

Disclosures of diversity: a study of whether Swedish firms talk their walk

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Abstract

Societal demands for sustainability in combination with laws and regulations on how to report on sustainability have enforced firms to both act on stakeholders' demands and to report in accordance with laws and regulations. Diversity has become an essential part of sustainability, and diversity in the context of the board room is of particular interest. Despite numerous efforts to diversify boards of directors, progress is slow and therefore, EU passed a directive on disclosures of diversity that Sweden implemented through an amendment to the Swedish Annual Accounts Act effective from January 1st, 2017. This is a unique opportunity to study how legislative changes affect disclosure practise. Thus, this thesis examines Swedish firms listed on a regulated stock exchange in Sweden and level of quality of their disclosures of diversity policy using data on 2016 and 2017. The level of quality is assessed through a content analysis and an indexing procedure developed by the authors of this thesis. The purpose of this thesis is to examine quality of disclosures of diversity policy in accordance with the amendment to the Swedish Annual Accounts Act. The outcome of the amendment is investigated as well as the association between board of directors' characteristics and disclosures of diversity policy. On average, there is a statistically significant increased level of disclosures from 2016 to 2017 among firms included in the sample. That is, without considering other events, the legal requirement to disclose on a diversity policy seems to affect how firms disclose. However, results do not indicate any significant association between board of directors' characteristics and disclosures of diversity policy, hence homogeneous boards of directors' seem to be as good as diverse boards of directors' at emphasising disclosures of diversity policy.

Keywords: Diversity Policy, Board of Directors, Board Room, EU Directive, Disclosures
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Table of contents

1. Introduction.....	4
2. Background	7
2.1. The EU Directive.....	7
2.1.1. Objectives of the EU Directive	7
2.1.2. Diversity policy	7
2.2. Implementation of the EU Directive in Swedish law	8
2.2.1. The Swedish Annual Accounts Act	8
2.2.2. The Swedish Corporate Governance Code	8
2.2.3. Auditing of the diversity policy	9
2.3. Sustainability, diversity and disclosures	9
2.3.1. History and dimensions of sustainability	9
2.3.2. Progress towards diversity and disclosures of diversity	10
3. Theoretical framework and hypotheses	12
3.1. Implementation of a new standard.....	12
3.1.1. Accounting harmonisation.....	12
3.1.2. Outcomes of other laws and regulations	13
3.1.3. Rule-based versus principle-based standards	13
3.2. Corporate governance	14
3.2.1. Principal agent theory.....	14
3.2.2. Board of directors.....	14
3.2.3. Shareholder versus stakeholder approach	15
3.3. Diversity	15
3.3.1. Social categorisation	15
3.3.2. Positive and negative aspects of diversity	15
3.3.3. Context related outcomes of diversity	16
3.4. Disclosures	17
3.4.1. Disclosure economics	17
3.4.2. Legitimacy theory.....	18
3.4.3. Signalling theory	19
3.4.4. Cost versus benefit	19
3.4.5. Association between diversity and disclosures	19
3.5. Hypotheses formulation.....	20
4. Method	21
4.1. Scientific approach	21
4.2. Data sources	21
4.3. Sample selection.....	21
4.4. Data quality insurance and manual adjustments	23
4.5. Content analysis and its score	23
4.5.1. Benchmark study	23

4.5.2. Indexing procedure	24
4.6. Objectivity, reliability and validity	26
4.7. Regression models.....	26
4.7.1. Dependent variable	27
4.7.2. Explanatory variables	27
4.7.3. Control variables	29
4.7.4. Regression diagnostics	31
5. Results	34
5.1. Descriptive statistics	34
5.2. Univariate results	36
5.2.1. Univariate results of score	36
5.2.2. Univariate results of disclosure items	36
5.2.3. Preliminary conclusions of univariate results	40
5.3. Results from estimated regressions	41
5.3.1. Outcome of the introduction of the legal requirement	41
5.3.2. Association between board characteristics and disclosures of diversity	43
5.3.3. Preliminary conclusions of estimated regressions.....	45
6. Conclusions	46
6.1. Discussion.....	46
6.2. Contribution.....	48
6.3. Limitations	49
6.4. Areas for future research.....	49
7. References	51
8. Appendix	58

1. Introduction

“Anders is no longer the king of the hill. Anna advances from rank 17 to 15.”
- Amanda Lundeteg, CEO of Allbright

Involvement in sustainability is a controversy. Stakeholders require it, firms act to show awareness of it and standard setters design laws and regulations on how to report on it. Societal demands for sustainability in combination with laws and regulations on how to report on it have enforced firms to both act in accordance with stakeholders' demands and to report in accordance with laws and regulations (Deegan, 2002). The controversy of sustainability stems from the fact that firms, stakeholders and standard setters are not necessarily aligned. Stakeholders may call for actions that firms can or cannot deliver upon, standard setters succeed or fail to efficiently issue laws and regulations on the topic of which firms are better or worse at complying with.

“Anyone who can only think of only one way to spell a word obviously lacks imagination.”
- Mark Twain

Today, diversity is an essential part of sustainability. Stakeholders' minds on diversity have precipitated firms to act towards diversity and standard setters to issue disclosure requirements for users of information to easily compare firms and their progress. Although there is an increasing focus on diversity in all aspects of the society, board room diversity is of particular interest. Stakeholders require board room diversity but despite numerous efforts to diversify boards of directors, progress is slow (Allbright, 2018). One main reason seems to be that individuals prefer surrounding themselves with similar others and this ends up with men recruiting men. The Swedish Government and Swedish standard setters have issued several statements emphasising that diversity must be prioritised when composing boards of directors (Regeringskansliet, 2016; Kollegiet för svensk bolagsstyrning, 2017). Nevertheless, firms seem to continue hiring Anderses that are 50 plus years and live in a suburb of Stockholm. There is an increased concern among stakeholders that Swedish boards of directors are not diverse, and firms can no longer get away with boards of directors merely made up of five Anderses. One would expect that embracing board room diversity leads to a greater repertoire of candidates, as well as multiple interpretation and perspectives which leads to a more thoughtful decision-making process (Hambrick, Cho & Chen, 1996). Whitewashing is not tolerable anymore; anyone who can only spell the words board of directors with Anderses obviously lacks imagination.

To increase momentum, standard setters have decided to use disclosures as a tool to increase board room diversity. In 2014, EU passed a directive requiring all listed firms within EU, and above certain size criteria, to disclose on a diversity policy with regards to their board of directors (Directive 2014/95/EU). Sweden implemented the EU Directive through an amendment to the Swedish Annual Accounts Act, and from 2017, these firms have to provide disclosures of their diversity policy in their Corporate Governance Reports (SFS 1995:1554). The disclosures must include how the diversity policy is applied and the results of it. The requirement to disclose on a diversity policy is anticipated to make firms act to increase board room diversity as well as to provide stakeholders with valuable information on the progress towards diversity. Up to this point in time, no one has yet investigated the effects of the EU Directive, which naturally makes this thesis contribute to existing literature and an interesting contribution relevant for firms, stakeholders and standard setters.

The purpose of this thesis is to examine quality of disclosures of diversity policy in accordance with the amendment to the Swedish Annual Accounts Act. This thesis thus search to answer the following research question:

What is the outcome of the introduction of the legal requirement to disclose on a diversity policy as well as the association between board of directors' characteristics and disclosures of diversity policy?

The first part of the research question, referring to the outcome of the legal requirement, aims at the amendment to the Swedish Annual Accounts Act and the requirement to disclose on a diversity policy (SFS 1995:1554). This is examined through a multiple linear regression model using data on 2016 and 2017. Disclosures of diversity policy presented by firms that are subject to the amendment in the Swedish Annual Accounts Act are compared to disclosures of diversity policy presented by firms that are not. Outcome aims at the change in quality of the disclosures before and after the amendment to the Swedish Annual Accounts Act came into force. Quality of the disclosures of diversity policy is measured through a content analysis and an indexing procedure developed by the authors of this thesis, supported by Wiseman (1982) for academic rigor. The content analysis assesses the quality of the disclosures based on what EU and Swedish standard setters indicate as relevant. Level of disclosures does, from here on, refer to level of quality of disclosures.

The second part of the research question relates to whether diverse boards of directors present disclosures of diversity policies that are of different quality than homogeneous boards of directors. Quality of the disclosures is determined through the same content analysis as describe above. Board room diversity refers to the three characteristics (assumed to be of equal importance) gender,¹ citizenship,² and age. These three facets of diversity are not all inclusive as there might be other facets relevant in the context of diversity (Harrison, Klein, 2007; Rose, 2007). However, the facets are chosen based on recommendations and viewpoints from EU and Swedish standard setters as well as the availability of credible data. The association between board of directors' characteristics and quality of disclosures of diversity policy is estimated through a multiple linear regression model, which solely refers to 2017.³

The sample consists of 252 firms where Corporate Governance Reports of both 2016 and 2017 are assessed through the content analysis. In total, 504 Corporate Governance Reports are hand-collected and assessed. All firms included in the sample are listed on a regulated stock exchange in Sweden and approximately 81 % of these firms are required to disclose on a diversity policy in accordance with the amendment to the Swedish Annual Accounts Act. Only disclosures in the Corporate Governance Reports are assessed (in accordance with the amendment to the Swedish Annual Accounts Act), and nowhere else. Sweden is considered an appropriate context to investigate the outcome of the EU Directive in since Sweden scores high on level of shareholder governance, strength of auditing and reporting standards as well as efficiency of legal frameworks (World Economic Forum, 2018), hence one might assume that Sweden and Swedish firms implement the EU Directive in a serious manner.

Results suggest that the outcome of the introduction of the legal requirement to disclose on a diversity policy is significant. However, results do not indicate any significant association between board of directors' characteristics and disclosures of diversity policy.

Regarding the outcome of the introduction of the legal requirement, on average, firms included in the sample increase their level of disclosures from 2016 to 2017 and this increase is significant. The greatest increase is among the firms that are obliged to disclose on a diversity policy and this increase is significant as well. Firms not required to disclose on a diversity policy

¹ Gender is defined as whether the board member is legally defined as female or male.

² Citizenship is defined as whether the board member holds a Swedish personal identity number or not.

³ Data sources do not provide comparable figures on board members' characteristics.

also experience a slight increase in their level of disclosures, but this increase is not significant. Even though the whole sample experiences an increase, the highest score is the same in 2016 and 2017, which indicates that there are firms that are early adopters and ahead of law. In other words, there is a shift in average performance among all firms included in the sample, but the highest score received does not change from 2016 to 2017.

Regarding the association between board of directors' characteristics and disclosures of diversity policy, results do not support any significant association. Gender has a stronger association to the level of disclosures than the other two characteristics citizenship and age but when estimating a regression on all three variables including control variables, gender is subsumed by the control variables.

To conclude, the results imply that a legal requirement seems to be an efficient tool to increased quality of disclosures of diversity policy if disregarding potential effects from other events. This is a valuable insight for further support for the belief that standard setters play an essential role when designing laws and regulations. Also, results do not suggest that diverse boards of directors provide disclosures of diversity policy of higher quality than homogeneous boards of directors. It seems that Anders is as good as Anna to disclose on diversity matters. The results are of unique nature since no other research has yet investigated the outcome of EU Directive. Also, it seems that no other research has used similar facets of diversity or an equivalent sample of firms. Hence, this thesis both adds to prevailing research and provides valuable knowledge for firms, stakeholders and standard setters.

The remainder of this thesis is structured as follows: Section 2 describes the background of the EU Directive and the subsequent amendment to the Swedish Annual Accounts Act. Section 3 reviews relevant prior research and states the hypotheses associated with the research question. Section 4 explains the methodology applied including data collection and sample selection as well as a description of the regression models. Section 5 presents the results of this thesis. Lastly, Section 6 discusses and concludes the results, the contribution to existing literature, the limitations and the suggestions for future research.

2. Background

In Section 2.1 and Section 2.2, the EU Directive and the subsequent amendment to the Swedish Annual Accounts Act are explained, both the technical requirements in the EU Directive as well as how Swedish standard setters chose to implement the EU Directive. Also, a general description of sustainability and its historical development are elaborated upon in Section 2.3, which also includes a summary of previous attempts to increase board room diversity. These sections serve to provide a broad understanding of the origin of the amendment to the Swedish Annual Accounts Act before going into relevant prior research.

2.1. The EU Directive

This section provides a technical description of the EU Directive including its objectives and requirements as well as underlying reasons to why the EU Directive was passed. Since this thesis investigates the outcome of the amendment to the Swedish Annual Accounts Acts and since the amendment to the Swedish Annual Accounts Act is based on the EU Directive, one must first grasp the EU Directive and its objectives before looking into how it is implemented in Swedish laws and regulations in Section 2.2.

2.1.1. Objectives of the EU Directive

In October 2014, EU passed a directive which requires large firms to disclose certain non-financial information in their annual reports. Firms that are subject to the EU Directive must, for financial years starting on January 1st, 2017 and afterwards, disclose in accordance with the EU Directive. All EU member states must bring into force all necessary laws and regulations to ensure compliance with the EU Directive (Directive 2014/95/EU).

The objectives of the EU Directive are to increase relevance, consistency and comparability of disclosures of non-financial information to increase investor and consumer trust. Also, the EU Directive serves as an indirect pressure on firms to compose more diverse boards of directors since board room diversity is desirable and to be strived for according to EU. Arguments emphasised in the EU Directive are, for example, that diversity will enable individuals to constructively challenge management decisions and that it addresses group thinking. The EU Directive is believed to work as a facilitator to increase board room diversity of firms that are subject to the disclosure requirements. Similarly, EU considers transparency through disclosures as a pressure to act towards diversity. This reveals that there are objectives directed towards outside investors and consumers to build trust, as well as objectives towards management to increase diversity (Directive 2014/95/EU).

2.1.2. Diversity policy

In the EU Directive, the non-financial information is divided into two dimensions: a social dimension and an environmental dimension. The social dimension concerns actions towards improving gender equality, working conditions, social dialogue and respect for trade union rights among other examples (Directive 2014/95/EU). This thesis focuses on the social dimension of non-financial information as diversity is a part of this dimension.

Firms that are subject to the EU Directive are obliged to disclose on a diversity policy in their Corporate Governance Reports. This diversity policy aims at the administrative, management and supervisory body, but the EU Directive clarifies that its objective refers to the board of directors. Firms subject to the EU Directive should provide a fair and comprehensive description of their diversity policy, how it has been implemented, its objectives, its outcomes and its risks. The EU Directive emphasises the importance of being transparent with regards to the diversity policy although it provides no binding guidelines regarding the content itself or any concrete examples of what to disclose in the diversity policy. However, some aspects are mentioned as relevant for the diversity policy, such as age, gender or educational and professional background. Since there are no binding guidelines, disclosing in accordance with the EU Directive requires judgements about scale and gravity of what to disclose. To facilitate

implementation of the EU Directive, the European Commission prepared non-binding guidelines for firms to rely on (Directive 2014/95/EU).

The EU Directive does not provide a definition of a large firm but it states that large firms are required to comply. Due to the administrative burden, small and medium-sized firms should be exempted from the requirement. Besides these requirements, EU member states have the possibility to require disclosures from firms other than those suggested by the EU Directive, as long as the EU member state ensures compliance with the EU Directive. In other words, the EU Directive serves a minimum requirement (Directive 2014/95/EU).

2.2. Implementation of the EU Directive in Swedish law

As the EU Directive and its technicalities are outlined above in Section 2.1, below follows a description of how the EU Directive is implemented in Swedish law and relevant regulatory frameworks in Sweden. These are important areas, because this thesis investigates disclosures of diversity policy in a Swedish setting.

2.2.1. The Swedish Annual Accounts Act

The EU Directive is implemented in the Swedish Annual Accounts Act and the requirement to disclose on a diversity policy is explicitly implemented in chapter 6, section 6 and second paragraph point 9. This amendment states that firms that fulfil two or more of the following size criteria for each of the last two financial years must disclose on a diversity policy in their Corporate Governance Report from 2017 and onwards:

- Average number of employees has exceeded 250
- Reported balance sheet total has exceeded 175 MSEK
- Reported net turnover has exceeded 350 MSEK⁴

The Swedish Annual Accounts Act states that solely firms that are listed on a regulated stock exchange in Sweden are obliged to issue a Corporate Governance Report (SFS 1995:1554). There are two regulated stock exchanges in Sweden: Nasdaq Stockholm and NGM Equity. The different Market Cap Segments are Nasdaq Stockholm Large Cap, Nasdaq Stockholm Mid Cap, Nasdaq Stockholm Small Cap, NGM Equity and Nordic AIF. Market capitalisation (size) determines which Market Cap Segment a firm belongs to (Aktiemarknadsnämnden, n.d.; Nasdaq, n.d.; Nordic Growth Market, n.d.; Nordic Growth Market, n.d.).

The Swedish Annual Accounts Act states that disclosures of diversity policy should include the objectives of the diversity policy, how the diversity policy has been implemented and the results of it. However, if a firm does not apply a diversity policy, the reasons for this should be disclosed (SFS 1995:1554). In accordance with the EU Directive, the Swedish Annual Accounts Act allows for the Corporate Governance Report to be disclosed separately from the Management report, but if so, it must be referred to in the Management report that the Corporate Governance Report is available elsewhere. However, regardless of location of the Corporate Governance Report, it must include a diversity policy or an explanation of why a diversity policy is not applied (SFS 1995:1554).

2.2.2. The Swedish Corporate Governance Code

The Swedish Corporate Governance Code, issued by the Swedish Corporate Governance Board, acts as a complement to Swedish regulations such as the Swedish Annual Accounts Act. The Swedish Corporate Governance Code specifies a norm for what is perceived as good corporate governance in Sweden (SFS 1995:1554). Since the diversity policy is to be published in the Corporate Governance Report, the Swedish Corporate Governance Code is relevant for this thesis. The Swedish Corporate Governance Code relies on the principle of comply or explain (SOU 2004:130). This means that firms obliged to apply the Swedish Corporate Governance

⁴ Banks do not present a net turnover, why the part of the size criteria referring to net turnover is not applicable for those firms. If such a firm fulfils the other two parts of the size criteria, it is considered obliged to disclose on a diversity policy (FAR, 2016).

Code do not have to comply with every rule if explaining why not complying (SFS 1995:1554; SOU 2004:130). The target group of the Swedish Corporate Governance Code are firms whose shares are listed on a regulated stock exchange in Sweden although voluntarily adoption is permitted. In the Swedish Corporate Governance Code, the diversity policy is mentioned in connection with the description of the nomination committee whose role is to propose candidates to the board of directors. The nomination committee's proposal must include information with regards to how the nomination committee has implemented the diversity policy. This is the only place in the Swedish Corporate Governance Code where the diversity policy is mentioned (SOU 2004:130).

2.2.3. Auditing of the diversity policy

The Swedish Corporate Governance Code and the Swedish Annual Accounts Act declare that the auditor has no other responsibility than ensuring that the Corporate Governance Report and certain parts of it do exist. If a Corporate Governance Report does not exist, the auditor should ensure that there is an explanation to why so. In other words, neither the existence nor the content of the diversity policy are audited, which is in line with what the EU Directive requires (Directive 2014/95/EU; SOU 2004:130; SFS 2005:551).

Further instructions about the auditors' responsibilities can be found in RevU 16 issued by FAR (FARs uttalande i revisionsfrågor, n.d.). FAR is the leading institute for the accountancy and auditing profession in Sweden and plays an important role in the development of accounting standards and the education for the accounting profession in Sweden (FAR, n.d.). In line with the Swedish Annual Accounts Act, RevU 16 states that the auditor should confirm that a Corporate Governance Report exists. However, FAR believes that the lawmaker's intention is more far-reaching than so. FAR believes that the auditor should at least make sure that the Corporate Governance Report includes all the elements it should, as suggested by the Swedish Annual Accounts Act, and not only the existence of it. Whether or not auditors agree with FAR and whether they audit the diversity policy in accordance with FAR's recommendation is not investigated further in this thesis.

2.3. Sustainability, diversity and disclosures

In Section 2.1 and 2.2 are descriptions of the EU Directive and how it is implemented in the Swedish Annual Accounts Act. To understand the background and reason behind the EU Directive, the following section describes the historical development of sustainability and its increasing importance as well as a brief elaboration on diversity as a major part of sustainability. Also, a short summary of previous attempts to increase board room diversity is provided. The following sections are of relevance for this thesis because one must understand how diversity relates to sustainability and previous attempts to increase board room diversity.

2.3.1. History and dimensions of sustainability

Sustainability has been on EU's agenda for many years and is one of EU's central objectives. For example, through the EU 2020 Strategy, which was adopted in 2010, sustainable development has been mainstreamed into all policies issued by EU (European commission, 2010). EU has worked closely with UN to develop congruent agendas on sustainability and EU was influential in shaping UN's global 2030 Agenda, which today is the world's blue print for sustainable development with its 17 goals covering all dimensions of sustainability (United Nations, 2015). However, UN has been instrumental in developing the world's agenda on sustainability for long before the 2030 Agenda was launched. In June 1972, the first international conference (under the UN's auspices) on international environment was held in Stockholm and it marked a turning point for international politics regarding sustainability (United Nations, 1972). Since then, UN has hosted several prominent conferences on the topic. One of them was the *Conference on Sustainable Development* in Rio de Janeiro, Brazil, in 2012, where the 2030 Agenda was adopted (United Nations, 2015). The 2030 Agenda represents a change of paradigm and EU has chosen to commit to implement the agenda to its

full extent (European commission, 2015). Sustainable development is in the heart of both EU’s and UN’s work.

In the introduction of the EU Directive, EU acknowledges the importance of firms’ disclosures of sustainability including both the social and the environmental dimension. The EU Directive merges these two dimensions of sustainability together into the broader term non-financial information. Also, diversity information is acknowledged as a separate part of non-financial information. To conclude, the EU Directive distinguishes two dimensions of sustainability, social and environmental, where diversity is a part of the social dimension (Directive 2014/95/EU). One must interpret it as diversity constituting a differentiable part of the broader term sustainability. Similar to the EU Directive’s division of sustainability into different dimensions, UN distinguishes between social, economic and environmental dimensions of sustainability (Directive 2014/95/EU; United Nations, 2012; United Nations, 2015). Figure 1 illustrates how diversity relates to sustainability and its social dimension.

Figure 1 – Sustainability dimensions

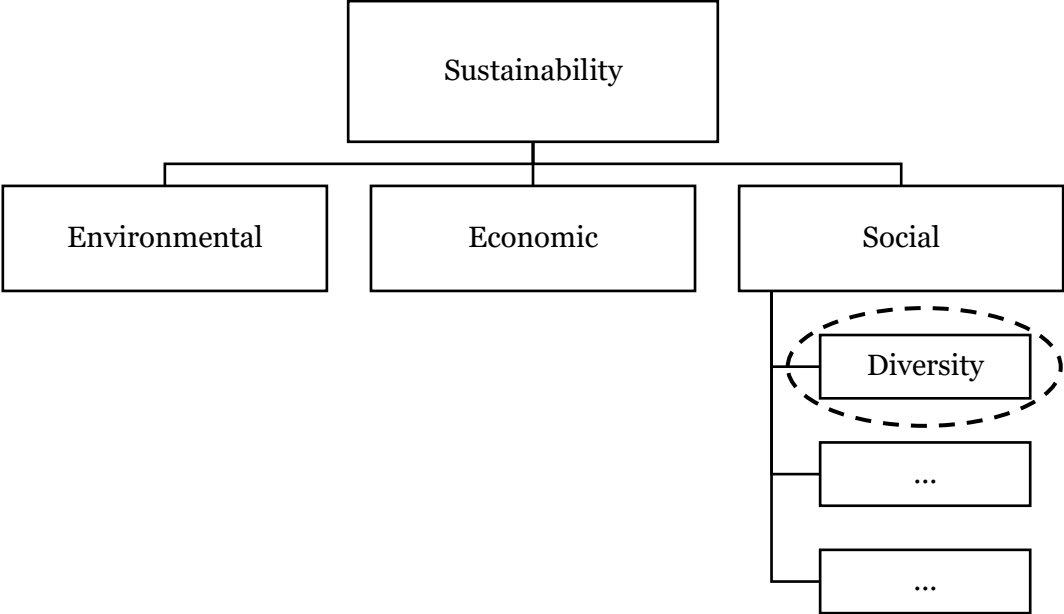


Figure 1 Illustrates the dimensions of sustainability where diversity is a part of the social dimension.

2.3.2. Progress towards diversity and disclosures of diversity

Progress towards board room diversity is slow and this is one of the main reasons behind the EU Directive (Directive 2014/95/EU; Rao, Tilt, 2016; European commission, 2012). In 2017, 32 % of all board members of listed firms in Sweden were women (Statistiska Centralbyrån, 2017). In 2006, the corresponding figure was 19.9 %. If gender equality in the board room means that 40 – 60 % of the board members are women, Swedish boards of directors are far from gender equal. Only one third of all listed firms in Sweden in 2016 was gender equal according to this definition and the comparable figure for 2006 is less than one tenth (Statistiska Centralbyrån, 2018). In 2012, EU organised a public consultation to gather views on whether any action should be taken to equalise boards of directors with regards to gender. 324 organisations answered the consultation and there was a broad consensus on the urgent need to increase gender equality (European commission, 2012). Swedish standard setters are not far behind the actions taken by EU, they have launched several initiatives to promote board room diversity. The initiatives include disclosures of gender balance required by the Swedish Corporate Governance Code (Kollegiet för svensk bolagsstyrning, 2017). Similarly, the Swedish Minister of Enterprise and Innovation as well as the Swedish Minister for Justice and Home Affairs argued in an article published in an influential Swedish newspaper in 2016 that the Swedish Government has clear expectations on Swedish larger sized firms regarding their

progress towards diversity (Damberg, Johansson, 2016). The ministers explain that they will require more firms to disclose in accordance with the amendment to the Swedish Annual Accounts Act than what was proposed by the EU Directive (Regeringskansliet, 2016). It is evident that both EU and Swedish standard setters believe that boards of directors should be more diverse and that this can be achieved through additional disclosures which in turn leads to increased transparency.

EU and its member states have undertaken several efforts to increase board room diversity, even before the EU Directive was passed. Numerous national self-regulation and corporate governance initiatives have been launched. Some EU member states have incorporated comply or explain mechanisms, like the Swedish Corporate Governance Code. Besides, the Swedish Annual Accounts Act states that firms above a certain size must disclose gender distribution of top management in their notes of their annual report as an attempt to increase awareness. Others have established outright legal gender balance objectives with sanctions. Norway, Spain, Iceland, France, the Netherlands, Belgium, Italy and Malaysia have all initiated legal reforms such as quota rules (Teigen, 2012). Norway introduced such gender quotas in 2007 and as a result, the percentage of women in Norwegian boards of directors became the highest in the world (Wang, Kelan, 2013). Another example is South Africa that has imposed targets with regards to the number of black people in the boards of directors of listed firms in South Africa (Black Economic Empowerment Commission, 2001).

Evidently, national laws and regulations have evolved differently. Although previous efforts have in fact yielded some improvements, EU desires all its member states to have congruent national laws and regulations and to speed up the progress. The fragmented legislative framework has not only lead to discrepancies in how diverse boards of directors are between firms, it has also created barriers to the international market since requirements now differ among countries as well as among EU member states (European commission, 2012). Therefore, since previous efforts have failed, EU decided to pass the EU Directive that forces certain larger sized firms to disclose on board room diversity in a belief that disclosing is an efficient tool (Directive 2014/95/EU). This must mean that EU and Swedish standard setters believe that tougher requirements to disclose on diversity related matters is a suitable way to raise awareness of diversity, and to diversify boards of directors (Directive 2014/95/EU).

3. Theoretical framework and hypotheses

EU is explicit in its encouraging position regarding diversity and numerous worldwide efforts have taken place to increase board room diversity. To understand the full picture behind the EU Directive and the amendment to the Swedish Annual Accounts Act, Section 3.1 presents prior research on how new standards are implemented and potential implications of such implementation. Relevant previous research on corporate governance is outlined in Section 3.2, which involves the principal agent theory, an elaboration on the board of directors' role in Sweden and the shareholder versus the stakeholder approach. To get a better understanding for why EU promotes diversity, a selection of previous research on diversity is presented in Section 3.3. This includes whether diverse groups perform better or worse than homogeneous such and, similarly, if board room diversity is preferred over board room homogeneity. The theoretical framework continues in Section 3.4 with an elaboration on previous research on disclosures as a tool to reach board room diversity where especially two theories are discussed: the legitimacy theory and the signalling theory. Lastly, in Section 3.5, two hypotheses are formulated based on all the previous research presented in Section 3.1 – 3.4.

The role of the theoretical framework is to provide a summary of appropriate prior research and relevant concepts and theories as well as to provide an overview of current state of knowledge in the field. It uncovers gaps in prior research and formulates hypotheses based on such gaps. Also, it enables developing a suitable research design used to test these hypotheses. Figure 2 is an illustration of the theoretical framework.

Figure 2 – Illustration of the theoretical framework

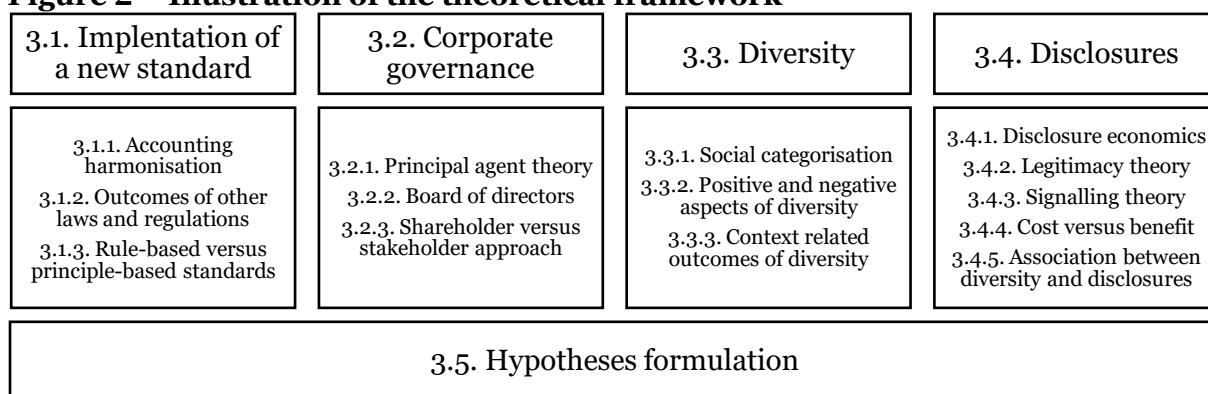


Figure 2 presents an illustration of the theoretical framework.

3.1. Implementation of a new standard

There is considerable research on how new accounting standards are implemented and why reporting behaviours differ among firms, industries and similar. One of EU's objectives of the EU Directive is to harmonise the standards and to ensure some level of congruence across EU member states. Following is an elaboration on previous research on how new accounting standards are implemented and why there is a continuous work on harmonising EU's accounting standards. These are all cornerstones of the EU Directive and although this thesis only uses Swedish firms in its sample, it is meaningful to understand the broader picture that Sweden is a part of.

3.1.1. Accounting harmonisation

Recall that the EU Directive acts as a minimum legal requirement and EU member states are allowed to establish laws and regulations that are stricter than what is required by the EU Directive. One reason for why the EU Directive dictates the minimum requirements is that EU wants to coordinate the national laws and regulations to enable congruence in a sufficient way (Directive 2014/95/EU). There is a great need for comparison between firms operating in several EU member states and if all firms use the same accounting language, the information cost for the users will likely be reduced and the value of the accounting information will

increase (Thorell, Whittington, 1994; Tschopp, Nastanski, 2014). Also, there should be no barriers to the international market because of fragmented legislative frameworks across EU (European commission, 2012; Tschopp, Nastanski, 2014). A phenomenon called home bias implies that if investors receive too little information about foreign firms, they are reluctant to make such cross border investment (Covrig, Defond & Hung, 2007). If home bias can be reduced, firms seem to benefit. Receiving information about foreign firms requires costly efforts and information costs have been suggested to explain much of foreign investment behaviour. In other words, if the information cost is too large, one will not invest. One way to reduce foreign investors' information cost is by increasing disclosure levels (Covrig, Defond & Hung, 2007). This is exactly what the EU Directive aims at, to tear down barriers in the shape of different accounting standards between EU member states and reduce the home bias (European commission, 2012).

3.1.2. Outcomes of other laws and regulations

As briefly discussed in Section 2.3.2, the requirement to disclose in accordance with the EU Directive serves as a tool to diversify boards of directors. Firms disclose because of many reasons and some of them refer to political, ethical, societal and market based drivers. However, one of the most powerful drivers is the regulatory driver. Research has assessed the outcome of several legal requirements on disclosures and in a Norwegian study of the outcome of an introduction of a legal requirement to disclose non-financial information, result suggest that only 10 % of all firms included in the sample complied with the legal requirement. Few firms took their legal liability serious. An explanation by the research is the vagueness in the wording of the legal requirement; the vagueness leaves the way open for interpretation and loopholes (Vormedal, Ruud, 2009). Other research has found significant outcomes of introduction of legal requirements to disclose on sustainability information. It suggests that, although there are costs associated with complying, the net outcome of the regulation was value enhancing rather than value destroying (Ioannou, Serafeim, 2017). Another research investigating the outcome of the introduction of the SEC disclosure requirements found that the outcome of the legal requirement was so substantial so that it forced over 2,600 firms into a less regulated market (Bushee, Leuz, 2005). Furthermore, a study made on the outcome of the introduction of International Financial Reporting Standards (IFRS) concludes that firms that present disclosures of low-quality experience a significant improvement of their disclosures as a result of the introduction of IFRS (Armstrong et al., 2010). Evidently, prior research has presented contradictory conclusions regarding the effects of different legal requirements which might be due the characteristics of the legal requirement, whether it is well specified or vaguer in its wording (Vormedal, Ruud, 2009).

3.1.3. Rule-based versus principle-based standards

When elaborating on potential effects of a new accounting standard a relevant concept is rule-based versus principle-based standards. This concept is meaningful for this thesis because the EU Directive and its amendment to the Swedish Annual Accounts Act are not very precise in how to report on a diversity policy. A rule-based standard has been described as more precise and detailed than a principle-based standard. Researchers have been worried that principle-based standards, being less specified in their setup, might lead to manipulation of financial figures since no one can claim what is correct or wrong. Similarly, reliance on judgements and estimations could lead to decreased comparability across firms since firms can creatively use these accounting options. On the other hand, it is argued that a principle-based standard means less incentive to use financial engineering to get around a detailed rule-based standard, and that a principle-based standard will result in less aggressive and better accounting. Accounting in accordance with a principle-based standard might make preparers of accounting concern about second guessing that could eventually lead to litigation or similar sanctions. That is, principle-based standards could potentially imply an increased desire to reflect the underlying economic substance of a transaction (Agoglia, Douppnik & Tsakumis, 2011). Also, when there is much room for judgements, market-based mechanisms will reward or punish firms based on their quality of disclosures and their compliance with stakeholders'

expectations. These market-based mechanisms will also determine how a firm act in a principle-based context (Tschopp, Nastanski, 2014).

3.2. Corporate governance

The EU Directive aims at diversity in a specific context, in the board room. However, before presenting research on what implications diversity might have in such setting, first follows a description of corporate governance in a broader sense including issues related to board of directors' composition. Two theories are presented, the principal agent theory and the stakeholder approach. Since the amendment to the Swedish Annual Accounts Act and the diversity policy aims at the board of directors, this section highlights the importance of a proper corporate governance structure where the board of directors is a cornerstone.

3.2.1. Principal agent theory

Swedish firms are structured as Swedish limited liability firms which means that shareholders are never fully liable to debt holders, as they are protected from large losses regardless of how they are caused (Jensen, Meckling, 1976). Without this set up, few individuals would be willing to invest, and the capital market would be threatened (Alchian, Demsetz, 1972). Each shareholder owns a piece of the firm, but often, someone else than the shareholder manages the firm. In other words, there is someone owning the firm, the owner or the principal, and someone controlling it, the agent. This means that ownership and control are separated, and complications might arise because of two reasons. Firstly, the agent makes influential decisions, but it does not bear a substantial share of the wealth effect of these decisions. Secondly, the agent's interest may or may not align with the interest of the owner (Fama, Jensen, 1983). These complications are called agency problems and arise from the fact that decision and risk-bearing functions are separated. To align the interests of the principal and the agent, and to minimise agency costs associated with the agent not acting in the interest of the principal, the agent can be monitored (Kang, Cheng & Gray, 2007). For example, disclosures have been suggested as an efficient tool for agents to communicate their performance to the principals and for the principal to monitor the agent (Healy, Palepu, 2001).

3.2.2. Board of directors

The most common way to ratify and monitor important decisions is through a board of directors. A board of directors is an efficient control system in settings where the decision-making agent does not bear a major share of the wealth effect of these decisions. It is an internal governance mechanism intended to ensure that the interest of the shareholders and the interest of the managers are aligned (Kang, Cheng & Gray, 2007). The board of directors often delegates most decisions to the agents, but the board of directors retains the ultimate control (Jensen, Meckling, 1976). The generalisability of previous findings on corporate governance may not extend across national boundaries because of national laws and regulations, cultural differences and similar. Therefore, it is relevant to separately examine corporate governance structure in each country (Kang, Cheng & Gray, 2007). In Sweden, the board of directors has an extensive decision-making authority assigned by law that is only limited to certain matters that must be decided at the shareholders' meeting. The board of directors must consist of no fewer than three board members and no more than one of these board members may be on the executive management team. Often, this seat is taken by the chief executive officer. In this way, Swedish boards of directors are composed entirely or almost entirely of non-executive directors. Most of the board members must be independent of the firm and its management and at least two board members must be independent of the major shareholders. In other words, it is possible for shareholders in Sweden to appoint board members with whom they have close ties (SOU 2004:130). This power of the shareholders comes from their right to vote and, more importantly, the frequency with which their votes are executed (Alchian, Demsetz, 1972).

3.2.3. Shareholder versus stakeholder approach

Shareholders play a vital role in the corporate governance structure as we know it today (Ravenscraft, 1996). Maximising shareholder value has for a long time been the ultimate objective of a firm and under such concept, shareholders have all rights to determine how their capital should be managed. This is aligned with the principal agent theory discussed in Section 3.2.1. According to the shareholder approach, agents should act in the interest of the principals and not in any other way (Friedman, 1970). However, this objective has been questioned by numerous researchers that claim that firms should consider all their stakeholders and their stakeholders' interest and that the shareholder objective should be extended to include also stakeholders and their interest (Ravenscraft, 1996; Freeman, 2010). It is argued that it is naive to think that long term value maximisation can be derived solely from good shareholder relationship. Instead, a wider conception of performance is needed and good relationships with all stakeholders are crucial for long-term value creation (Hoque, 2018). Another argument brought forward for adopting a stakeholder approach rather than a shareholder approach is that management will adapt more quickly to external challenges from stakeholders and manoeuvre its responses in a more efficient way. If naively ignoring the stakeholders and blindly focusing on the shareholders, the firm overlook that stakeholders are powerful and can affect the firm in both desired and undesired ways (Freeman, 2010). The shareholder approach and the stakeholder approach are two theories that have been recognised as two polar opposites in management literature (Hoque, 2018).

3.3. Diversity

This section presents research on social categorisation as a phenomenon deeply connected to diversity as well as whether diverse groups perform different than homogeneous groups. Diversity in the context of the board room is especially elaborated upon since the diversity policy aims at the board of directors. This section is associated with Section 3.2 that provides a description of corporate governance which now can be extended to include discussions on diversity and especially board room diversity. Diversity is much relevant for this thesis since the disclosure requirement aims at disclosures of diversity.

3.3.1. Social categorisation

Diversity refers to differences between individuals that may lead to the perception that one person is different from another (Williams, O'Reilly III, 1998). Similarly, due to its broad nature, researchers have defined board room diversity in numerous ways (Harrison, Klein, 2007; Rose, 2007). Nevertheless, a definition that seems to be accepted by several researchers, although very general, is the variety in the composition of the board of directors (Kang, Cheng & Gray, 2007). These varieties can refer to any characteristic and researchers have referred to numerous characteristics ranging from sexual orientation to age, from religious background to political preference, from nationality to functional background and from work experience to educational background (Van Knippenberg, De Dreu & Homan, 2004). However, for practical reasons, researchers have mainly focused on gender, age, ethnicity, educational background and work experience (Williams, O'Reilly III, 1998) which are in line with the examples provided in the EU Directive (Directive 2014/95/EU). Clearly, individuals can be categorised in numerous different ways based on both observable and unobservable characteristics (Kang, Cheng & Gray, 2007). Gender and ethnicity could be examples of observable characteristics and work experience or educational background could be examples of unobservable characteristics. One may argue that this categorisation of people based on their characteristics, called social categorisation, should be more likely to occur on the observable characteristics since they are often easier to identify (Van Knippenberg, De Dreu & Homan, 2004). Regardless of findings from previous research, social categorisation seems to be a cornerstone of diversity.

3.3.2. Positive and negative aspects of diversity

Previous research on how diverse boards of directors perform compared to homogeneous boards of directors has resulted in contrasting conclusions. Several arguments have been

brought forward favouring both sides of the double-edged sword (Rao, Tilt, 2016; Hambrick, Cho & Chen, 1996).

Research that claim that diverse groups do not perform as well as homogeneous groups has emphasised the negative effects of social categorisation such as the formation of subgroups with problematic inter-subgroup relations. Apparently, individuals are more positively inclined towards other individuals that are more alike themselves and ideas and suggestions coming from dissimilar board members might be dismissed or devalued (Williams, O'Reilly III, 1998). In other words, people prefer to be with similar others. There is an ongoing discussion on whether board members with characteristics that are usually not associated with such title have adopted the behaviour of board members with more conventional characteristics, as it might be the only way to be qualified in the eyes of the conventional board members (Rose, 2007; Tsui, Egan & O'Reilly III, 1992). This is aligned with the finding that when diversity attributes within a subgroup are very similar to one another, but very different from those of other subgroups, this will have a negative impact on performance (Van Peteghem, Bruynseels & Gaeremynck, 2018). Diverse boards of directors may engage in extensive interpretation and negotiation which decreases the likelihood of reaching a solution and responding at all, compared with homogeneous groups that are more straightforward and quicker at concluding and responding (Hambrick, Cho & Chen, 1996). Also, it is suggested that diversity can have a negative effect if board members do not perceive diversity as positive. Diversity belief is defined as individuals' belief that diversity adds value to group functioning. That is, if board members believe that diversity will not contribute to performance, they will respond negatively to a diverse board of directors (Van Knippenberg, Haslam, 2003). To conclude, the more diverse groups, the worse performance.

Other effects of the preference of surrounding oneself with similar others, are the phenomenon old boys' network and group thinking (Rose, 2007; European commission, 2012). The phenomenon old boys' network lies on the idea that individuals prefer working with others that are similar to themselves and therefore recruit others based on this preference (Rose, 2007). As a result, in homogeneous groups there is a considerable higher likelihood for a narrow group think which may lead to less debate and challenge of decisions (European commission, 2012). These main arguments in favour of board room diversity argue that diversity allows for better problem solving since members of diverse boards of directors perceive problems and suggest solutions from a variety of perspectives (Watson, Johnson & Merritt, 1998). The board of directors is then prevented from opting too easily for a quick fix on which there seems to be consensus (Van Knippenberg, De Dreu & Homan, 2004). The broader the repertoire, the greater the number of actions that can be taken (Hambrick, Cho & Chen, 1996). One study examining the relationship between board room diversity (defined as percentage of women, African Americans, Asians and Hispanics in the board of directors) and firm value concluded that there is a positive relationship between board room diversity and firm value (Carter, Simkins & Simpson, 2003). Others studies have presented similar results (Campbell, K. & Mínguez-vera, A., 2008; Reguera-Alvarado, de Fuentes & Laffarga, 2017). To conclude, the more diverse groups, the better performance.

3.3.3. Context related outcomes of diversity

There seem to be both positive and negative aspects of diversity. One previous study claim that the positive effects of diversity, such as broader gathering of information, decision creativity and boldness will overweight the negative effects, such as frictions and slowness in decision making and action, so that the net effect is positive (Hambrick, Cho & Chen, 1996). Others have suggested that the net effect is zero, that there is no correlation between board room diversity and performance (Rose, 2007; de Andres, Azofra & Lopez, 2005).

Research also suggests that diversity will always have both positive and negative effects and that the net outcome of these effects is determined by the context (Adams, Ferreira, 2009). For example, a diverse group may perform well in one context but worse in another. For instance,

some jobs are more heavily associated with stereotypic beliefs than others, hence diversity in a stereotypic setting could lead to another outcome than in another context (Van Knippenberg, De Dreu & Homan, 2004). For example, for firms with weak shareholder rights, board room diversity seems to have positive effects, but the opposite holds for firms with strong shareholder rights (Ferreira, 2015). Consequently, diversity might add value for some firms but destroy value for other firms. Other previous studies present similar arguments stating that whether diversity is positively or negatively correlated with performance is associated with the structure of the diversity, which diverse characteristics the group holds (Van Peteghem, Bruynseels & Gaeremynck, 2018). A similar view is that the outcome of diversity depends on characteristics of tasks being performed by the group and a time aspect, for how long the group perform a task (Watson, Johnson & Merritt, 1998). Regardless of findings from specific research, context seem to play a vital role when evaluating whether diversity is something positive or not (Van Knippenberg, De Dreu & Homan, 2004).

3.4. Disclosures

Disclosures play a vital role in sustainability reporting and there are several theories that explain what value disclosures have, if any. In this section, disclosure economics, the legitimacy theory and the signalling theory will be elaborated upon as well as review of firm characteristics that are suggested to affect how firms disclose. Since this section elaborates upon the association between diversity and disclosures, it is much connected to Section 3.3, and more specifically, it elaborates upon the association between board room diversity and disclosures, hence it is much connected to both Section 3.2 and Section 3.3.

3.4.1. Disclosure economics

Prior researchers have used positive theory of accounting to understand accounting behaviour such as management's incentive to disclose certain information. An underlying assumption of the positive theory of accounting is that management selects accounting procedures to maximise its own utility, just as individuals act to maximise their own utility. The main concern is therefore the effect various accounting standards have on management's utility and how management chooses to account (Watts, Zimmerman, 1978). The essence of the positive theory of accounting is that accounting is endogenous with the choice of organisation, contracting and financial structures. There are significant inter and intra industry variations in accounting methods (Watts, Zimmerman, 1990). To understand how and why management chooses to disclose certain information, one must understand the rationale behind disclosure economics.

Disclosures, both mandatory and voluntary, are an important mean for management to communicate to investors. Disclosures are crucial for the functioning of an efficient capital market. The demand for disclosures arises from information asymmetry and agency problems between management and investors. Disclosures and agency problems relate because agency costs can be reduced through disclosures from management (the agent) to the owners (the principals). In this way, the principal can evaluate the work of the agent. Similarly, disclosures and information asymmetry relate because disclosures contain information that is communicated to investors that cannot otherwise access this information. The information asymmetry between management and investors is reduced by disclosures. Disclosures is a tool to solve the information and incentive problems in the capital market (Healy, Palepu, 2001).

There are significant regulations governing disclosures all around the world to produce the optimal level of disclosures and by posting minimum disclosure requirements, standard setters reduce the information and incentive problems. A key question is what information that standard setters should require to disclose and what should be left to the discretion of management (Healy, Palepu, 2001). The extent of disclosures that is not mandatory is instead voluntary, and to further understand why firms disclose information the legitimacy theory and the signalling theory are presented in Section 3.4.2 and Section 3.4.3.

3.4.2. Legitimacy theory

A theory that have become increasingly used by researchers within the field of sustainability reporting is the legitimacy theory. The fundamental of this theory is that legitimacy is a resource upon which firms are dependent for survival, a firm's survival will be threatened if the society perceives the firm to act differently than the society's expectation (Hoque, 2018). If the society believes that the firm has acted contradictory to its expectations, the society might react by eliminating the demand for the firm's products, the supply of labour or capital, or lobby for sanctions, for example. Clearly, the firm's existence would be threatened if the society reacted in such way (Deegan, 2002). The legitimacy theory overlaps with the stakeholder approach in the way that both accept that a firm is part of a broader social systems and that the firm both impacts and is impacted by this context in which it operates (Hoque, 2018).

Resource-based theory

As the legitimacy theory relies on the assumption that legitimacy is a resource that a firm can hold, the resource-based theory states that the possession of strategic resources creates a sustainable competitive advantage. Strategic resources and sustainable competitive advantage are two key concepts for the resource-based theory. Advocates of the resource-based theory claim that strategic resources are necessary for sustainable competitive advantage (Barney, Ketchen Jr & Wright, 2011; Barney, 1991) and legitimacy is one of such strategic resources. A sustainable competitive advantage does not imply infinite survival but rather that a firm will not be competed away by competitors (Barney, Ketchen Jr & Wright, 2011; Barney, 1991). Advocates of the resource based theory claim that legitimacy is a valuable source of sustainable competitive advantage.

Disclosure as a tool to gain legitimacy

The legitimacy theory has broad applications to several corporate strategies and one of them, most relevant for this thesis, is the strategy to disclose information to gain legitimacy (Deegan, 2002). There are several strategies to gain legitimacy and to disclose information is an efficient strategy since information is a powerful tool to change societal perceptions (Hoque, 2018; Deegan, 2002). It has been suggested that firms will increase their level of disclosures if they perceive that their legitimacy is threatened because of public concern (Brown, Deegan, 1998). Other strategies than disclosing have been found not as effective, which highlights the power of disclosure (Cormier, Gordon, 2001).

Voluntary and mandatory disclosures

Historically, much of the regulatory framework arising around disclosures of sustainability has been voluntary. This has led researchers to question why such voluntary nature of disclosures exist and why firms disclose even though they are not obliged to do so by law. An explanation, supported by the legitimacy theory, is that firms wish to comply with societal expectations and disclosures are tools for management to claim compliance. Complying with societal expectations is more, or as, important as complying with mandatory disclosure requirements (Deegan, 2002). For example, if the society believes that board room diversity is positive, then one might expect firms to provide disclosures that are congruent with this belief. However, this linkage of credibility between the firm and its society has suggested to be efficient only for firms with diverse board of directors. Firms with boards of directors that perceive themselves as diverse are more likely to disclose on diversity in their annual reports. This pressures other firms and boards of directors not disclosing such information, and not being as diverse, into increase their level of diversity (Bernardi, Bean & Weippert, 2002). The EU Directive states that the disclosure requirement puts pressure on firms to be more diverse but as suggested, there might be a ripple effect across firms as well (Directive 2014/95/EU). Apparently, firms will choose what to disclose if there is room for it. For example, although age is an important parameter of diversity (Directive 2014/95/EU), it seems that firms are less willing to disclose information on age than, for example, about gender. A reason might be that age is viewed as a more sensitive aspect of diversity than gender (Kang, Cheng & Gray, 2007). Firms can to a great extent choose what information to disclose to defend or promote their actions. The lack

of guidelines, in the EU Directive and the amendment to the Swedish Annual Accounts Act, on what to disclose with regards to the diversity policy, leaves room for choice (Directive 2014/95/EU) so that firms can disclose information to open up for a desirable response.

Stakeholders' continuously changing expectations

Societal expectations change throughout time and the society expects firms to change accordingly (Hoque, 2018). What was once an acceptable behaviour can quickly turn into something no longer deemed acceptable (Hoque, 2018; Deegan, 2002). Also, different stakeholders have different expectations and it has been suggested that some stakeholder groups can be more effective than others in demanding disclosures of social matters. Similarly, some firms seem to be more responsive to stakeholders' expectations than others and in situations of conflicting stakeholder interests, firms seem to communicate legitimating characteristics to the stakeholder deemed most important for the firm (Neu, Warsame & Pedwell, 1998). Clearly, there are several connections to the stakeholder approach given that the society is made up of stakeholders with unequal power to influence the firm (Deegan, 2002).

3.4.3. Signalling theory

The signalling theory is concerned with reducing information asymmetry between two parties (Spence, 2002). The theory has much in common with both the legitimacy theory (Section 3.4.2) and the stakeholder approach (Section 3.2.3). All three theories and approaches are commonly mentioned when explaining why firms disclose information, voluntarily or not. The objective of the signalling theory is to send signals to the society by performing certain activities. For example, a firm might demonstrate diversity to bolster its reputation and it serves as a signal for responsiveness to social concerns. A way to demonstrate this is to have a gender diverse board of directors and disclose the information in the annual report with relative figures of the board of directors' gender composition. These actions will then serve as signals for responsiveness to diversity concerns and reputation, as well as trust, will be built among stakeholders. If a firm believes that its stakeholders, and the society which it operates in, appreciates board room diversity it might provide disclosures of its diverse board of directors. This will act as a signal that the firm pays attention to diversity (Bear, Rahman & Post, 2010). This aligns with the increased likelihood of posting photos of the board of directors if the board of directors is more diverse (Bernardi, Bean & Weippert, 2002).

3.4.4. Cost versus benefit

When firms choose what information to disclose, they consider the trade-off between the potential benefits and the potential costs. The discussion on cost versus benefit related to disclosures is much relevant for this thesis because it elaborates on when and what firms choose to disclose, especially since the EU Directive and the amendment to the Swedish Annual Accounts Act allow firms to choose what to disclose, to a great extent. The threshold, when costs exceed benefits, is determined in conjunction with stakeholders' expectations since they also play a vital role when determining when and what to disclose. The threshold and stakeholders' expectations are not separate problems, if it is too costly to disclose firms will not disclose, and the threshold increases as the costs do (Verrecchia, 1983). In fact, there is no longer an unambiguous assumption that withholding information is unfavourable, and this might encourage firms to disclose (Depoers, 2000).

3.4.5. Association between diversity and disclosures

There are plenty of factors related to various dimensions of a board of directors and diversity is one of the most important (Kang, Cheng & Gray, 2007). The numerous facets of diversity make it difficult to define the term (Harrison, Klein, 2007; Rose, 2007). With a definition of diversity including age, gender, educational qualifications and nationality, prior research has demonstrated a non-existing relationship between board room diversity and level of disclosures of social matters (Hoang, Abeysekera & Ma, 2018). However, it has confirmed a positive relationship between the fraction of women in the board of directors and level of

disclosures of social matters (Hoang, Abeysekera & Ma, 2018, Wang, Coffey, 1992). Other previous research has found that there is no association between board of directors' characteristics and disclosures (Lim, Matolcsy & Chow, 2007). The mixed findings of previous studies allow for further research on the area especially since there is a gap in prior research investigating the association between board room diversity and disclosures.

3.5. Hypotheses formulation

Prior research has suggested that firms will implement accounting standards in different ways, depending on characteristics of the standard as well as the setting in which the standard is introduced. However, a great extent of the prior research suggests that, regardless of how firms implement new standards, the outcomes of the standards are significant. Consequently, Hypothesis (1) is formulated.

Hypothesis (1): There is a significant outcome of the introduction of the legal requirement to disclose on a diversity policy.

Also, presented prior research has suggested an association between board room diversity and disclosures, although the direction is not unanimously decided upon. However, this association is not extensively elaborated upon in existing literature hence this study complements lacking existing research. Consequently, Hypothesis (2) is formulated.

Hypothesis (2): There is a significant association between board of directors' characteristics and disclosure of diversity policy.

Given conflicting theories and evidence, the hypotheses are developed in a non-directional manner since no predictions of the directions of the hypotheses can be made.

4. Method

In this section, the scientific approach is discussed in Section 4.1. In Section 4.2 to 4.4, the population leading up to the sample is explained as well as from where and how data is extracted. Section 4.5 presents the content analysis especially developed by the authors of this thesis and explanations of how the disclosures of diversity policy are assessed and scored. Section 4.6 discusses objectivity, reliability and validity of the methodology of this thesis. Lastly, Section 4.7 presents the regression models to test the hypotheses including explanations of all associated variables.

4.1. Scientific approach

Research can be conducted through at least two approaches, deductive and inductive. This thesis uses a deductive approach and, unlike an inductive approach that goes from observations to theory, a deductive approach goes from theory to observations. In other words, a deductive approach starts with theory as a basis for forming and testing hypotheses and empirical observations. A deductive approach often claims to have a positivistic and objective approach. The truth is seen as objective and universal. This approach relies on the idea that reality is unitary and that results from research are not modified by the setting but rather independent of it. Therefore, a deductive approach is suitable when theoretical models are tested, and reliability is dependent on the methods. The positivistic approach implies a research sequence where hypotheses are derived from theories and where the method is chosen based on these theories and hypotheses (Smith, 2017; Popper, 2005).

In the context of this thesis, a deductive approach is suitable since there is extensive prior research on some relevant areas (for example on diversity, sustainability, board of directors' composition and implementation of legal requirements), but a gap in other areas (for example on the association between board room diversity and disclosures). Therefore, it makes sense to form a research question and test hypotheses based on this research and to complement the existing literature where gaps exist. The theoretical framework is crucial for developing hypotheses guiding the empirical analysis. The hypotheses are based on prior research presented in Section 3 but makes explicit predictions under specific conditions.

4.2. Data sources

This thesis uses data on 2016 and 2017 from all firms that are listed on regulated stock exchanges in Sweden. Data is extracted from the official websites of Nasdaq Stockholm, NGM Equity and the Swedish Corporate Governance Board, official websites of each firm included in the sample and the digital database Retriever. Retriever contains firm specific financial and non-financial information such as annual reports filed to the Swedish Companies Registration Office, financial statement data (both on parent level and consolidated level), board of directors' composition and industry classification. In Table 1, extracted data is presented.

Table 1 – Extracted data

Data source	Extracted data
Nasdaq Stockholm and NGM Equity	Data on which firms that are listed on which regulated stock exchange and Market Cap Segment.
Swedish Corporate Governance Board	Number of board members of each firm included in the sample and gender of each board member.
Firm websites	504 Corporate Governance Reports are hand-collected corresponding to two Corporate Governance Reports of all firms included in the sample.
Retriever	Industry classification, audit firm, number of employees, total assets, net turnover, leverage ratio, profit margin, return on equity, return on assets, Swedish personal identity numbers of all board members of all firms included in the sample.

Table 1 presents which data is extracted from which data source.

4.3. Sample selection

The requirements related to disclosure of a diversity policy aims at consolidated accounts of firms above a certain size that are listed on one of the regulated stock exchanges in Sweden. Therefore, consolidated figures are used throughout this thesis. Recall that Swedish firms is an

appropriate population due to high level of shareholder governance, strength of auditing and reporting standards and efficiency of legal frameworks (World Economic Forum, 2018). In January 1st, 2017 there are 328 firms listed on a regulated stock exchange in Sweden. To allow for comparison between firms that are obliged to disclose on a diversity policy and firms that are not, Corporate Governance Reports of all firms that are listed on a regulated stock exchange in Sweden are hand-collected and assessed.

Firms with financial year other than calendar year are excluded from the sample, a total of 22 firms. The rationale behind this is that firms that issue Corporate Governance Reports of financial years starting later than January 1st, 2017 might benefit from a learning effect. These firms have, prior to the issuance of their Corporate Governance Reports, had the possibility to observe how others have disclosed on their diversity policies. The comparison between firms and years might be distorted because of a potential learning effect and therefore, only firms with financial year equalling calendar year are included in the sample.

Firms listed after December 31st, 2016 are excluded from the sample, because they are not required to issue a Corporate Governance Report of financial year 2016, as they are not listed at this point in time. These amount to 24 firms. A similar argument holds for those firms that are taken off the regulated stock exchange at any point in time between January 1st, 2016 and January 1st, 2018. No such firms are identified.

Foreign firms not registered as Swedish limited liability firms, but listed on a regulated stock exchange in Sweden, are excluded from the sample. The foreign firms amount to 29 firms. These firms do not disclose in a way that allows for a fair comparison to other firms in the sample since these foreign firms obey other disclosure requirements, such as other corporate governance codes than the Swedish Corporate Governance Code. The reason for excluding these firms is supported by previous research that suggests that disclosure requirements differ between home stock exchange and foreign stock exchanges (Meek, Roberts & Gray, 1995; Meek, Gray, 1989; Cooke, 1993; Cooke, 1992; Cooke, 1989; Frederick, 1973; Saudagaran, Biddle, 1992; Biddle, Saudagaran, 1989).

One firm disclose on the fact that they do not apply a diversity policy. This firm is excluded from the sample since this thesis aims to investigate disclosures of diversity policy. Hence, if a firm does not apply a diversity policy, there are no disclosures for this thesis to asses.

The sample consists of 252 firms in total, which throughout this thesis are referred to as the sample firms. 76 firms are excluded from the population based on argumentation above. The sample is much representative of the population since it is drawn from a relevant population, as being a listed firm is one of the criteria in the amendment to the Swedish Annual Accounts Act. Therefore, results are to a great extent generalisable for the population. A list of all sample firms is presented in Table 17 in Appendix. Corporate Governance Reports of all firms in the sample are hand-collected for both 2016 and 2017. In total, 504 Corporate Governance Reports are assessed.

Table 2 – Sample selection

	Observations
Population	328
<i>Less: Listed in 2017</i>	<i>(22)</i>
Subtotal:	306
<i>Less: Financial year not equal to calendar year</i>	<i>(24)</i>
Subtotal:	282
<i>Less: Foreign firms</i>	<i>(29)</i>
Subtotal:	253
<i>Less: Firms choosing not to apply a diversity policy</i>	<i>(1)</i>
Sample firms	252

Table 2 presents the population leading up to the sample firms.

4.4. Data quality insurance and manual adjustments

The quality of the data is insured by randomly collecting a sample of two firms on each regulated stock exchange and compare data from annual reports published on websites with data retrieved from data sources. No material differences are noted.

In addition, where two or more data sources use different definitions, annual reports are used to determine the most relevant definition. What is relevant refers to the definition most suited for the purpose of this thesis, and what best corresponds to information presented in annual reports. For example, Retriever and the Swedish Corporate Governance Board define a board member in different ways. One definition includes board members that are elected at the annual general meeting, deputy board members and employee elected board members, and another includes only board members elected at the annual general meeting. In the case where the total number of board members differs between data sources, data is hand-collected from annual reports to confirm the correct figure.

Additional manual work is conducted to complement the data from Retriever. For example, Retriever solely provides data on number of employees on parent firm level. Therefore, in cases where the figure from Retriever falls short of the size criterion, supplementary data is hand-collected from annual reports to receive the consolidated figure. The underlying assumption is that if a firm reaches the size criteria on parent level, it will do so as well on consolidated level. Similarly, Retriever does not provide any financial statement data on banks, hence such data is hand-collected from annual reports.

Since listing statuses provided by Nasdaq Stockholm and NGM Equity are current rather than historical and since this thesis uses information on both 2016 and 2017, firms and their listing statuses are manually tracked to acknowledge those firms that change Market Cap Segment in 2016 or 2017. Evidently, 21 firms change Market Cap Segment in 2016 or 2017.

The sample consist of 100 % balanced data on 252 firms, and no missing data items.

4.5. Content analysis and its score

This thesis expands on previous research on disclosures of sustainability by assessing disclosures of firms' diversity policy in their Corporate Governance Reports of 2016 and 2017. An indexing procedure allows assessing disclosures through a content analysis. The indexing procedure is developed by the authors of this thesis and based on similar indexing procedures that previous influential research has used. The content analysis results in a total score for each firm included in the sample and this score represents the level of disclosures provided by each firm. This research design is appropriate with regards to the research question and the hypotheses. Also, it is doable from a methodological perspective.

4.5.1. Benchmark study

The disclosures of the diversity policy are assessed through a content analysis and an indexing procedure developed by the authors of this thesis, supported by a similar procedure used by Wiseman (1982) for academic rigor. Wiseman tests the relationship between annual report disclosures of sustainability and performance through an indexing procedure that scores the disclosures based on presence or absence, and degree of specificity of each disclosure. The advantage of such indexing procedure is that it allows for information of different characteristics to be integrated into a single figure (Wiseman, 1982). Also, the indexing procedure is comprehensive since annual reports (Corporate Governance Reports in the context of this thesis) are read and coded in a structured way. If a disclosure is of quantitative or monetary characteristic, it receives a higher score than if it is of a more general characteristic. According to Wiseman (1982), quantitative and firm specific disclosures are preferred over general disclosures. Since no word count is used, neither Wiseman nor this thesis assesses the level of quantity of the disclosures but rather the level of quality. Quantity and quality are not equalised and as Wiseman (1982) states it: "length of the environmental

disclosure is not representative of its quality”. Determining which disclosures that are of high quality is of course a somewhat subjective process. In this thesis, quality has to do with what the EU Directive and the subsequent amendment to the Swedish Annual Accounts Act state as relevant disclosures of diversity policy and what sample firms have expressed as relevant. Accordingly, when referring to level of disclosure, the level of quality of the disclosures is referred to.

Since the publication of Wiseman’s study (1982), several more recent studies acknowledge and use similar indexing procedure as she but modify it and apply different scales (Cormier, Magnan, 1999; Cormier, Magnan, 2003; Cormier et al., 2009; Morhardt, Baird & Freeman, 2002; Lee, 2017; Hackston, Milne, 1996; Ali, Frynas, 2018). Even so, the indexing procedure developed by Wiseman is the origin of later versions and this thesis develops its indexing procedure by modifying Wiseman’s indexing procedure as it is considered appropriate for this thesis’s research question.

4.5.2. Indexing procedure

The diversity policies in the Corporate Governance Reports are assessed in two ways hence the content analysis has two parts. Ten disclosure items are assessed and separated into two assessments called *Assessment of wording* and *Assessment of content*.

Firstly, whether the word ‘diversity’ or the words ‘diversity policy’ are mentioned is assessed. This part of the content analysis is called *Assessment of wording*. Secondly, the characteristics of the disclosures are assessed, for example what information is provided and whether it is described in quantitative terms or not. This part of the content analysis is called *Assessment of content*.

Disclosure items included in the part *Assessment of content* are selected through a review of what EU and/or Swedish standard setters communicate as relevant with respect to the diversity policy. This review resulted in the following five disclosure items: *Age, Gender, Education, Work Experience* and *Background*. However, since some firms disclose on items other than those five disclosure items above, four additional disclosure items are also included and assessed: *Sexual Orientation, Religion, Disabilities and Ownership*. There are two rationales behind including these additional four disclosure items. Firstly, since firms present these items as disclosures of the diversity policy, these firms most likely believe that they are relevant facets of diversity. The four additional disclosure items do all appear in some of the sample firms’ Corporate Governance Reports and were chosen on that basis. Secondly, the EU Directive specifies that the areas it mentions as relevant for disclosures of the diversity policy (see the five disclosure items above) are solely examples but that there might be other relevant facets of diversity as well. Similarly, Swedish standard setters do not provide any definition of diversity. Thus, EU and Swedish standard setters open up for interpretation of what is relevant. These are reasons for why the content analysis is extended to include four additional disclosure items.

None of the two parts of the content analysis distributes any points to the presentation of the board of directors. A reason to distribute points for presenting such information would be that the amendment to the Swedish Annual Accounts Act states that the results of the diversity policy should be disclosed. One might interpret presenting the board of directors as a result of the diversity policy. However, there are two reasons for why no points are distributed to these disclosures. Firstly, firms included in the sample are obliged to disclose information on, for example, year of birth, education and professional experience of board members as required by the Swedish Corporate Governance Code. The content analysis should not distribute any points to other disclosures than those required by the amendment to the Swedish Annual Accounts Act. Secondly, disclosures of board of directors are not presented in connection to the disclosures of diversity policy, hence disclosures of board of directors do not constitute a part of the disclosures of diversity policy.

Assessment of wording

The diversity policies are assessed with regards to whether the word ‘diversity’ is mentioned or whether the words ‘diversity policy’ are mentioned together. In other words, the disclosure item *Diversity policy* is assessed. If mentioning the words ‘diversity policy’ collectively, two points are distributed. If mentioning the word ‘diversity’ alone, one point is distributed. If neither the words ‘diversity policy’ nor the word ‘diversity’ is mentioned, zero points are distributed. If the words ‘diversity policy’ or the word ‘diversity’ are mentioned more than once, this is not taken into account, hence the maximum score is two points. Recall that the indexing procedure aims to measure quality rather than quantity. The rationale behind distributing more points if the words ‘diversity policy’ are spelled out together is that it emphasises the policy and the disclosures in accordance with the amendment to the Swedish Annual Accounts Act. This indexing procedure and its scoring are exemplified in Table 3.

Assessment of content

The content (presence or absence of certain information) and degree of specificity (whether the disclosure is described in general or quantitative terms) of the following disclosure items are assessed. Two points are distributed per disclosure item that is expressed in quantitative terms. One point is assigned to each disclosure item that is expressed in general terms. If no information is disclosed at all, zero points are assigned. This indexing procedure and its scoring are exemplified in Table 3. The following five disclosure items are assessed and marked with zero to two points:

- Age
- Gender
- Education⁵
- Work experience⁶
- Background⁷

As mentioned, four additional disclosure items are added to the content analysis. However, the maximum score is one point for each of these disclosure items, respectively. No firm expresses any of the four disclosure items in quantitative terms, hence the maximum score is one point. The following four disclosure items are assessed and marked with zero to one point:

- Sexual orientation
- Religion
- Disabilities
- Ownership

Table 3 – Example, indexing procedure

	Highest possible score	Score	Example of disclosure
Assessment of wording			
Diversity policy	2 points	2 points	The Nomination Committee ensures that the board of directors has an appropriate composition regarding competence and experience. Particular importance that no discriminatory selection occurs of board members on the basis of, for example age, sexual orientation, disabilities or religious affiliation. The Nomination Committee has chosen to apply the Swedish Corporate Governance Code 4.1 as its Diversity Policy. Four out of the nine proposed board members are women, the firm strives for an even gender balance in the board of directors. Two of the suggested board members are Americans, three Chinese and four Swedes.
Assessment of content			
Age	2 points	1 point	
Gender	2 points	2 points	
Education	2 points	1 point	
Work Experience	2 points	1 point	
Background	2 points	2 points	
Sexual Orientation	1 point	1 point	
Religion	1 point	1 point	
Disabilities	1 point	1 points	
Ownership	1 point	0 points	
Total Score	16 points	12 points	

Table 3 presents an example of disclosures of diversity policy and how the indexing procedure assesses the disclosures.

⁵ Also defined as Competence/Knowledge.

⁶ Also defined as Experience/Industry knowledge/Business knowledge.

⁷ Also defined as Geographical background/Nationality/Ethnicity/Housing location.

From the indexing procedure, the lowest possible score is zero points and the highest possible score is 16 points. The scores are additive and unweighted for each firm to minimise the subjectivity involved in evaluating whether some items are worth more than other. If assuming that that firms are as likely to disclose relevant as non-relevant information, firms would score the same regardless of weighted or unweighted scores. Therefore, the sum of all points distributed to the disclosure items equals the total score from the indexing procedure.

4.6. Objectivity, reliability and validity

Objectivity, reliability and validity are three essentials to ensure quality of all stages of this thesis. Firstly, objectivity relates to whether the research is conducted with or without outside influence, the methodology should not allow for any discrepancies regardless of who conducts the research. Secondly, reliability relates to repeatability, the research should yield the same result every time it is conducted. Lastly, validity relates to whether the research, through chosen methodology, actually tests what is claimed to be tested (Hoque, 2018).

Objectivity is met since there is no human interaction during the collection or the assessment of the disclosures, and because data is retrieved solely from official and trustworthy sources. There is no reference to outside influence and no unrelated factors influence the results.

Reliability is considered in all stages of this thesis. All assumptions, corrections, manual assumptions and similar steps are described in sufficient detail to allow replication and minimise the risk for measurement errors. Regarding the content analysis, definitions of for example the disclosure items are decided upon in a meticulously manner to limit the potential of different interpretations when analysing the content and scoring the firms. To minimise interpretations further, the methodology and major decisions are all backed up by prior honourable research on similar research areas. Swedish versions of all Corporate Governance Reports are collected to avoid discrepancies due to languages as well as the fact that all sample firms issue their Corporate Governance Reports in Swedish. To reduce the impact of different interpretations, one single author of this thesis collects all data to increase internal reliability.

Validity refers to whether this thesis undoubtedly tests the hypotheses and answers the research question. It refers to whether the chosen methodology and data is suitable for the hypotheses and research question. The main criticism to validity of this thesis relates to the definition of diversity and what is regarded as relevant disclosures. For several reasons, it is not possible to assess every aspect of diversity and all disclosures that one might consider relevant. Firstly, diversity or relevant disclosures of diversity policy are not defined by any of the major regulatory frameworks applied in this thesis: the EU Directive, the Swedish Annual Accounts Act and the Swedish Corporate Governance Code. To handle this obstacle, the content analysis mainly focuses on such aspects that are noted as especially relevant by these three regulatory frameworks. To conclude, this thesis tests what it claims to test to the greatest extent possible considering vaguely defined terms and disclosure requirements.

4.7. Regression models

Two separate ordinary least square (OLS) regressions are estimated in the software package Stata to answer the research question and to test Hypothesis (1) and Hypothesis (2). Both regressions use the same dependent variable, but the explanatory variables and the control variables differ depending on the different type of relationship being assessed. Regressions may both predict the dependent variable and estimate the marginal effect of the explanatory variables, how the dependent variable changes as a result of changes in the explanatory variables (Wooldridge, 2015). This thesis solely aims at the second objective.

A random effects regression model on panel data (including observations from 2016 and 2017) and multiple variables is estimated to assess the outcome of the introduction of the legal requirement to disclose on a diversity policy, hence it refers to Hypothesis (1) (see Section 4.7.4 for result from Hausman test and Breusch-Pagan Lagrange multiplier test and motivations for

why a random effects regression model is used). This regression model does not consider effects from other events proceeding at the same time. This is discussed further in Section 6.3.

A plain vanilla regression model on cross-sectional data (including observations from 2017)⁸ and multiple variables, is estimated to assess the association between board of directors' characteristics and disclosures of diversity policy, hence it refers to Hypothesis (2).

A regression discontinuity design is used in an attempt to investigate Hypothesis (1). The threshold level is set to equal the size criteria in the Swedish Annual Accounts Act and observations close to this threshold are compared. However, no results can be presented in this thesis since data does not support the regression discontinuity design and results are not assessable.

Two regression models are developed in accordance with above. Regression model (1) refers to the random effects regression model and Regression model (2) refers to the plain vanilla regression model.

$$(1) \quad \text{Score} = \beta_0 + \beta_1 \text{Year} + \beta_2 \text{Mandatory} + \gamma' C + \alpha + \varepsilon, \text{robust standard errors}$$

where Score is the dependent variable, β_0 is the intercept, Year and Mandatory are the explanatory variables, β_1 and β_2 are the coefficients of those explanatory variables, $\gamma' C$ represents the control variables⁹ Net Turnover, Total assets, Leverage ratio, Profit margin, Return on equity, Return on Assets, Audit firm, Industry and Segment, α is the random effects, ε is the error term. This model employs robust standard errors with clustering at firm level. Year and Mandatory are expected to significantly correlate with Score. The coefficients of the control variables are expected to be of positive/negative signs in accordance with Section 4.7.3.

$$(2) \quad \text{Score} = \beta_0 + \beta_1 \text{Women} + \beta_2 \text{Non-Swedish citizens} + \beta_3 \text{Age} + \gamma' C + \varepsilon$$

where Score is the dependent variable, β_0 is the intercept, Women, Non-Swedish citizens and Age are the explanatory variables, β_1 , β_2 and β_3 are the coefficients of those explanatory variables, $\gamma' C$ represents the control variables Net Turnover, Total assets, Leverage ratio, Profit margin, Return on equity, Return on Assets, Audit firm, Industry, Segment and Mandatory, ε is the error term¹⁰. Women, Non-Swedish citizens and Age are expected to significantly correlate with Score. The coefficients of the control variables are expected to be of positive/negative signs in accordance with Section 4.7.3.

4.7.1. Dependent variable

This thesis uses the same dependent variable in both regressions, which is the score from the indexing procedure, described in Section 4.5. This dependent variable is labelled *Score* in the regressions.

4.7.2. Explanatory variables

Two sets of explanatory variables are used, one for Regression model (1) and one for Regression model (2).

Regression model (1) uses the explanatory variables labelled *Year* and *Mandatory*. The rationale behind including *Year* in the regression is that it reveals the difference between 2016 and 2017 and the relationship to the dependent variable *Score*. Further, the rationale behind including *Mandatory* is that it reveals the difference between the firms that are obliged to

⁸ Data source do not provide comparable figures on board members' characteristics.

⁹ *Women*, *Age* and *Non-Swedish citizens* are not included as control variables in Regression model (1) because data sources do not provide comparable figures of these variables.

¹⁰ Robust standard errors are not employed in Regression model (2) because data does not support it.

disclose on a diversity policy and the firms that are not obliged to disclose on a diversity policy as well as the relationship to the dependent variable *Score*.

Regression model (2) uses the explanatory variables labelled *Women*, *Standard deviation of age/Spread of age* and *Non-Swedish citizens*. These variables are chosen due to the rationale that gender and age are somewhat observable factors, while citizenship refers to a more unobservable factor (Kang, Cheng & Gray, 2007; Williams, O'Reilly III, 1998; Van Knippenberg, De Dreu & Homan, 2004). Gender and age are common facets of diversity often mentioned in diversity related contexts. Ethnicity is also commonly discussed, but due to no available data this facet was not possible to include in this thesis. However, we argue that citizenship serves as a proxy for ethnicity. These three facets of diversity are argued to be a rather comprehensive interpretation of diversity. In practice it is not feasible to identify all definitions of diversity and obtain data on them. For this thesis, data is obtained to estimate a regression on 2017.¹¹ Individuals appointed as deputy board members and board members elected by employees are excluded from the sample. The rationale behind this is that these board members have different responsibilities compared to the board members elected at the annual general meeting. For example, they may not be allowed to attend all meetings and they might have different/no voting rights. Therefore, only board members elected at the annual general meeting are included.

The six different explanatory variables are explained further below.

Year

Year is the first explanatory variable of interest to test Hypothesis (1). *Year* is expressed as a dummy variable that can take on the values 0 and 1 (0 represents 2016 and 1 represents 2017).

Mandatory

Mandatory is the second explanatory variable of interest to test Hypothesis (1). All sample firms are divided into two subsets, mandatory sample firms and non-mandatory sample firms, based on the size criteria in the Swedish Annual Accounts Act, stating whether firms are obliged to disclose on a diversity policy or not. Classification is made on financial data on 2017 and all firms hold the same classification in both years, hence if a firm is classified as a mandatory sample firm in 2017 it holds the same classification in 2016. The explanatory variable *Mandatory* constitutes a dummy variable that can take on the values 0 and 1 (0 represents non-mandatory sample firms and 1 represents mandatory sample firms). In Regression model (2), *Mandatory* is treated as a control variable.

Women

Women is the first explanatory variable of interest to test Hypothesis (2). *Women* is defined as the fraction of women in each board of directors, hence it is a compound measure.

Non-Swedish citizens

Non-Swedish citizens is the second explanatory variable of interest to test Hypothesis (2). Board members with Swedish personal identity numbers ending with four zeros are classified as non-Swedish citizens. *Non-Swedish citizens* is defined as the fraction of non-Swedish citizens in each board of directors, hence it is a compound measure.

Age

Age is the third explanatory variable of interest to test Hypothesis (2). Two different explanatory variables representing age are constructed, the standard deviation of age labelled *Standard deviation of age* and the spread of age labelled *Spread of age*. *Spread of age* is defined as the difference between the age of the oldest and the age of the youngest board member. *Standard deviation of age* reveals how the ages of the board members are spread out from the average age of the board members.

¹¹ Equivalent data on 2016 is not available in data sources.

4.7.3. Control variables

For numerous reasons, firms will disclose in different ways. There will be differences across firm characteristics such as leverage ratio, industry, performance, size and appointed audit firm. These firm characteristics are most relevant for this thesis and they have been suggested to correlate with level of disclosures hence it is essential to control for these factors in the regressions. Nine control variables are used in this thesis. These are variables that have been suggested to correlate with the explanatory variables and to influence the dependent variable. These control variables are included in the regressions and controlled for. If failing to include such relevant variables, this could cause omitted variable bias. All control variables and their definitions are justified by prior research.

Net turnover

Net turnover, as a proxy for size, has been found to positively correlate with level of disclosures (Cooke, 1989; Wallace, Naser & Mora, 1994), and that the strength of the correlation might be determined by firm size (Stanga, 1976). It is suggested that larger sized firms are more closely monitored than smaller equivalents, and that their stakeholders require more information (Thorell, Whittington, 1994; Buzby, 1975; Zimmerman, 1983). Also, larger sized firms may be more aware of the importance of accounting information, since increased investor confidence may be relatively more important for these larger sized firms. Equivalently, smaller sized firms may not hold resources necessary to provide extensive disclosures (Buzby, 1975). To control for this potential correlation, *Net turnover* is included as a control variable.¹²

Total assets

As with the net turnover, total assets is another proxy for size that has been suggested to positively correlate with the level of disclosures (Buzby, 1975, Clarkson et al., 2008, Lang, Lundholm, 1993, Ahmed, 1995). Therefore, *Total assets*, defined as the book value of a firm's total assets, is included as a control variable in the regressions.

Leverage ratio

Leverage ratio has been suggested to correlate with level of disclosures. Highly leveraged firms are often required to disclose more due to extensive expectations from creditors and it is hypothesised that it is because these firms have higher monitoring costs (Jensen, Meckling, 1976; Wallace, Naser, 1995). Conflicting research suggests that highly leveraged firms, as well as firms in poor financial condition, might face a negative relationship between leverage and level of disclosures (Cormier, Magnan, 2003). Regardless of direction of the relationship between leverage ratio and level of disclosures, prior research controls for leverage ratio since it seems to correlate with the level of disclosures (Clarkson et al., 2008). Therefore, *Leverage ratio* is included as a control variable in the regressions and it is measured as the sum of total liabilities (both interest bearing and non-interest bearing) divided by equity. Liabilities and equity are measured at their book values.

Profit margin

A firm's willingness to disclose information seems to be related to its performance but the direction of the relation is not clear. Some previous research suggest that firms with superior performance, defined as for example profit margin, have a higher level of disclosures to reveal their "good news" to the capital market (Lang, Lundholm, 1993; Singhvi, Desai, 1971). Others argue that performance might instead be negatively correlated with level of disclosures. Firms might believe that stakeholders only require extensive disclosures when performance is poor because only then, stakeholders urge additional explanatory information (Wallace, Naser, 1995). Lastly, some researchers claim that there is no association at all and that firms are as likely to disclose, regardless of performance (Hackston, Milne, 1996; Ahmed, Courtis, 1999; Ajinkya, Gift, 1984). It seems that previous research suggests that disclosures could be increasing, constant or decreasing when performance increases (Lang, Lundholm, 1993). Therefore, *Profit margin* is included as a control variable. *Profit Margin* is measured as the

¹² For banks, *Net turnover* refers to revenue.

sum of operating profit, result from associated firms, interest income from subsidiaries, other interest income and other financial revenues divided by net turnover.

Return on equity

Return on equity is another proxy for performance, other than profit margin, that indicates how the overall business is performing and it is generally considered a measure of good management. Based on arguments brought forward above for profit margin, *Return on equity* is included as a control variable in the regressions. The variable is measured as income before tax divided by book value of equity.

Return on assets

Similar to both profit margin and return on equity, return on assets seems to correlate with level of disclosures. It seems that firms with high return on assets, tend to provide high level of disclosures and vice versa (Cormier, Magnan, 1999; Clarkson et al., 2008). *Return on assets* is included as a control variable in the regressions and it is measured as the sum of operating profit, interest income from subsidiaries and other interest income divided by book value of total assets.

Audit firm

Prior research has shown that level of disclosure correlates with appointed audit firm or auditor (Singhvi, Desai, 1971; DeAngelo, 1981; McNally, Lee & Hasseldine, 1982). A plausible explanation is that an auditor from a large audit firm will most likely request a higher level of disclosure than an auditor from a smaller audit firm that is more inclined to connive for errors (Wallace, Naser & Mora, 1994). The reasoning behind this is that relationships are more important for smaller audit firms, which might suffer greater economic consequences if losing a large audit engagement (Malone, Fries & Jones, 1993). The largest audit firms in Sweden (PwC, EY, KPMG and Deloitte) are united under the term Big Four (Knechel, Niemi & Zerni, 2013). *Audit firm* is included as a time invariant control variable since it does not vary over time. None of the firms with appointed audit firm classified as Big Four in 2016 change audit firm and appoint an audit firm not classified as Big Four in 2017, and vice versa. The control variable *Audit firm* is expressed as a dummy variable that can take on the values 0 and 1 (0 represents audit firms classified as other than Big Four and 1 represents audit firms classified as Big Four).

Industry

Already in 1976, industry type was found to be a significant explanatory variable when relating industry to level and characteristic of disclosures (Stanga, 1976). Previous research has drawn parallels to the legitimacy theory and to the stakeholder approach to explain why firms within certain industries disclose differently than firms within other industries and how they use disclosures to deal with public scrutiny and media attention (Brown, Deegan, 1998; Ahmed, Zeghal, 1990). Since firms within the same industry are surrounded by similar stakeholders, one expects firms within the same industry to disclose similarly to one another. Also, firms from a specific industry will most likely adopt disclosure practices additional to those requirements that are mandatory for all firms, hence industry related disclosure practises will develop (Wallace, Naser & Mora, 1994). An extensive amount of prior research has looked into specific industries and since all of them suggest some association between industry and level of disclosures (Tschopp, Nastanski, 2014; Cooke, 1992; Cooke, 1989; Adama, Hill & Roberts, 1998; Cowen, Ferreri & Parker, 1987; Tagesson et al., 2009; Chan, Welford, 2005; Douglas, Doris & Johnson, 2004; Line, Hawley & Krut, 2002; Ness, Mirza, 1991; Kokubu, Yamagami, 1991; Clarke, Gibson-Sweet, 1999; Jenkins, Yakovleva, 2006; Knox, Maklan & French, 2005; Xiao, Yang & Chow, 2004), *Industry* is included as a time invariant control variable in the regressions (firms are not reclassified from one industry to another from 2016 to 2017).¹³

¹³ The industry classification from Retriever is used, but industries including five or less firms are combined into one industry category.

Segment

Another proxy for size is market capitalisation defined as the market value of a firm's outstanding shares (Alexander, Nobes, 2004). Research has found a positive correlation between market capitalisation and disclosures of sustainability (Hackston, Milne, 1996; Gelb, Strawser, 2001). As market capitalisation (size) determines which Market Cap Segment firms belong to, *Segment* is included as a control variable.

4.7.4. Regression diagnostics

When estimating multiple linear regressions with several explanatory and control variables, there are some concerns that must be addressed to ensure the fit of the methodology and the selected regression models.

Assumptions

It is reasonable to assume that the expected value of the dependent variable is a linear function of the explanatory variables and the error term. The error term is independent and with an expected value of zero as well as constant conditional variance. In principle, there are numerous ways that variables may relate to each other but some functional form of their relationship to each other is postulated. Therefore, it is assumed that the linearly related variables tend to cluster around a straight line. It is also assumed that the dependent variable is normally distributed.

Furthermore, an assumption is that all essential variables are included. If failing to include such variables, the estimations of the coefficients for the variables will be biased. The regression model then attributes the effect of these lost variables to the estimated effects of the included variables. Similarly, the regression model incorrectly and implicitly assumes that the set of variables included in the regressions contains all quantities that significantly influence the dependent variable. The regression model predicts the dependent variable using the particular combination of explanatory variables included in the model. The results do not provide an indication of the explanatory variables' effects under all conditions. Also, correlation does not necessarily imply causality. That variables are correlated does not imply that they cause each other.

Multicollinearity

It is possible that the explanatory variables are not only related to the dependent variable but also to each other, which is called multicollinearity. If two or more explanatory variables change in a direct linear relationship with each other, it is problematic to estimate the effect that each explanatory variable has on the dependent variable (Farrar, Glauber, 1967). The estimated coefficients are less reliable if there are high correlations between the explanatory variables.

Pearson's product-moment correlation coefficient

The correlations between continuous variables included in the regression models are tested using Pearson's product-moment correlation coefficient (called the Pearson's r). Pearson's r represents a numerical way to describe a linear relationship between continuous variables (variables that can take on any value within a range of real numbers). Both the direction and the strength of such a relationship is provided by Pearson's r (Newbold, Carlson & Thorne, 2012).

Pearson's r ranges from a value of minus one to plus one. A value of zero indicates no linear relation between the variables (but not necessarily a lack of relationship), a value of one indicates a perfect positive linear relation, and a value of minus one indicates a perfect negative linear relation. Cohen (1988) provides the following guidelines:

$0.1 < r < 0.3$	Small correlation
$0.3 < r < 0.5$	Moderate correlation
$ r > 0.5$	Strong correlation

Table 5 in Section 5.1 shows that Pearson's r is below 0.3 for all variables but two. The two greatest correlations are between *Return on equity* and *Return on assets* with a correlation coefficient of 0.718 and between *Total assets* and *Leverage ratio* with a correlation coefficient of 0.321. Interpretation of the correlation between *Return on equity* and *Return on assets* is that as *Return on equity* increases, *Return on assets* increases as well. An interpretation of the correlation between *Total assets* and *Leverage ratio* is that as *Leverage ratio* increases, *Total assets* increases as well. These are the only correlations higher than 0.3 which is deemed acceptable. As the majority of the explanatory variables do not display a correlation outside the range of -0.3 to 0.3, multicollinearity does not appear to be an issue.

Variance Inflation Factor

In addition to Pearson's r , a Variance Inflation Factor (VIF) is calculated. The threshold indicating whether multicollinearity might or might not exist is arbitrary but a threshold of ten has been suggested reasonable (Wooldridge, 2015), a more conservative view is that VIF should not be below four (O'Brien, 2007). If the calculated VIF is above this threshold, multicollinearity might be a problem. The average VIF calculated on the data used in this thesis results in an average VIF below four, hence multicollinearity does not seem to be an issue. Also, only one single variable has a VIF exceeding four (4.581), supporting that multicollinearity does not seem to materially infer the estimated regressions, as in line with results from Pearson's r . The result from the test is reported in Table 19 and Table 20 in Appendix.

Heteroscedasticity

Heteroscedasticity implies that error terms are not constant among sample firms. For example, it might be the case that larger sized firms include more factors that affect the error term than smaller sized firms. Also, it might be the case that the magnitude of the error terms increases with increasing values of any or some of the explanatory variables. Alternatively, the error term might increase with the expected value of the dependent variable. In this way, it may not be reasonable to assume that the error terms have uniform variance. Regression models where the error terms differ in variance are said to exhibit heteroscedasticity. The opposite, where error terms do not differ in variance is called homoscedasticity (Wooldridge, 2015; Newbold, Carlson & Thorne, 2012).

Breusch-Pagan test

To test for heteroscedasticity, a Breusch-Pagan test is run (Breusch, Pagan, 1979). This is a chi-square test to determine whether the variance of the error terms is a function of one or more of the variables. If the Breusch-Pagan test results in a p-value below an appropriate threshold (confidence interval at 95 % level gives a threshold of 0.05) the null hypothesis of homoscedasticity (that all error term variances are equal) is rejected and heteroscedasticity assumed. As the p-value is 0.3051 in Table 21 in Appendix the null hypothesis is not rejected at a 95 % confidence interval and conclude that data shows no presence of heteroscedasticity.

Residual Scatter plots

Graphical techniques such as scatter plots are commonly used to detect heteroscedasticity. Residual scatter plots are created to illustrate the errors terms on the vertical axis and the explanatory variables or the dependent variable on the horizontal axis. The results¹⁴ imply that the error terms are randomly dispersed around the horizontal axis, which implies that a linear regression is suitable, and that heteroscedasticity does not seem to exist.

Regression model decision

The following two sections include two test to determine what regression model is best suited for the panel data. A Hausman test is run as well as a Breusch-Pagan Lagrange multiplier test.

¹⁴ Results are not presented due to extensive amounts of figures.

Hausman test

A Hausman test is run to determine whether a fixed effects regression model or a random effects regression model best suits the panel data (Hausman, 1978). The null hypothesis is that the preferred model is a random effects model. The result from the Hausman test is reported in Table 22 in Appendix and it suggests that the null hypothesis is supported and that a random effects regression model is preferred.

Breusch-Pagan Lagrange multiplier test

A Breusch-Pagan Lagrange multiplier test for random effects is run to determine whether a Pooled OLS regression model is preferred when analysing the panel data (Breusch, Pagan, 1979). Results are presented in Table 23 in Appendix and the variances across firms is zero. Therefore, the null hypothesis is rejected at a 95 % confidence interval, hence there is no need to run a Pooled OLS regression model.

5. Results

This section initially presents descriptive statistics in Section 5.1 along with univariate results in Section 5.2, and lastly in Section 5.3 results from the estimated regressions are presented. Both Section 5.2 and Section 5.3 end with preliminary conclusions.

5.1. Descriptive statistics

This section presents descriptive statistics, histogram of *Score* and Pearson's correlation matrix.

Table 4 provides descriptive statistics of all continuous variables. On average, 34 % of all board members are women and 15 % of all board members are non-Swedish citizens. About 37 % of all sample firms have a board of directors consisting of 40-60 % women, and 8 % of all sample firms have a board of directors with between 40-60 % non-Swedish citizens. Regarding the ages of the board members, Table 4 presents that the largest spread is 42 years and the largest standard deviation is 17 years. On average, the *Standard deviation of age* is eight years, the *Spread of age* is 22 years, and the overall average age of all board members is 61 years.

Table 4 – Descriptive statistics of variables, winsorized

Variable	Firms	Mean	Std.Dev.	Min	Median	Max
Women_w	252	0.337	0.139	0	0.333	.667
Non-Swedish citizens_w	252	0.149	0.225	0	0	1
Standard deviation of age_w (years)	252	8.240	2.921	2.225	7.896	16.79
Spread of age_w (years)	252	21.921	7.823	6	21	42
Net turnover_w (MSEK)	252	12,244	26,905	3	2,127	160,000
Total assets_w (MSEK)	252	58,636	308,000	55	3,054	2,560,000
Leverage ratio_w	252	0.016	0.026	0	0.011	0.175
Profit margin_w	252	-0.172	2.864	-24.535	0.084	4.258
Return on equity_w	252	0.091	0.319	-1.415	0.137	0.696
Return on assets_w	252	0.055	0.153	-0.591	0.069	0.4

Table 4 presents descriptive statistics of variables winsorized at the 1st and 99th percentiles to reduce impact from outliers that can lead to incorrect inferences. *Women* is defined as the fraction of women in each board of directors; *Non-Swedish citizens* is defined as the fraction of board members without a Swedish personal identity number; *Standard deviation of age* refers to the standard deviation of the ages of all board members; *Spread of age* is defined as the difference between the age of the oldest and the age of the youngest board member; *Net turnover* refers to net turnover except for banks where it refers to revenue; *Total assets* refers to book value of total assets; *Leverage ratio* is measured as the sum of total liabilities (both interest bearing and non-interest bearing at their book values) divided by book value of equity; *Profit margin* is measured as the sum of operating profit, result from associated firms, interest income from subsidiaries, other interest income and other financial revenues divided by net turnover; *Return on equity* is measured as income before tax divided by book value of equity; *Return on assets* is measured as the sum of operating profit, interest income from subsidiaries and other interest income divided by book value of total assets. For descriptive statistics of non-winsorized variables, see Table 18 in Appendix.

Figure 3 and Figure 4 present histograms of *Score* for 2016 and 2017 for all sample firms. The distribution of *Score* implies that firms receive a higher average *Score* in 2017 than in 2016. However, there are yet a large number of firms (66 firms) that do not disclose on a diversity policy in 2017 according to Figure 4, hence receive a *Score* of zero. Also, the highest *Score* amounting to 11 in 2016 remains in 2017.

Figure 3 – Histogram of Score in 2016 for all sample firms

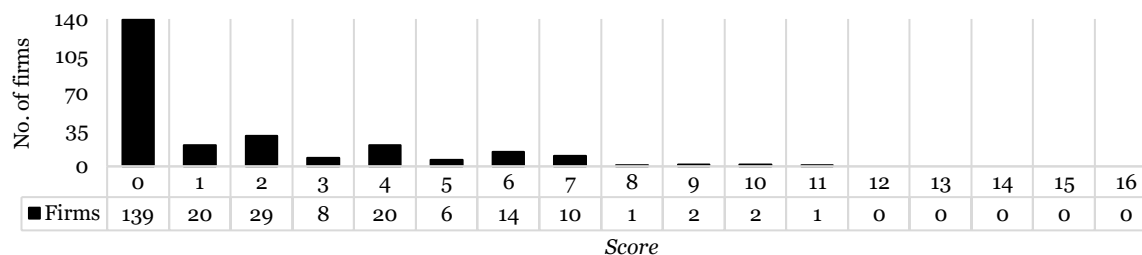


Figure 3 presents histogram of *Score* in 2016 for all sample firms.

Figure 4 – Histogram of Score in 2017 for all sample firms

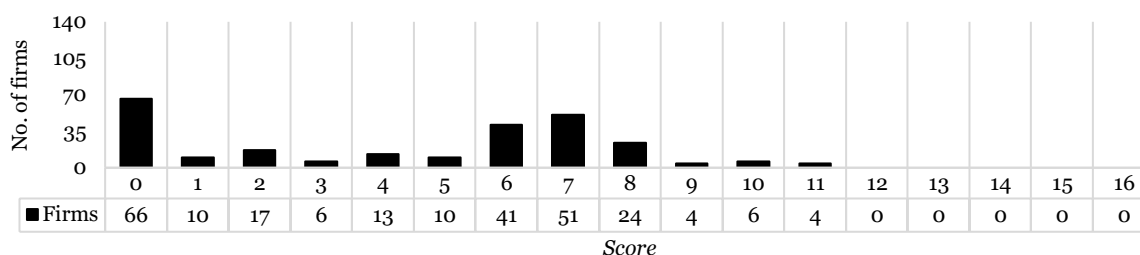


Figure 4 presents histogram of Score in 2017 for all sample firms.

The total sample amounts to 252 firms, where 205 are classified as mandatory sample firms and 47 are classified as non-mandatory sample firms. Figure 5 presents histogram of Score in 2017 for mandatory sample firms. 33 of the mandatory sample firms receive a Score of zero, which implies that when comparing to Figure 4, half of the firms with a Score of zero in 2017 belongs to the mandatory sample firms. The comparable figure for 2016 is 101 mandatory sample firms, hence 73 % of all sample firms receiving a Score of zero points belongs to the mandatory sample firms.

Figure 5 – Histogram of Score in 2017 for mandatory sample firms

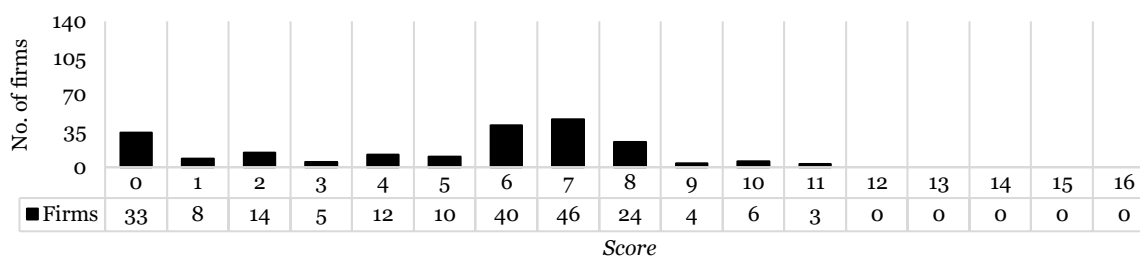


Figure 5 presents histogram of Score in 2017 for mandatory sample firms.

In Table 5, Pearson's r (correlation coefficient) for all continuous variables are presented. Score is positively correlated with *Women*, *Net turnover*, *Total assets*, *Leverage ratio*, *Profit margin*, *Return on equity* and *Return on assets*, and negatively correlated with *Non-Swedish citizens* and *Standard deviation of age*. We expect limited correlations between the control variables as it would otherwise indicate a potential issue with multicollinearity. The highest pairwise correlation is between the control variables *Return on equity* and *Return on assets* and it equals 0.718, both are measures of performance hence this correlation is reasonable. In Section 4.7.4, test for multicollinearity is also conducted with VIF which support that multicollinearity does not seem to be a material issue.

Table 5 – Pearson correlation coefficients

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Score	1.000									
(2) Women	0.262	1.000								
(3) Non-Swedish citizens	-0.104	-0.150	1.000							
(4) Standard deviation of age	-0.120	-0.114	-0.069	1.000						
(5) Net turnover	0.259	0.149	0.218	-0.139	1.000					
(6) Total assets	0.152	0.107	0.186	-0.037	0.268	1.000				
(7) Leverage ratio	0.138	0.043	-0.042	0.143	0.063	0.321	1.000			
(8) Profit margin	0.065	0.037	-0.098	-0.011	0.025	0.010	0.019	1.000		
(9) Return on equity	0.199	0.182	-0.239	0.011	0.077	0.022	0.180	0.153	1.000	
(10) Return on assets	0.196	0.192	-0.163	-0.043	0.049	-0.029	-0.052	0.276	0.718	1.000

Table 5 presents Pearson's correlation matrix. Pearson's r is calculated on the cross-sectional data. See Section 5.3.2 of why Spread of age is not included. Pearson's r cannot be calculated on *Year*, *Mandatory*, *Audit firm*, *Industry* and *Segment*, since they are factor variables.

5.2. Univariate results

Section 5.2.1 presents univariate results of the main variable of interest, *Score*, and Section 5.2.2 presents univariate results of each disclosure item. Results are split up on the subsets and on 2016 and 2017. Section 5.2.3 provides preliminary conclusions of all univariate results.

5.2.1. Univariate results of *Score*

Table 6 reports minimum, median, maximum and average values of *Score* in 2016 and 2017 for all sample firms as well as for the two subsets, respectively. The average *Score* for all sample firms increases from 1.679 in 2016 to 4.361 in 2017. This difference in average *Score* between 2016 and 2017 is significant with a p-value of less than 0.001. The mandatory sample firms report a greater increase in *Score* than the non-mandatory sample firms. The mandatory sample firms present an increase of 166 %, from 1.893 in 2016 to 5.034 in 2017, which is significant with a p-value of less than 0.001. In contrast, the non-mandatory sample firms present an increase of 91 %, from 0.745 to 1.426, which is not significant with a p-value of 0.175. Hence, the mandatory sample firms present the greatest increase in *Score* from 2016 to 2017, which is significant.

Table 6 – Univariate results of *Score*

	No. of firms	Year	Min	Median	Max	Mean	Change	Diff.	P-value
Total sample	252	2016	0.00	0.00	11.00	1.679	160 %	-2.683***	0.000
	252	2017	0.00	6.00	11.00	4.361			
Mandatory	205	2016	0.00	1.00	11.00	1.893	166 %	-3.141***	0.000
	205	2017	0.00	6.00	11.00	5.034			
Non-mandatory	47	2016	0.00	0.00	10.00	0.745	91 %	-0.681	0.175
	47	2017	0.00	0.00	11.00	1.426			

Table 6 presents univariate results of *Score* for all sample firms as well as for the subset in 2016 and 2017. Note: * p<0.05, ** p<0.01, *** p<0.001.

Table 7 presents univariate results of *Score* for both subsets. The average *Score* in 2016 for the mandatory sample firms is 1.148 higher than the average *Score* for the non-mandatory sample firms, 1.893 and 0.745 respectively. The difference in average *Score* between the subsets in 2016 is significant with a p-value of 0.004. In 2017, the average *Score* for the mandatory sample firms is 3.608 higher than the average *Score* of the non-mandatory sample firms, 5.034 and 1.426 respectively. This difference in average *Score* for 2017 is significant with a p-value of less than 0.001.

Table 7 – Univariate results of *Score*, subset comparison

	No. of firms	Subset	Min	Median	Max	Mean	Diff.	P-value
2016	205	Mandatory	0.00	1.00	11.00	1.893	-1.148**	0.004
	47	Non-mandatory	0.00	0.00	10.00	0.745		
2017	205	Mandatory	0.00	6.00	11.00	5.034	-3.608***	0.000
	47	Non-mandatory	0.00	0.00	11.00	1.426		

Table 7 presents univariate results of *Score* for the subsets in 2016 and 2017. Note: * p<0.05, ** p<0.01, *** p<0.001.

5.2.2. Univariate results of disclosure items

Score is split into ten disclosure items: *Diversity Policy*, *Age*, *Gender*, *Education*, *Work Experience*, *Background*, *Sexual Orientation*, *Religion*, *Disabilities* and *Ownership*. Table 8 presents all sample firms' *Score* on each disclosure item in 2016 and 2017 as well as the p-values pertaining to the differences between the years. Even though most firms disclose on the majority of the ten disclosure items in both 2016 and 2017, Table 8 implies little specificity in disclosed information. Guidelines in the EU Directive and from Swedish standard setters state that, for example, results of the diversity policy should be disclosed. However, the results in Table 8 indicate that disclosure items of quantitative or firm specific nature (as implied by a point of two) occur infrequently. For example, the disclosure item *Gender* is disclosed by 159 firms in 2017, whereof only 75 firms disclose in a numerical or firm specific way. Out of the 63 % of sample firms that disclose on the disclosure item *Gender*, only 47 % present their disclosures in quantitative or firm specific nature. In addition, the disclosure item *Gender* is

the second most disclosed item, next after *Diversity Policy*. In fact, *Diversity Policy* is the only disclosure item that, on average, receive a point higher than one. *Ownership* is the disclosure item receiving the lowest point, on average. The increases in average points between the years are all significant with p-values less than 0.001 for the disclosure items *Diversity Policy*, *Age*, *Gender*, *Education*, *Work Experience* and *Background*.

Table 8 – Univariate results of disclosure items for all sample firms

Disclosure item	Year	No. of firms	No. of firms scoring 2	No. of firms scoring 1	No. of firms scoring 0	Median	Mean	Diff.	P-value
Diversity Policy	2016	252	31	26	195	0.00	0.349	-0.853***	0.000
	2017	252	143	17	92	2.00	1.202		
Age	2016	252	2	21	229	0.00	0.099	-0.155***	0.000
	2017	252	3	58	191	0.00	0.254		
Gender	2016	252	21	54	177	0.00	0.381	-0.548***	0.000
	2017	252	75	84	93	1.00	0.929		
Education	2016	252	0	82	170	0.00	0.325	-0.317***	0.000
	2017	252	2	158	92	1.00	0.643		
Work Experience	2016	252	0	72	180	0.00	0.286	-0.349***	0.000
	2017	252	4	152	96	1.00	0.635		
Background	2016	252	2	42	208	0.00	0.183	-0.393***	0.000
	2017	252	4	137	111	1.00	0.575		
Sexual orientation	2016	252	N/A	4	248	0.00	0.016	-0.024	0.104
	2017	252	N/A	10	242	0.00	0.040		
Religion	2016	252	N/A	4	248	0.00	0.016	-0.024	0.104
	2017	252	N/A	10	242	0.00	0.040		
Disabilities	2016	252	N/A	4	248	0.00	0.016	-0.016	0.243
	2017	252	N/A	8	244	0.00	0.032		
Ownership	2016	252	N/A	2	250	0.00	0.008	-0.004	0.654
	2017	252	N/A	3	249	0.00	0.012		

Table 8 presents univariate results of disclosure items for all sample firms in 2016 and 2017. N/A signifies that it is not possible for a firm to receive two points on the disclosure item that it refers to. Note: * p<0.05, ** p<0.01, *** p<0.001.

Table 9 presents points received by the mandatory sample firms on each disclosure item in 2016 and 2017 and the p-values of the changes between the years. Among the mandatory sample firms, the disclosure items *Diversity Policy* and *Gender* present the highest average points in both 2016 and 2017, where the disclosure item *Diversity Policy* presents a median of two points (the maximum points) in 2017. Table 9 presents higher average points for all disclosure items in 2017 for mandatory sample firms in comparison to the average points for all sample firms presented in Table 8, indicating that the introduction of the legal requirement had an effect on the disclosure of diversity policy. The mandatory sample firms score higher on all disclosure items in 2017 than in 2016. The increases in average points between the years are all significant for the disclosure items *Diversity Policy*, *Age*, *Gender*, *Education*, *Work Experience* and *Background* with p-values less than 0.001, as presented in Table 9.

Table 9 – Univariate results of disclosure items for mandatory sample firms

Disclosure item	Year	No. of firms	No. of firms scoring 2	No. of firms scoring 1	No. of firms scoring 0	Median	Mean	Diff.	P-value
Diversity Policy	2016	205	29	24	152	0.00	0.400	-0.990***	0.000
	2017	205	134	17	54	2.00	1.390		
Age	2016	205	2	18	185	0.00	0.107	-0.195***	0.000
	2017	205	3	56	146	0.00	0.302		
Gender	2016	205	20	49	136	0.00	0.434	-0.629***	0.000
	2017	205	69	80	56	1.00	1.063		
Education	2016	205	0	76	129	0.00	0.371	-0.371***	0.000
	2017	205	2	148	55	1.00	0.741		
Work Experience	2016	205	0	66	139	0.00	0.322	-0.410***	0.000
	2017	205	4	142	59	1.00	0.732		
Background	2016	205	2	38	165	0.00	0.205	-0.463***	0.000
	2017	205	4	129	72	1.00	0.668		
Sexual Orientation	2016	205	N/A	3	202	0.00	0.015	-0.029	0.079
	2017	205	N/A	9	196	0.00	0.044		
Religion	2016	205	N/A	3	202	0.00	0.015	-0.029	0.079
	2017	205	N/A	9	196	0.00	0.044		
Disabilities	2016	205	N/A	3	202	0.00	0.015	-0.020	0.202
	2017	205	N/A	7	198	0.00	0.034		
Ownership	2016	205	N/A	2	203	0.00	0.010	-0.005	0.327
	2017	205	N/A	3	202	0.00	0.015		

Table 9 presents univariate results of disclosure items for mandatory sample firms in 2016 and 2017. N/A signifies that it is not possible for a firm to receive two points on the disclosure item that it refers to. Note: * p<0.05, ** p<0.01, *** p<0.001.

Table 10 presents points received by the non-mandatory sample firms on each disclosure item in 2016 and 2017 and the p-values of the change between the years. Only marginal increases are noticed and none of the increases in average points between the years are significant.

Table 10 – Univariate results of disclosure items for non-mandatory sample firms

Disclosure item	Year	No. of firms	No. of firms scoring 2	No. of firms scoring 1	No. of firms scoring 0	Median	Mean	Diff.	P-value
Diversity Policy	2016	47	2	2	43	0.00	0.128	-0.255	0.059
	2017	47	9	0	38	0.00	0.383		
Age	2016	47	0	3	44	0.00	0.064	0.021	0.650
	2017	47	0	2	45	0.00	0.043		
Gender	2016	47	1	5	41	0.00	0.149	-0.191	0.111
	2017	47	6	4	37	0.00	0.340		
Education	2016	47	0	6	41	0.00	0.128	-0.085	0.277
	2017	47	0	10	37	0.00	0.213		
Work Experience	2016	47	0	6	41	0.00	0.128	-0.085	0.277
	2017	47	0	10	37	0.00	0.212		
Background	2016	47	0	4	43	0.00	0.085	-0.085	0.221
	2017	47	0	8	39	0.00	0.170		
Sexual Orientation	2016	47	N/A	1	46	0.00	0.021	0.000	1.000
	2017	47	N/A	1	46	0.00	0.021		
Religion	2016	47	N/A	1	46	0.00	0.021	0.000	1.000
	2017	47	N/A	1	46	0.00	0.021		
Disabilities	2016	47	N/A	1	46	0.00	0.021	0.000	1.000
	2017	47	N/A	1	46	0.00	0.021		
Ownership	2016	47	N/A	0	47	0.00	0.000	0.000	.
	2017	47	N/A	0	47	0.00	0.000		

Table 10 presents univariate results of disclosure items for non-mandatory sample firms in 2016 and 2017. N/A signifies that it is not possible for a firm to receive two points on the disclosure item that it refers to. A dot (.) signifies that since no firm reported on the disclosure item in neither 2016 nor 2017, a p-value cannot be calculated. Note: * p<0.05, ** p<0.01, *** p<0.001.

Table 11 presents univariate results of how both subsets disclose on each disclosure item in 2016. On average, the mandatory sample firms score higher on seven of the ten disclosure

items compared to the non-mandatory sample firms in 2016. The non-mandatory sample firms receive higher average points on the disclosure items *Sexual Orientation*, *Religion* and *Disabilities*. To be noted, only four firms disclose on these three disclosure items, hence the results might be considered negligible. As also presented in Table 11, the average points received on the disclosure items *Diversity Policy*, *Gender*, and *Education* and *Work Experience* result in a significant difference between the subsets.

Table 11 – Univariate results of disclosure items 2016, subset comparison

Disclosure item	No. of firms	Subset	No. of firms scoring 2	No. of firms scoring 1	No. of firms scoring 0	Median	Mean	Diff.	P-value
Diversity Policy	205	Mandatory	29	24	152	0.00	0.400	-0.273*	0.015
	47	Non-mandatory	2	2	43	0.00	0.128		
Age	205	Mandatory	2	18	185	0.00	0.107	-0.043	0.409
	47	Non-mandatory	0	3	44	0.00	0.064		
Gender	205	Mandatory	20	49	136	0.00	0.434	-0.285**	0.005
	47	Non-mandatory	1	5	41	0.00	0.149		
Education	205	Mandatory	0	76	129	0.00	0.371	-0.243**	0.002
	47	Non-mandatory	0	6	41	0.00	0.128		
Work Experience	205	Mandatory	0	66	139	0.00	0.322	-0.195**	0.007
	47	Non-mandatory	0	6	41	0.00	0.128		
Background	205	Mandatory	2	38	165	0.00	0.205	-0.120	0.069
	47	Non-mandatory	0	4	43	0.00	0.085		
Sexual Orientation	205	Mandatory	N/A	3	202	0.00	0.015	0.006	0.744
	47	Non-mandatory	N/A	1	46	0.00	0.021		
Religion	205	Mandatory	N/A	3	202	0.00	0.015	0.006	0.744
	47	Non-mandatory	N/A	1	46	0.00	0.021		
Disabilities	205	Mandatory	N/A	3	202	0.00	0.015	0.006	0.744
	47	Non-mandatory	N/A	1	46	0.00	0.021		
Ownership	205	Mandatory	N/A	2	203	0.00	0.010	-0.010	0.498
	47	Non-mandatory	N/A	0	47	0.00	0.000		

Table 11 presents univariate results of disclosure items for the subsets in 2016. N/A signifies that it is not possible for a firm to receive two points on the disclosure item that it refers to. Note: * p<0.05, ** p<0.01, *** p<0.001.

Table 12 presents univariate results on how both subsets disclose on each disclosure item in 2017. On average, the mandatory sample firms score higher on all disclosure items compared to the non-mandatory sample firms in 2017. Also, the disclosure items *Diversity Policy*, *Age*, *Gender*, *Education*, *Work Experience* and *Background* in Table 12 present significant differences in average points between the subsets, and all of these disclosure items beside *Age* have p-values less than 0.001, *Age* has a p-value of 0.001. Disclosure items *Sexual Orientation*, *Religion*, *Disabilities* and *Ownership* all have differences in average points between the subsets, although none of them are significant.

Table 12 – Univariate results of disclosure items 2017, subset comparison

Disclosure item	No. of firms	Subset	No. of firms scoring 2	No. of firms scoring 1	No. of firms scoring 0	Median	Mean	Diff.	P-value
Diversity Policy	205	Mandatory	134	17	54	2.00	1.390	-1.007***	0.000
	47	Non-mandatory	9	0	38	0.00	0.383		
Age	205	Mandatory	3	56	146	0.00	0.302	-0.260**	0.001
	47	Non-mandatory	0	2	45	0.00	0.043		
Gender	205	Mandatory	69	80	56	1.00	1.063	-0.723***	0.000
	47	Non-mandatory	6	4	37	0.00	0.340		
Education	205	Mandatory	2	148	55	1.00	0.741	-0.528***	0.000
	47	Non-mandatory	0	10	37	0.00	0.213		
Work Experience	205	Mandatory	4	142	59	1.00	0.732	-0.519***	0.000
	47	Non-mandatory	0	10	37	0.00	0.212		
Background	205	Mandatory	4	129	72	1.00	0.668	-0.498***	0.000
	47	Non-mandatory	0	8	39	0.00	0.170		
Sexual Orientation	205	Mandatory	N/A	9	196	0.00	0.044	-0.022	0.475
	47	Non-mandatory	N/A	1	46	0.00	0.021		
Religion	205	Mandatory	N/A	9	196	0.00	0.044	-0.022	0.475
	47	Non-mandatory	N/A	1	46	0.00	0.021		
Disabilities	205	Mandatory	N/A	7	198	0.00	0.034	-0.013	0.651
	47	Non-mandatory	N/A	1	46	0.00	0.021		
Ownership	205	Mandatory	N/A	3	202	0.00	0.015	-0.015	0.406
	47	Non-mandatory	N/A	0	47	0.00	0.000		

Table 12 presents univariate results of disclosure items for the subsets in 2017. N/A signifies that it is not possible for a firm to receive two points on the disclosure item that it refers to. Note: * p<0.05, ** p<0.01, *** p<0.001.

5.2.3. Preliminary conclusions of univariate results

Regarding the univariate results of *Score*, average *Score* for all sample firms increases from 2016 to 2017. On average, all sample firms increase their level of disclosures between the years. To determine which subset experience the greatest increase, the sample firms are split up on the two subsets. Evidently, the mandatory sample firms experience a greater increase (which is of significant nature) than the non-mandatory sample firms (which is not of significant nature). These findings can be interpreted as the legal requirement has some effect since the subset obliged to disclose on a diversity policy increase its level of disclosures more than the subset not obliged to do so. In fact, the mandatory sample firms receive a higher average *Score* in both 2016 and 2017 than the non-mandatory sample firms, meaning that the mandatory sample firms present higher average *Score* even before the amendment to the Swedish Annual Accounts Act was put in force. An interpretation of this finding is that the mandatory sample firms prepared for the requirement in 2016 and therefore receive higher *Score* even one year before the requirement.

When assessing the univariate results of the disclosure items, it is evident that disclosures of quantitative nature occur infrequently. The average points on the disclosure items among the mandatory sample firms in 2016 and 2017 do not exceed 1.390, which indicates that the mandatory sample firms present few disclosure items of quantitative nature. The comparable figure for the non-mandatory sample firms is 0.383. These results imply that even though standard setters encourage firm specific and quantitative disclosures, firms seem to disregard this. The most disclosed disclosure item among both subsets in 2017 is *Diversity Policy* and the second most disclosed is *Gender*. A plausible explanation is that disclosures of gender are not considered sensitive information and gender is probably one of the most prioritised aspects of diversity (Kang, Cheng & Gray, 2007). A likely explanation to why *Diversity Policy* is the most disclosed disclosure item in 2017 is because firms are aware of the amendment to the Swedish Annual Accounts Act and by stating the words diversity policy, they demonstrate this awareness. Out of the ten disclosure items, six disclosure items present a significant increase from 2016 to 2017 among the mandatory sample firms. The mandatory sample firms receive higher average points on all disclosure items in 2017 than in 2016. This does not hold for the

non-mandatory sample firms. An obvious explanation to why the mandatory sample firms experience such increase from 2016 to 2017 is because they are subject to the amendment to the Swedish Annual Accounts Act.

5.3. Results from estimated regressions

In Section 5.3.1, results pertaining to the assessment of the outcome of the introduction of the legal requirement to disclose on a diversity policy are presented. In Section 5.3.2, results pertaining to the assessment of the association between the board of directors' characteristics and disclosure of diversity policy are reported. Section 5.3.3 provides preliminary conclusions of results from estimated regressions.

5.3.1. Outcome of the introduction of the legal requirement

To assess the outcome of the introduction of the legal requirement to disclose on a diversity policy, Regression model (1) is estimated to test Hypothesis (1).

Table 13 presents results from four different regressions all based on Regression model (1). The regressions are labelled Regression (1a), (1b), (1c) and (1d). All four regressions use the dependent variable *Score* but different combinations of explanatory variables and control variables. Regression (1d) represents the full regression model, hence it represents Regression model (1).

In Table 13 Regression (1a) uses *Year* as the only explanatory variable and no control variables. Regression (1a) results in a positive and significant coefficient with a p-value less than 0.001 for the explanatory variable *Year*. Regression (1b) in Table 13 uses *Mandatory* as the only explanatory variable and no control variables. Regression (1b) also results in a positive and significant coefficient with a p-value less than 0.001 for the explanatory variable *Mandatory*. Consequently, since coefficients are positive in Regression (1a) and Regression (1b), there is a positive correlation between the explanatory variable *Year* and dependent variable *Score* as well as between the explanatory variable *Mandatory* and dependent variable *Score*. This indicates that the model has some prediction value which is also supported by the R-square, where Regression (1a) explains 17.7 % of the overall variance of *Score* with a p-value less than 0.001 and Regression (1b) explains 27.3 % of the overall variance with a p-value of less than 0.001.

Regression (1c) in Table 13 is estimated using both *Year* and *Mandatory* as the explanatory variables and no control variables. Both coefficients remain positive, but *Mandatory* is the only explanatory variable that is significant with a p-value less than 0.001 (the p-value of *Year* is 0.667). Regression (1c) explains 27.2 % of overall variance with a p-value less than 0.001. Although Regressions (1a), (1b) and (1c) are significant, as evident in Table 13, other variables might have explanatory power, which is captured by the R-square of 0.272 in Regression (1c). Hence, control variables are added in Regression (1d).

Regression (1d) uses *Year* and *Mandatory* as the explanatory variables and all control variables presented in Section 4.7.3. Coefficients for *Year* and *Mandatory* remain positive, with p-values of 0.022 and less than 0.001, respectively. As expected, the coefficients are smaller than in Regression (1c), which is reasonable since Regression (1d) uses control variables and Regression (1c) does not. In other words, in Regression (1d), there is less of the overall variance for the explanatory variables to explain since the control variables explain some of the overall variance of the dependent variable. Regression (1d) explains 37.6 % of overall variance with a p-value less than 0.001. Regression (1d) confirms the univariate results in Section 4.7.3 and supports Hypothesis (1). There is a positive and significant outcome of the introduction of the legal requirement to disclose on a diversity policy.

Table 13 – Results from Regression model (1)

	(1a)	(1b)	(1c)	(1d)
	Score	Score	Score	Score
	Explanatory	Explanatory	Explanatory	Regression model (1)
Year	2.683*** (0.000)		0.137 (0.667)	0.729* (0.022)
Mandatory		3.257*** (0.000)	3.129*** (0.000)	2.370*** (0.000)
Control variables	No	No	No	Yes
R-square within	0.000	0.483	0.485	0.490
R-square between	0.000	0.142	0.142	0.299
R-square overall	0.177	0.273	0.272	0.376
Observations	504.000	504.000	504.000	504.000
Firms	252.000	252.000	252.000	252.000
Chi-square	191.460	233.762	235.348	2139.119
Prob>Chi-square	0.000	0.000	0.000	0.000

Table 13 presents results from estimated regressions on panel data with the dependent variable *Score* in all regressions. All regressions are estimated on the total sample of firms. Control variables included in Regression (1d): *Net turnover*, *Total assets*, *Leverage ratio*, *Profit margin*, *Return on equity*, *Return on assets*, *Audit firm*, *Industry* and *Segment*. P-values, adjusted for heteroscedasticity and clustering at firm level, are reported in brackets below the coefficients. Prob>Chi-square refers to the test of overall significance. Note: * p<0.05, ** p<0.01, *** p<0.001.

For robustness and sensitivity analysis, all continuous variables in Regressions (1a) – (1d) are winsorized at the 1st and 99th percentiles to reduce impact from outliers. Results from regression with winsorized variables are presented in Table 14. It is evident that there are no differences in Regressions (1a) – (1c) due to the fact that the explanatory variables *Year* and *Mandatory* are dummy variables, hence they cannot be winsorized and also because these regressions use no control variables. In Regression (1d_w), the coefficients for *Year* and *Mandatory* remain positive even after winsorizing control variables, the p-value for *Year* decreases to 0.013 and *Mandatory* remains at a p-value less than 0.001. With winsorized variables in Regression (1d_w), 38.5 % of overall variance is explained and the p-value remains less than 0.001. In comparison to Table 13, where Regression (1d) presents a p-value less than 0.001 and 37.6 % of overall variance is explained. Hence, it does not seem that winsorized variables materially change the results.

Table 14 – Results from Regression model (1), winsorized

	(1a)	(1b)	(1c)	(1d_w)
	Score	Score	Score	Score
	Explanatory	Explanatory	Explanatory	Regression model (1)
Year	2.683*** (0.000)		0.137 (0.667)	0.799* (0.013)
Mandatory		3.257*** (0.000)	3.129*** (0.000)	2.298*** (0.000)
Control variables_w	No	No	No	Yes
R-square within	0.000	0.483	0.485	0.488
R-square between	0.000	0.142	0.142	0.315
R-square overall	0.177	0.273	0.272	0.385
Observations	504.000	504.000	504.000	504.000
Firms	252.000	252.000	252.000	252.000
Chi-square	191.460	233.762	235.348	1098.142
Prob>Chi-square	0.000	0.000	0.000	0.000

Table 14 presents results from estimated regressions on panel data with the dependent variable *Score* in all regressions. All regressions are estimated on the total sample of firms and variables are winsorized at the 1st and 99th percentiles to reduce impact from outliers that can lead to incorrect inferences. Control variables included in Regression (1d_w): *Net turnover*, *Total assets*, *Leverage ratio*, *Profit margin*, *Return on equity*, *Return on assets*, *Audit firm*, *Industry* and *Segment*. P-values, adjusted for heteroscedasticity and clustering at firm level, are reported in brackets below the coefficients. Prob>Chi-square refers to the test of overall significance. Note: * p<0.05, ** p<0.01, *** p<0.001.

5.3.2. Association between board characteristics and disclosures of diversity

To establish the association between board of directors' characteristics and disclosures of diversity policy, Regression model (2) is estimated to test Hypothesis (2).

Table 15 presents results from six different regressions based on Regression model (2). These are labelled Regression (2a), (2b), (2c), (2d), (2e) and (2f). All six regressions use the dependent variable *Score* but different combinations of explanatory variables and control variables. Regression (2f) represents the full regression model hence it represents Regression model (2).

Regression (2a) in Table 15 uses *Women* as the only explanatory variable and no control variables. *Women* has a positive and significant coefficient with a p-value of less than 0.001. Regression (2a) explains 6.9 % of the overall variance of *Score* with a p-value less than 0.001. Regression (2b) in Table 15 uses *Non-Swedish citizens* as the only explanatory variable and no control variables. *Non-Swedish citizens* has a negative coefficient with an insignificant p-value of 0.099. Regression (2b) explains 1.1 % of the overall variance of *Score* with a p-value of 0.099. Regression (2c) in Table 15 uses *Standard deviation of age* as the only explanatory variable and no control variables. Regression (2d) in Table 15 uses *Spread of age* as the only explanatory variable and no control variables. Both regressions result in negative coefficients and insignificant p-values of 0.056 and 0.940, respectively. Regression (2c) explains 1.4 % and Regression (2d) explains 0 % of the overall variance of *Score*. Since the explanatory variable *Standard deviation of age* explains more of the overall variance of *Score* compared to *Spread of age*, Regressions (2e) and (2f) use the explanatory variable *Standard deviation of age*.

Regression (2e) uses the explanatory variables *Women*, *Non-Swedish citizens* and *Standard deviation of age* and no control variables. *Women* is the only explanatory variable with a positive coefficient, similar to Regressions (2a) – (2d) in Table 15. Also, *Women* is the only explanatory variable with a significant p-value of less than 0.001 (insignificant p-value of 0.226 for *Non-Swedish citizens* and insignificant p-value of 0.112 for *Standard deviation of age*). Regression (2e) explains 8.2 % of the overall variance of *Score* with a p-value less than 0.001. The p-value of Regression (2e) is lower than the p-values of Regressions (2b) – (2d). R-square indicates that other variables might explain some of the overall variance of *Score*.

In Table 15, Regression (2f) uses the explanatory variables *Women*, *Non-Swedish citizens* and *Standard deviation of age* and all control variables presented Section 4.7.3. None of the explanatory variables report significant p-values (*Women* with a p-value of 0.244, *Non-Swedish citizens* with a p-value of 0.358 and *Standard deviation of age* with a p-value of 0.198). *Women* is subsumed when including control variables. Although signs of all coefficients of explanatory variables remain, coefficients are smaller compared to Regressions (2a) – (2e) because less of the overall variance of *Score* is explained by the explanatory variables. Regression (2f) explains 32.1 % of the overall variance of *Score* with a p-value less than 0.001. Regression (2f) rejects Hypothesis (2) that there is a significant association between board of directors' characteristics and disclosures of diversity policy.

Table 15 – Results from Regression model (2)

	(2a)	(2b)	(2c)	(2d)	(2e)	(2f)
	Score 2017	Score 2017	Score 2017	Score 2017	Score 2017	Score 2017
	Explanatory	Explanatory	Explanatory	Explanatory	Explanatory	Regression model (2)
Women	6.221*** (0.000)				5.689*** (0.000)	1.773 (0.244)
Non-Swedish citizens		-1.524 (0.099)			-1.097 (0.226)	-0.855 (0.358)
Standard deviation of age			-0.130 (0.056)		-0.106 (0.112)	-0.081 (0.198)
Spread of age				-0.002 (0.940)		
Control variables	No	No	No	No	No	Yes
R-square	0.069	0.011	0.014	0.000	0.082	0.321
Observations	252	252	252	252	252	252
Firms	252	252	252	252	252	252
F	18.456	2.738	3.672	0.006	7.429	4.475
Prob>F	0.000	0.099	0.056	0.940	0.000	0.000

Table 15 presents results from estimated regressions on cross-sectional data with the dependent variable *Score* in all regressions. All regressions are estimated on the total sample of firms. Control variables included in Regression (2f): *Net turnover*, *Total assets*, *Leverage ratio*, *Profit margin*, *Return on equity*, *Return on assets*, *Audit firm*, *Industry*, *Segment* and *Mandatory*. P-values are reported in brackets below the coefficients. Prob>F refers to the test of overall significance. Note: * p<0.05, ** p<0.01, *** p<0.001.

For robustness and sensitivity analysis all continuous variables in Regressions (2a) – (2f) are winsorized at the 1st and 99th percentiles to reduce impact from outliers. Results from regression with winsorized variables are presented in Table 16. Results present no differences in Regressions (2a_w) and (2b_w), hence it seems that variables *Women* and *Non-Swedish citizens* have no extreme outliers. In Regression (2c_w) there is a slight decrease in the coefficient for *Standard deviation of age_w*, and its p-value remains insignificant but changes to 0.082. Overall variance decreases from 1.4 % in Table 15 to 1.2 % in Table 16 with a p-value of 0.082. In Regression (2d_w) the coefficient sign of *Spread of age* changes to positive and its p-value remains insignificant but decreases to 0.924. 0.9 % of overall variance is explained and the p-value is 0.924. In Regression (2e_w) the coefficient signs remain and *Women_w* continues to be significant and *Non-Swedish citizens_w* and *Standard deviation of age_w* remain insignificant. 8.1 % of overall variance is explained with winsorized variables, in comparison to 8.2 % with non-winsorized variables in Table 15, with a remaining p-value of less than 0.001. With winsorized variables in Regression (2f_w) in Table 16, the p-value remains at less than 0.001 and 33.2 % of overall variance is explained, in comparison to Regression (2f) in Table 15 with non-winsorized variables where 32.1 % of overall variance is explained. Hence, it does not seem that winsorized variables materially change the results.

Table 16 – Results from Regression model (2), winsorized

	(2a_w)	(2b_w)	(2c_w)	(2d_w)	(2e_w)	(2f_w)
	Score 2017	Score 2017	Score 2017	Score 2017	Score 2017	Score 2017
	Explanatory	Explanatory	Explanatory	Explanatory	Explanatory	Regression model (2)
Women_w	6.221*** (0.000)				5.724*** (0.000)	1.708 (0.258)
Non-Swedish citizens_w		-1.524 (0.099)			-1.088 (0.231)	-0.723 (0.427)
Standard deviation of age_w			-0.124 (0.082)		-0.100 (0.152)	-0.083 (0.205)
Spread of age_w				0.003 (0.924)		
Control variables_w	No	No	No	No	No	Yes
R-square	0.069	0.011	0.012	0.000	0.081	0.332
Observations	252	252	252	252	252	252
Firms	252	252	252	252	252	252
F	18.456	2.738	3.050	0.009	7.256	4.704
Prob>F	0.000	0.099	0.082	0.924	0.000	0.000

Table 16 presents results from estimated regressions on cross-sectional data with the dependent variable *Score* in all regressions. All regressions are estimated on the total sample of firms and variables are winsorized at the 1st and 99th percentiles to reduce impact from outliers that can lead to incorrect inferences. Control variables included in Regression (2f_w): *Net turnover, Total assets, Leverage ratio, Profit margin, Return on equity, Return on assets, Audit firm, Industry, Segment and Mandatory*. P-values are reported in brackets below the coefficients. Prob>F refers to the test of overall significance. Note: * p<0.05, ** p<0.01, *** p<0.001.

5.3.3. Preliminary conclusions of estimated regressions

Regarding Hypothesis (1), the results from the estimated regressions confirm the results presented by the univariate results in Section 5.2. That is, the outcome of the introduction of the legal requirement to disclose on a diversity policy is significant. Both *Year* and *Mandatory* hold positive coefficients, hence both explanatory variables present a positive relationship to *Score*. When including both explanatory variables and all control variables in the regression, significant results remain and both explanatory variables are of significant nature. When estimating the regression with winsorized control variables at the 1st and 99th percentiles both *Year* and *Mandatory* remain positive and *Year* increases its significance slightly. Also, with winsorized control variables, more of the overall variance is explained (+0.9 %). It does not seem that winsorized variables materially change the results. The results are aligned with the univariate results that conclude that the amendment to the Swedish Annual Accounts Act is influential.

Regarding Hypothesis (2), when only including *Women* as an explanatory variable and when including no control variables, the regression is significant and the coefficient for *Women* is positive. This does not hold for any of the other two explanatory variables. An interpretation of these results is that *Women* seem to have more explanatory power than the other two explanatory variables. When including all three explanatory variables and no control variables, the regression is significant but the only significant explanatory variable is still *Women*. In this regression, the coefficient for *Women* remains positive. When estimating such regression with winsorized control variables at the 1st and 99th percentiles, *Women_w* remain significant and *Non-Swedish citizens_w* as well as *Standard deviation of age_w* remain insignificant. As expected (Hoang, Abeysekera & Ma, 2018; Wang, Coffey, 1992), *Women* seems to have a stronger association to *Score* than the other two explanatory variables. When including all three explanatory variables and all control variables, the regression is significant. However, none of the explanatory variables are significant although the coefficient for *Women* is still positive, hence *Women* is subsumed by the control variables. Using variables that are winsorized at the 1st and 99th percentiles to reduce impact from outliers, 1.1 % more of overall variance is explained and the regression remains significant. The explanatory variables remain insignificant and the signs of the coefficients do not change. It does not seem that winsorized variables materially change the results. To conclude, it does not seem to be an association between board of directors' characteristics and disclosures of diversity policy.

6. Conclusions

Section 6.1 discusses and concludes the results presented in Section 5. Section 6.2 explains how the results from this thesis contribute to existing theories and prior literature. Section 6.3 elaborates on limitations of this thesis and based on these limitations, as well as based on the discussion, Section 6.4 presents six suggestions for future research to investigate.

6.1. Discussion

As no other research has investigated the effects of the EU Directive and since there is limited research on the association between board of directors' characteristics and disclosures of diversity policy, this thesis is much relevant. Both standard setters and stakeholders find board room diversity important and desirable hence it is interesting to find out the outcome of the standard setters' work and if firms talk their walk.

The purpose of this thesis is to examine quality of disclosures of diversity policy in accordance with the amendment to the Swedish Annual Accounts Act. This thesis thus search to answer the following research question:

What is the outcome of the introduction of the legal requirement to disclose on a diversity policy as well as the association between board of directors' characteristics and disclosures of diversity policy?

Based on relevant prior research and its gaps, the following two hypotheses are formulated to answer the research question:

Hypothesis (1): There is a significant outcome of the introduction of the legal requirement to disclose on a diversity policy.

Hypothesis (2): There is a significant association between board of directors' characteristics and disclosures of diversity policy.

Both the outcome of the introduction of the legal requirement and the association between board of directors' characteristics and disclosures are examined. Results support Hypothesis (1) and reject Hypothesis (2).

Regarding Hypothesis (1), firms required to disclose on a diversity policy in accordance with the amendment to the Swedish Annual Accounts Act receive higher scores than the firms not obliged to disclose on a diversity policy in both 2016 and 2017. Interestingly, although no legal requirement is in place 2016, the firms becoming subject to the amendment to the Swedish Annual Accounts Act in 2017 seem to consider disclosures of diversity policy already in 2016. Plausible explanations are that these firms present such disclosures in preparatory purpose and to gain legitimacy (Hoque, 2018; Deegan, 2002). Furthermore, firms required to disclose on a diversity policy significantly increase their level of disclosures from 2016 to 2017. This is interpreted as the legal requirement had a significant effect on firms subject to the legal requirement if disregarding potential effects from other events. Other reasons are supported by the legitimacy theory (Hoque, 2018; Deegan, 2002) and the signalling theory (Spence, 2002; Bear, Rahman & Post, 2010). Theory suggests that the increase is driven by stakeholders' requirements and firms' corresponding reaction. To conclude, the combination of the legal requirement, gained legitimacy and the signal value to stakeholders seem to all explain why firms increase their level of disclosures of diversity policy. However, the legitimacy theory and the signalling theory do not support the results pertaining to the firms not obliged to report on a diversity policy, since they do not significantly increase their level of disclosures from 2016 to 2017. Neither does spill over effects nor approaching the threshold seem to explain the insignificant increase among these firms. Spill over effects refer to smaller sized firms being influenced by larger sized firms. As larger sized firms increase their level of disclosures of

diversity policy to meet the expectation of their stakeholders, smaller sized firms might follow their path. Evidently, our results are not in line with expectation based on prior research (Bernardi, Bean & Weippert, 2002). Firms approaching the threshold refers to that firms that expect to be subject to the legal requirement in the near future will apply the requirements voluntarily in preparatory purpose. However, although spill over effects and approaching the threshold do not seem to explain the results pertaining to the firms not obliged to disclose on a diversity policy, a plausible explanation is that it is costly and too burdensome for smaller sized firms to excessively disclose (Verrecchia, 1983; Buzby, 1975).

The many firms that receive a total score of zero or one point indicate that disclosures of quantitative or firm specific nature are uncommon. An argument brought forward for these results is that every additional disclosure is burdensome and costly to include (Verrecchia, 1983; Depoers, 2000). Firms often defend their generally expressed disclosures by claiming that it would require too costly resources to convert these general disclosures into quantitative and firm specific ones. However, these arguments seem to not hold and firms can access firm specific information at no or little cost. Since firms disclose this information in other parts of their annual reports, it is evident that the information is accessible. Also, by the time that the annual report is released, there should be plenty of information from the nomination committee available to disclose in the annual report. However, for some reason, firms seem to be reluctant to disclose such information in a diversity policy context and hold on to their general disclosures. Reasons for this are still not uncovered.

Similar to the many firms receiving a total score of zero or one point, there are many firms receiving a total score of six or seven points. It is evident that many firms use similar expressions and even identical disclosures to each other, and these standard phrases result in approximately six or seven points. Even though many firms have increased their level of disclosures from 2016 to 2017, one might question whether value is added to the users of the information since many firms disclose in very similar ways. It can be questioned whether firms disclose to meet stakeholders' minimum expectations to legally comply (Tschopp, Nastanski, 2014) and take the easy way out to disclose a standard text, or whether it is a coincidence that many firms disclose in similar ways. Whether users of information find the disclosure value relevant or not is not elaborated upon in this thesis.

When investigating the outcome of a legal requirement one has to be aware of other events present at the same time as the introduction of the legal requirement, influencing how firms behave. The influences of other events are difficult to separate from the legal requirement, which in this case is the amendment to the Swedish Annual Accounts Act. For example, the powerful phenomenon #metoo evolved in Sweden at the same time as the introduction of the legal requirement. The phenomenon had an enormous impact on firms, stakeholders and standard setters in Sweden and many other countries (Retriever, 2018; Regeringen, 2018). An event as #metoo and other similar happenings might explain why all firms included in the sample increase their level of disclosures, on average, and not only the firms subject to the legal requirement. This, because all firms are, to one extent or another, subject to events such as #metoo hence this might explain their increased level of disclosures. This thesis does not distinguish the effects from other influential events from the legal requirement.

Regarding Hypothesis (2), control variables seem to explain more than the explanatory variables because none of the explanatory variables are significant and the overall regression is significant. The findings cannot confirm that there is an association between board of directors' characteristics and disclosures of diversity policy. Prior research confirm this result suggesting that when including several facets of diversity, there seem to be no association between board of directors' characteristics and level of disclosures (Hoang, Abeysekera & Ma, 2018; Lim, Matolcsy & Chow, 2007). Evidently, without controlling for firm specific factors, gender seems to be associated with level of disclosures also confirmed by previous research (Hoang, Abeysekera & Ma, 2018; Wang, Coffey, 1992). This does not hold for citizenship and age of board members. It seems that boards of directors with more female board members

provide disclosures of diversity of higher quality but only when disregarding firm specific factors.

There are numerous facets of diversity (Harrison, Klein, 2007; Rose, 2007). This thesis solely uses three facets of diversity and one cannot conclude whether including additional or different facets would yield other results. For example, unobservable characteristics (Kang, Cheng & Gray, 2007), such as education or work experience that have an obvious connection to board work, might result in contradictory results compared to the results from this thesis. However, there are both practical limitations and ethical guidelines to take into account if considering including additional facets. For example, in this thesis, gender refers to the legal definition and not to board members' own perception of their own gender.

Although no significant results are obtained for Hypothesis (2), the results are yet relevant findings explaining the reality. The results do not support that board of directors' composition is of importance with regards to disclosures of diversity policy. This, *per se*, is a finding suggesting that homogeneous boards of directors are as good as diverse boards of directors at emphasising disclosures of diversity policy. It seems that it is not necessary to have a minority included in the board of directors to disclose on minority related issues. It seems that all the Anderses realise the value of disclosures of diversity without having an Anna in the board of directors, or is it just a matter of law compliance?

To conclude, Hypothesis (1) is supported and Hypothesis (2) is rejected. The answer to the research question is that the outcome of the legal introduction of a requirement to disclose on a diversity policy is significant and that there is no association between board of directors' characteristics and disclosures of diversity policy.

6.2. Contribution

There is substantive previous research deliberating upon introductions of legal requirements but a gap in prior research investigating the association between board of directors' composition and disclosures of diversity. This thesis contributes to existing research by being the first and only one, up to this point in time, examining the outcome of the EU Directive. Also, as per today, no studies have investigated the outcome of the amendment to the Swedish Annual Accounts Act, which makes this thesis unique.

Although several studies (Rose, 2007; Van Knippenberg, De Dreu & Homan, 2004; Hambrick, Cho & Chen, 1996; Van Peteghem, Bruynseels & Gaeremynck, 2018; Watson, Johnson & Merritt, 1998; de Andres, Azofra & Lopez, 2005; Adams, Ferreira, 2009; Ferreira, 2015) have examined the association between board of directors' composition and performance, few studies have explored the association between board of directors' composition and disclosures of diversity. This thesis therefore complements the gap in prior research and also, it uses a unique interpretation of diversity including three facets of diversity: gender, citizenship, and age. This interpretation and its association to disclosures of diversity have not been encountered in previous literature, hence this thesis is one of a kind.

In essence, this thesis contributes to already existing literature since it investigates an EU Directive and a subsequent amendment that have never been investigated before and since it uses data that similar studies have not accessed. Therefore, this thesis complements previous research but it also provides valuable knowledge to standard setters, customers, suppliers, auditors and other stakeholders. For example, standard setters are most likely interested in the outcome of the EU Directive and its implementation to national laws and regulation, customers and suppliers are powerful stakeholders prone to evaluate and scrutinise how firms disclose on diversity and lastly, auditors will find the results relevant for their daily work. Also, the findings provide a benchmark on how listed firms in Sweden disclose on diversity policy.

6.3. Limitations

This section elaborates on limitations of this thesis that readers should be aware of.

The sample consists solely of Swedish firms that are listed on any of the regulated stock exchanges in Sweden. Although Sweden is argued to be an appropriate setting to investigate the outcome of the EU Directive in, it implies that the results may or may not be generalisable and used on other data sets. Sweden and the firms included in the sample of this thesis most likely have characteristics that other countries and other firms do not have.

The outcome solely refers to the change in the level of quality of the disclosures hence this thesis does not evaluate compliance with the amendment to the Swedish Annual Accounts Act. Readers should not equate level of disclosures, as expressed in this thesis, with level of compliance. This thesis does not suggest that firms receiving higher (lower) scores are more (less) compliant, but it does suggest that they provide disclosures of higher (lower) quality. Similarly, this thesis does not equate level of disclosures with performance. That a firm discloses much (or little) on diversity does not reveal how well (or poor) the firm performs when it comes to diversity. Also, readers must keep in mind that no other disclosures than those presented in accordance with the EU Directive are assessed in this thesis. Firms provide disclosures of diversity related matters through many other communication channels than in their annual reports. They also provides disclosures of diversity in other parts of their annual reports than in their Corporate Governance Reports where the diversity policy is described. However, these disclosures are not assessed in this thesis.

The characteristics of the board members solely refers to the three characteristics gender, citizenship, and age. These are three facets of diversity used as a somewhat comprehensive interpretation of diversity, but it does not include all characteristics that one might include in the definition of diversity. Due to no available data, this thesis cannot include further facets of diversity and broaden the definition of diversity.

6.4. Areas for future research

There are several areas that future researchers are welcome to explore, many of them touched upon in Section 6.3 as they constitute limitations of this thesis. Six suggestions are presented in this section.

The first suggestion relates to that the findings in this thesis might not be generalisable due to the specific sample used in this thesis. Future research might compare the results from this thesis to results using other data sets and elaborate upon reasons for differences or similarities. Since prior research has suggested that implementations of accounting standards will differ due to several reasons such as enforcement and culture (Kang, Cheng & Gray, 2007), this is a reasonable suggestion for future research to expand on.

The second suggestion refers to how compliant firms are with the EU Directive and the amendment to the Swedish Annual Accounts Act. Since this is not investigated in this thesis, future research might want to investigate whether some firms are more or less compliant compared to other firms. Also, whether auditors audit the Corporate Governance Report, including the diversity policy, in accordance with FAR's guidelines or in accordance with the Swedish Annual Accounts Act might be investigated. In such investigation, one would have to consider whether an auditor's opinion on the Corporate Governance Report necessarily implies compliance with the amendment to the Swedish Annual Accounts Act. Auditors will most likely provide an auditor's opinion on the Corporate Governance Report even though disclosures of diversity policy are inadequate. Inadequate disclosures of diversity policy is probably not material enough for not providing an auditor's opinion. Furthermore, if expanding on this thesis and its content analysis, one must consider at what score a firm is believed to be compliant with the amendment to the Swedish Annual Accounts Act. This requires some subjective assessments since, presumable, not even the standard setters know what

compliance implies. The EU Directive and the amendment to the Swedish Annual Accounts Act are so vague in their wordings that it is almost impossible to determine level of compliance.

The third suggestion for future research is to include other disclosures of diversity than solely disclosures of diversity policy presented in the Corporate Governance Reports required by the amendment to the Swedish Annual Accounts Act. As elaborated upon in Section 6.3, firms disclose on diversity related matters in several communication channels and therefore, future researchers might want to include such additional disclosures to expand the set of disclosures used in this thesis.

A fourth suggestion is to include additional facets of diversity to cover a broader spectrum of diversity and add depth to the analysis. However, as discussed in Section 6.1, there are ethical concerns to recognise when adding additional facets that has to be taken into account. As many researchers have pointed out before, diversity can be defined in numerous ways (Harrison, Klein, 2007; Rose, 2007), hence future researchers may want to add further facets of diversity (but without violating any ethical and practical limitations) when investigating the association between board room diversity and level of disclosures. Examples of such facets are for example professional background and education, which, in contrast to the three facets used in this thesis, are possible for individuals to gain throughout life.

The fifth suggestion refers to whether users of information find the disclosures of the diversity policies relevant or not. Future researchers could compare disclosures required by law by disclosures that users find relevant and investigate potential discrepancies.

Lastly, the sixth suggestion refers to whether the objectives of the EU Directive are reached. Especially, whether board room diversity increased after the implementation of the EU Directive into national laws and regulations can be explored. Did boards of directors become more diverse or did Anders continue to recruit Anders?

7. References

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8. Appendix

Table 17 – Sample firms

1. A3 Allmänna IT- och Telekomaktiebolaget AB	71. Elanders AB
2. AAK AB	72. Electra Gruppen AB
3. Acando AB	73. Electrolux, AB
4. Active Biotech AB	74. Elos Medtech AB
5. AddLife AB	75. Eltel AB
6. AddNode Group AB	76. Empir Group AB
7. Ahlsell AB	77. Endomines AB
8. AIK Fotboll AB	78. Enea AB
9. Alfa Laval AB	79. Eniro AB
10. Alimak Group AB	80. Episurf Medical AB
11. Alligator Bioscience AB	81. Ericsson, Telefonab. L M
12. Anoto Group AB	82. Essity AB
13. Arise AB	83. Evolution Gaming Group AB
14. ASSA ABLOY AB	84. eWork Group AB
15. Atlas Copco AB	85. Fabege AB
16. Atrium Ljungberg AB	86. Fagerhult, AB
17. Attendo AB	87. Fast Partner AB
18. Avanza Bank Holding AB	88. Fastighets AB Balder
19. Axfood AB	89. Feelgood Svenska AB
20. Axis AB	90. Fingerprint Cards AB
21. B3 Consulting Group AB	91. FormPipe Software AB
22. Bactiguard Holding AB	92. G5 Entertainment AB
23. BE Group AB	93. Garo AB
24. Beijer Alma AB	94. Getinge AB
25. Beijer Electronics Group AB	95. GHP Specialty Care AB
26. Beijer Ref AB	96. Glycorex Transplantation AB (publ)
27. Besqab AB	97. Gränges AB
28. Betsson AB	98. Guideline Geo AB (publ)
29. Bilia AB	99. Gunnebo AB
30. BillerudKorsnäs AB	100. Haldex AB
31. BioGaia AB	101. Hansa Medical AB
32. BioInvent International AB	102. Havsfrun Investment AB
33. Biotage AB	103. Heba Fastighets AB
34. Björn Borg AB	104. Hemfosa Fastigheter AB
35. Boliden AB	105. Hexagon AB
36. Bonava AB	106. Hexatronic Group AB
37. Bong AB	107. HEXPOL AB
38. Boule Diagnostics AB	108. HiQ International AB
39. Bravida Holding AB	109. HMS Networks AB
40. BTS Group AB	110. Hoist Finance AB
41. Bufab AB	111. Holmen AB
42. Bulten AB	112. Hufvudstaden AB
43. Bure Equity AB	113. Humana AB
44. Byggmax Group AB	114. Husqvarna AB
45. Camurus AB	115. I.A.R Systems Group AB
46. Capio AB	116. ICA Gruppen AB
47. Castellum AB	117. ICTA AB
48. Catella AB	118. Image Systems AB
49. CellaVision AB	119. Industrivärden, AB
50. Cloetta AB	120. Indutrade AB
51. CLX Communications AB	121. Intrum AB
52. Collector AB	122. Investor AB
53. Com Hem Holding AB	123. Inwido AB
54. Concentric AB	124. Invisio Communications AB
55. Concordia Maritime AB	125. Invuo Technologies AB
56. Coor Service Management Holding AB	126. ITAB Shop Concept AB
57. Corem Property Group AB	127. JM AB
58. C-RAD AB	128. KABE Group AB
59. Creades AB	129. Karo Pharma AB
60. Crown Energy AB	130. Karolinska Development AB
61. CTT Systems AB	131. Kinnevik AB
62. D. Carnegie & Co AB	132. Klöver AB
63. Dedicare AB	133. Knowit AB
64. Diös Fastigheter AB	134. Kungsleden AB
65. Dometic Group AB	135. Lammhults Design Group AB
66. DORO AB	136. Latour, Investmentab.
67. Duni AB	137. Lifco AB
68. Duroc AB	138. LifeAssays AB (publ)
69. Eastnine AB	139. Lindab International AB
70. Edgeware AB	140. Loomis AB

141. Lundbergföretagen AB, L E	200. SBC Sveriges BostadsrättsCentrum AB
142. Lundin Petroleum AB	201. Scandi Standard AB
143. Malmbergs Elektriska AB	202. Scandic Hotels Group AB
144. MedCap AB	203. Securitas AB
145. Medivir AB	204. Semcon AB
146. Mekonomen AB	205. Sensys Gatso Group AB
147. Micro Systemation AB	206. Serneke Group AB
148. Midsona AB	207. SinterCast AB
149. Midway Holding AB	208. Skandinaviska Enskilda Banken
150. Moberg Pharma AB	209. Skanska AB
151. Modern Times Group MTG AB	210. SKF, AB
152. Mr Green & Co AB	211. Softronic AB
153. MultiQ International AB	212. Sotkamo Silver AB
154. Mycronic AB	213. Sportamore AB
155. NAXS AB	214. SSAB AB
156. NCC AB	215. Stockwik Förvaltning AB
157. Nederman Holding AB	216. Strax AB
158. Net Insight AB	217. Studsvik AB
159. NetEnt AB	218. SWECO AB
160. NeuroVive Pharmaceutical AB	219. Swedbank AB
161. New Wave Group AB	220. Svedbergs i Dalstorp AB
162. NGS Group AB	221. Swedish Match AB
163. NIBE Industrier AB	222. Swedish Orphan Biovitrum AB
164. Nobia AB	223. Swedol AB
165. Nolato AB	224. Svenska Bostadsfonden 14 AB (publ)
166. Nordea Bank AB	225. Svenska Cellulosa AB SCA
167. NOTE AB	226. Svenska Handelsbanken
168. NOVOTEK AB	227. Tele2 AB
169. NP3 Fastigheter AB	228. Telia Company AB
170. Obducat Aktiefbolag	229. Tethys Oil AB
171. Odd Molly International AB	230. TF Bank AB
172. OEM International AB	231. Thule Group AB
173. Opus Group AB	232. Tobii AB
174. Orexo AB	233. Traction AB
175. Ortivus AB	234. TradeDoubler AB
176. Oscar Properties Holding AB	235. Trelleborg AB
177. Pandox AB	236. Trention AB
178. Paynova AB	237. Troax Group AB
179. Peab AB	238. Uniflex AB
180. Platzer Fastigheter Holding AB	239. Wallenstam AB
181. Poolia AB	240. VBG GROUP AB
182. Precise Biometrics AB	241. Victoria Park AB
183. Prevas AB	242. Wihlborgs Fastigheter AB
184. Pricer AB	243. Viking Supply Ships AB
185. Proact IT Group AB	244. Wise Group AB
186. Probi AB	245. Vitec Software Group AB
187. ProfilGruppen AB	246. Vitrolife AB
188. Projektengagemang Sweden AB	247. Volati AB
189. Qliro Group AB	248. Volvo, AB
190. Radisson Hospitality AB	249. XANO Industri AB
191. Ratos AB	250. Xvivo Perfusion AB
192. RaySearch Laboratories AB	251. ÅF AB
193. Recipharm AB	252. Öresund, Investment AB
194. Rejlers AB	
195. Resurs Holding AB	
196. Rottneros AB	
197. SAAB AB	
198. Sagax AB	
199. Sandvik AB	

Table 17 presents the sample firms.

Table 18 – Descriptive statistics

Variable	Firms	Mean	Std.Dev.	Min	Median	Max
Women	252	0.337	0.139	0.000	0.333	0.667
Non-Swedish citizens	252	0.149	0.225	0.000	0.000	1.000
Standard deviation of age (years)	252	8.269	3.042	1.643	7.896	22.202
Spread of age (years)	252	21.976	8.062	4	21	54
Net turnover (MSEK)	252	13,116.07	33,357.83	0.078	2,126.925	336,000
Total assets (MSEK)	252	71,960.19	449,000	34.54	3,054.320	5,710,000
Leverage ratio	252	0.018	0.056	-0.168	0.011	0.804
Profit margin	252	-10.259	165.727	-2,628.410	0.084	91.339
Return on equity	252	0.087	0.348	-2.515	0.137	0.735
Return on assets	252	0.056	0.155	-0.655	0.069	0.468

Table 18 presents descriptive statistics of variables. *Women* is defined as the fraction of women in each board of directors; *Non-Swedish citizens* is defined as the fraction of board members without a Swedish personal identity number; *Standard deviation of age* refers to the standard deviation of the ages of all board members; *Spread of age* is defined as the difference between the age of the oldest and the age of the youngest board member; *Net turnover* refers to net turnover except for banks where it refers to revenue; *Total assets* refers to book value of total assets; *Leverage ratio* is measured as the sum of total liabilities (both interest bearing and non-interest bearing at their book values) divided by book value of equity; *Profit margin* is measured as the sum of operating profit, result from associated firms, interest income from subsidiaries, other interest income and other financial revenues divided by net turnover; *Return on equity* is measured as income before tax divided by book value of equity; *Return on assets* is measured as the sum of operating profit, interest income from subsidiaries and other interest income divided by book value of total assets. For descriptive statistics of winsorized variables, see Table 4.

Table 19 – Collinearity Diagnostics

Variable	VIF	SQRT VIF	Tolerance	R-Squared
Women	1.11	1.05	0.8987	0.1013
Non-Swedish citizens	1.20	1.09	0.8347	0.1653
Standard deviation of age	1.06	1.03	0.9431	0.0569
Net turnover	1.17	1.08	0.8544	0.1456
Total assets	1.24	1.12	0.8034	0.1966
Leverage ratio	1.27	1.13	0.7871	0.2129
Profit margin	1.10	1.05	0.9104	0.0896
Return on equity	2.40	1.55	0.4173	0.5827
Return on assets	2.39	1.55	0.4179	0.5821
Mean VIF	1.44			

Table 19 presents collinearity diagnostics for the continuous variables included in the regression models on the cross-sectional data. No single VIF is higher than 4. Additional VIF analysis includes the effect of the factor variables *Audit firm*, *Industry* and *Segment* as well as dummy variable *Mandatory* and results are consistent with above, see Table 20.

Table 20 – Extended VIF

Variable	VIF	1/VIF
Women	1.370	0.730
Non-Swedish citizens	1.345	0.743
Standard deviation of age	1.136	0.880
Net turnover	1.529	0.654
Total assets	1.363	0.734
Leverage ratio	1.381	0.724
Profit margin	1.205	0.830
Return on equity	2.554	0.392
Return on assets	2.974	0.336
1.AuditFirm	1.291	0.775
1.Industry	4.581	0.218
2.Industry	1.881	0.532
3.Industry	2.724	0.367
4.Industry	2.285	0.438
5.Industry	1.890	0.529
6.Industry	1.768	0.566
7.Industry	2.011	0.497
8.Industry	1.648	0.607
9.Industry	1.714	0.583
1.Segment	1.918	0.521
2.Segment	2.356	0.424
3.Segment	1.625	0.615
4.Segment	1.142	0.875
Mandatory	1.958	0.511
Mean VIF	1.902	.

Table 20 presents the total VIF analysis. No single VIF is higher than 10.

Table 21 – Breusch-Pagan test

Chi-square	Prob>Chi-square
26.99	0.3051

Table 21 presents the results from the Breusch-Pagan test. The test is used to identify any form of heteroscedasticity. The null hypothesis is that the error term variances are all equal, H_0 : Constant variance. Variables used in the test are *Women*, *Non-Swedish citizens*, *Standard deviation of age*, *Net turnover*, *Total assets*, *Leverage ratio*, *Profit margin*, *Return on equity*, *Return on assets*, *Audit firm*, *Industry*, *Segment* and *Mandatory*. The null hypothesis is supported why it does not seem that heteroscedasticity exists. However, robust standard errors are appropriate even though the Breusch-Pagan test shows of no homoscedasticity, therefore robust standard errors clustering at firm level are used on estimations on panel data but not for the cross-sectional data.

Table 22 – Hausman test

Chi-square	Prob>Chi-square
8.753	0.188

Table 22 presents the results from the Hausman test. The test is used to identify whether a fixed effects or a random effects model is more suitable to control for unobserved effects in the panel data. The test supports the null hypothesis that both random effects and fixed effects regression model could be used, therefore supporting the use of random effects regression model.

Table 23 – Breusch-Pagan Lagrange multiplier test

Chi-bar-square	Prob>Chi-bar-square
27.71	0.000

Table 23 presents the results from the Breusch-Pagan Lagrange multiplier test for random effects. The test is used in order to know whether Pooled OLS is useful for further analysing the panel data. According to the Breusch-Pagan Lagrange multiplier test results, the null hypothesis (variances across firms is zero) is rejected at 95 % confidence interval. Hence, there is no need to run a Pooled OLS regression.