the path started (Hooker, 2019<sup>lvi</sup>). In terms of CSR disclosure this would mean if a company would have started disclosing their CSR activities in 2006, that this starting point is important for the path taken after. If a company starts off with a specific CSR score it is expected by path dependency theory that this CSR score will have significant influence on the following CSR scores. One of the variables in this paper that was consistently showing a significant positive relation with the CSR disclosure scores is the lag of the dependent variable, thus the previous value of the CSR subgroup researched, this is in line with what the path dependency theory states.

The new insights of opposing theories show the complexity and multifaceted nature of the relation between board diversity and CSR disclosure. In isolation, no evidence was found of board diversity having impact on CSR disclosure in this paper. This does not mean however that board diversity has no impact at all. As the resource-based view would suggest there are multiple variables that influence the disclosure of a company. This paper thus implies the importance of the relation between board diversity and other possible variables.

The R-squared values in this paper for all of the models are fairly high which is generally good since it explains the strong relationship between the variables in the models. However the acceptability of this high value is somewhat arbitrary. While the R-squared values are arbitrary, the values in this paper can be accepted due to consistent findings in similar studies.

## 6 Conclusion

Due to the growing importance of the stakeholder view and growing emphasis on CSR practices it is now an essential part of companies to disclose their CSR practices. In this paper we researched whether board diversity has impact on this CSR disclosure, which of no evidence was given. This however does not imply board diversity is not important. Previous studies have shown that board diversity still has a positive impact on organizational structure and other facets of the company. Shown in this paper is the increase in board diversity over the years. It is thus important for organizations to implement new policies to give new members of the board the resources and support in order for them to increase their competencies. These measures could go from training programs to network options. Another policy for organizations to implement is reviews and evaluation. As seen there are some contradictory views on what can influence the CSR disclosure capability of companies. That is why it is important to evaluate the performances of the new members, not only to look at the individual performance, but mainly to evaluate if new members have been given the correct support and resources to extract the maximum capability of the individual. If evaluated and monitored regularly the board can identify areas which need improvement, which could range from financial aspects to cultural aspects. Since the findings show no inherent significance, but opposing theories also explain the multifaceted environment of board diversity it is important for organizations to create a culture where inclusion is important, where diverse perspectives are tolerated. By encouraging such a culture by the board, a diverse board could give new insight which could lead to improved CSR practices.

This paper suggests multiple insights and possible future research. As mentioned one of the limitations in this study is the data constraint in particular for non-western countries. A possible solution for this problem in further research is the use of data imputation. While data imputation manually would be very time consuming due to the nature of the data set size, a helpful tool could be machine learning. With machine learning the main advantage is the scalability it provides for the data thus solving for the data constraint in future research. This increase in scale would help improve the explanatory power of variables especially in the non-western countries where data

was more difficult to find. This increase of explanatory power is driven by the increase of observation and thus comparability in the datasets.

This paper calls into question the inherent ability of board composition to influence CSR disclosure. The results and opposing theories have shown the complexity of the cause-effect mechanism for CSR disclosure in companies. This paper suggests there are many variables within the organizational environment that could have impact on CSR disclosure. The resource-based view and path dependency theory have shown multiple other factors outside of board composition which could have significant impact on the CSR disclosure of a company. Due to this paper confronting the traditional view, it leads to new research opportunities which inquire critical thinking and depth of understanding the multi-faceted environment of CSR disclosure. A possible direction for future research is the research of the impact board diversity has on CSR disclosure in absence and in presence of supporting variables of board diversity. These variables could include: training programs for board, network opportunities, but also financial measures such as profitability of a company. By researching this topic the relationality can be researched of board diversity with other variables instead of board diversity in isolation. This paper can thus be seen as a starting point for researching how different variables can empower and complement each other in the realm of organizations and CSR disclosure.

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## END NOTES

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