

The Effect of Corporate Social Responsibility on Cost of Equity & Debt

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August 14, 2017

Acknowledgement

I am willing to take the chance and express my gratitude to those who have contributed to my research. Primarily, my supervisor Daniel Reimsbach for the constructive feedback he has provided and Gaby Contreras for the guidance she has provided in statistics. In addition, I want to express my appreciation to Albert de Vaal as well as Hatice Günenç for their assistance and support. Lastly, I want to give special thanks to my friend Debbie Stronkhorst for the help and support she has provided during the writing process.

Abstract

The purpose of this study is to investigate the effect of Corporate Social Responsibility (CSR) disclosure on the cost of equity (COE) and debt (COD). The relationship between Corporate Social Responsibility and the cost of equity has been discussed extensively in the literature. However, there is a lack in the debt literature despite its extensive market size. Accordingly, the findings of this study contribute directly to the body of literature by filling this knowledge gap. The effect of Corporate Social Responsibility on the cost of capital is investigated by deploying the terms of information asymmetry and risk reduction and through the interpretation of agency, legitimacy and signaling theory. Building upon the current state of knowledge, the findings suggest that Corporate Social Responsibility disclosure has a significant negative association with both the cost of equity and the cost of debt. The findings of the study suggest that the interest in Corporate Social Responsibility disclosure is not limited to the equity market but also includes the credit market. The main aspiration of the study is to encourage the adoption of the socially responsible behavior and reporting. Besides that, these findings suggest useful implications for management, investors, rating agencies, the government and other parties that are interested in transparency and risk management.

Keywords: *Corporate Social Responsibility (CSR), cost of equity (COE), cost of debt (COD), information asymmetry, risk, transparency*

Table of Contents

1 Introduction.....	1
2 Literature review	5
2.1 CSR Definition.....	6
2.2 Information Asymmetry, Risk and Transparency.....	7
2.3 CSR Disclosure	9
2.3.1 Agency theory.....	9
2.3.2 Legitimacy Theory.....	10
2.3.3 Signaling Theory	11
2.3.4 Summary.....	12
2.4 Benefits of CSR Disclosure – Hypothesis.....	12
3 Methodology & Results	15
3.1 Sample & Data collection	15
3.2 Dependent Variable – COE	15
3.3 Dependent Variable – COD.....	16
3.4 Independent Variable – CSR	16
3.5 Control Variables – COE.....	17
3.6 Control Variables – COD	17
3.7 Model Specification	18
3.8 The Results.....	20
4 Discussion & Conclusion.....	28
4.1 Conclusion.....	30
Appendix A:	41
Appendix B:	42

1 Introduction

In the new era of business power, the old philosophy of business responsibility has been outdated.....the social responsibilities of the businessman mean that businessmen should oversee the operation of an economic system that fulfills the expectations of the public. And this means in turn that the economy's means of production should be employed in such a way that production and distribution should enhance total socio-economic welfare. Social responsibility in the final analysis implies a public posture toward society's economic and human resources and a willingness to see that those resources are utilized for broad social ends and not simply for the narrowly circumscribed interests of private persons and firms. (Frederick, 1960, pp. 54–60)

Many researchers have pointed out the catastrophic environmental consequences of socially irresponsible firms' behavior (Newton, 2009; Frynas, 2005; Khadjavi, 2013). It is clear that the main element in any production line (the raw material) is based on a sort of natural resources. Depleting or polluting the natural resources will eventually hinder the firms' ability to maintain a sustainable growth and development. Therefore, it is important to shift the focus from the short-term objectives and consider the future consequences which will not only affect the firms' survival ability, but rather their own existence as humans. In other words, the corporation's ability to maintain a sustainable growth and development (competitive advantage) depends mainly on the ongoing interaction between human, environmental and organizational resources (Garriga & Melé, 2004). This understanding had paved the way for the introduction of Corporate Social Responsibility (CSR) and implies the importance of contributing back to the society, not just by doing the good that may benefit the society, but rather by avoiding doing the bad (Lin-Hi & Müller, 2013).

According to the CSR, companies should operate as citizen companies who act in a transparent and ethical manner that contributes back to the society in which they operate (Banerjee, 2008; Carroll, 1991; McWilliams & Siegel, 2001). Furthermore, The information that is disclosed in the CSR report should be relevant, timely and not expensive to gather (Dubbink et al., 2008). Unfortunately, CSR adoption is a more complicated process to implement than to explain. This is mainly due to companies' different interests and cultures (i.e. humanistic vs. profit maximization) and the possible conflict of interest between managers and shareholders (Banerjee, 2008).

In regard to culture, firms can be categorized into a humanistic culture where firms tend to act in a socially responsible manner (Walker & Wan, 2012; Smith, 2003; Banerjee, 2008;

Lee, 2008), and a profit maximizing manner where firms seek their own interest, even though it is at the expense of everyone else (Dugger, 1989; Lee, 2008; Menz, 2010; Halley, 2013; Basu & Palazzo, 2008). Consequently, the society tends to benefit those who act in a socially responsible manner. Therefore, it is important for the firm to channel their social performance. This is usually done through the CSR disclosure (Dhaliwal et al., 2011). In that sense, CSR disclosure would be beneficial to all.

But what is the meaning of a behavior that is beneficial to all? In the context of **CSR disclosure**, this usually refers to the behavior that involves society (customers, environment, etc.), employees and the firm's financial performance. This is often regarded as one coherent unit where success in one dimension requires – and depends on – the success of the others (Carroll, 1991; McWilliams & Siegel, 2001).

For instance, engaging in a socially responsible behavior and disclosure is believed to hinder the capabilities of the terrorist groups (Smith, 2003), bring awareness over poverty – and disease – and shed the light on the environmental issues that may be caused by the firms' operations, therefore, increasing the social welfare (Basu & Palazzo, 2008). Furthermore, the firms' social engagement and contribution can create a mutual trust between the firm and the society where it operates. This trust can establish the basis for the firm's good reputation and loyalty (Kang & Hustvedt, 2014; Asemah et al., 2013; Fombrun, 2005).

Besides that, Good products come from good operations and good operations come from good employees. Employees who work in an ethical environment are found to be more likely to speak about it and develop a sense of belonging to the company (Smith, 2003; Asemah et al., 2013). Managers and individuals are usually able to identify what it is meant by acting ethical. Therefore, it is expected to behave in accordance with the CSR perspective. This will eventually affect the company's operations and reputation (Cacioppe et al., 2008). In accordance, Branco & Rodrigues (2006), McGuire et al., (1988), Galbreath (2008), Welford & Frost (2006) and Menz (2010) have found that investing in CSR could attract superior employees in terms of ethics, commitment, devotion, and ambition. Accordingly, engaging in CSR may be regarded by investors as a management skill that aims to build a reputation and achieve long-term objectives.

Furthermore, evidence shows that customers are willing to pay more for socially responsible products. For instance, customers are willing to pay more for eggs that are produced by ethically treated chickens. Likewise, customers would pay more for products that

are labeled “fair-trade”. Therefore, CSR products and operations may offer a significant competitive advantage (Smith, 2003; McGuire et al., 1988; Gamerschlag et al., 2011).

Besides that, CSR is related to the cost of capital and the investors’ funds allocation decisions. Healy & Palepu (2001) had argued that more disclosure could provide more information, therefore, reducing the information asymmetry problem. Without sufficient information, Investors cannot distinguish between the good and bad investments (i.e. the lemon problem). This problem is explained by Healy & Palepu (2001) as; “A critical challenge for any economy is the optimal allocation of savings to investment opportunities” (p.407). Healy & Palepu (2001) tried to respond to this threat by proposing the optimal contracts. However, these contracts are almost impossible to establish due to externalities’ constant state of framing and overflow (Callon, 1998; Kastberg, 2014)¹. A more realistic approach is to introduce the CSR disclosure as a win-win strategy (as discussed earlier). This would align the interest and create incentives for CSR disclosure. In addition, the CSR disclosure would reduce information asymmetry and agency problem; hence reducing the uncertainty risk. Eventually, the market would acknowledge these inputs and supply its resources to those who deserve them at a lower cost.

The aforementioned literature suggests that CSR disclosure would yield mutual benefits (e.g. societal and financial) between the involved parties. Across this broad continuum of CSR disclosure research, *this study focuses on investigating the relationship between CSR disclosure and the cost of capital (i.e. the cost of equity and debt)*. In respect to the relationship between CSR disclosure and cost of equity, Literature has identified the positive effect of CSR on reducing the cost of Equity. For instance, Dhaliwal et al. (2011) suggest a negative relationship between the cost of capital and CSR disclosure. Besides that, the higher the quality of the disclosure, the more devoted investors and analysts it attracts. In accordance, El Ghouli et al., (2011) and Reverte (2012) have argued that companies with superior CSR can acquire equity at a lower cost.

Unfortunately, literature has found the relationship between CSR disclosure and the cost of debt to be insignificant. This may occur due to not identifying the CSR disclosure as a risk relevant element (Goss & Roberts, 2011). However, this conclusion is highly debatable due to the following reasons. Firstly, bankers identify CSR as an important factor in establishing the investment decisions (McGuire et al., 1988). Secondly, Weber (as cited in

¹See Callon (1998) and Kastberg (2014) for more information.

Reverte, 2012) argued that companies' sustainability² criteria are relevant in determining the credit worthiness. Lastly, Cheng et al., (2014) hypothesized that CSR is supposed to reduce the cost of debt by increasing transparency which in return would enhance the reporting reliability and compliance. Despite these limited findings, there is a gap in the literature of debt. This gap in literature is well described by Goss & Roberts (2011) as follows;

The lack of research in the debt area is somewhat surprising, given the size of the corporate debt market relative to the equity market. According to Thomson Financial, the worldwide syndicated loan market totaled \$3.8 trillion U.S. dollars in 2004, while the size of the equity markets was \$845 billion.” (p.9)

All things considered, the previous discussion has provided an insight into the economic justification of CSR disclosure. Limiting the benefits of CSR disclosure to lowering the cost of equity reflects the fact that the current state of literature focuses mainly on the equity market. This focus should be considered as an exclusion rather than a conclusion. At one end, neglecting the effect of CSR on the cost of debt limits the benefits of CSR on other sources of finance. At the other end, it neglects the crediting sector role in social responsibility. In brief, this limited focus contradicts with the theoretical and practical relevance of the debt capital. This would hinder the ability to fully understand the effect of CSR disclosure on both the cost of equity and debt, therefore, limits the ability to identify the firms' financing preferences. Through time, the main preferences could be equity, debt or both. However, the current state of literature limits this relationship to one aspect while neglecting the other. Therefore, it fails to capture the entire relationship. For instance, research may find a negative relation between CSR disclosure and the cost of equity. However, does this mean the relationship with the cost of debt is insignificant? Could both of them have a significant relationship at the same time? Or does the financing preference change through time from equity to debt and vice versa? Clearly, focusing on one preference and neglecting the other will not answer these questions. Furthermore, realizing that most firms use a mix of capital structure magnifies the current drawback. Therefore, the aim of this study is to extend the current state of knowledge by investigating the effect of CSR disclosure on both the cost of equity and the cost of debt over a period of time. This can be expressed through the following question;

What is the effect of CSR disclosure on both cost of equity & debt?

²As mentioned earlier in the discussion CSR promote sustainability growth and development.

Accordingly, the results of this study would yield several theoretical and practical contributions. On the theoretical level, this study contributes to the ongoing debate³ on CSR adoption, implementation, and the disclosure benefits⁴. In addition, the study differs by investigating the effect of CSR disclosure on both the cost of equity and debt. The findings of the study are expected to help in filling the literature debt gap. Therefore, the findings of the study will extend the body of knowledge beyond its current state.

On the practical level, identifying the effect of CSR disclosure on the cost of debt can enhance the banks' monitoring role on the quality of the disclosure. Besides that, understanding the relationship between CSR disclosure and the cost of capital would help implementing the appropriate incentives that align the interests of the involved parties. This may involve management, investors, rating agencies and the government.

The remainder of the paper is organized as follows. The second chapter is dedicated to the literature review. It mainly presents the different theories and approaches that are connected to CSR disclosure, the cost of equity and debt. The last section of this chapter is dedicated to hypothesis formulation. The third chapter explains the research methodology and the results. It explains the sample, design, and the variable operationalization. Then, the results of the analysis will be presented at the end of this chapter. The last chapter will provide a discussion of the findings and draw a conclusion. This chapter will end with a discussion on the study's limitations and suggestions for further research.

³Insights had been provided over the incorporation between incentives and self-regulating for high quality CSR disclosure.

⁴See the earlier discussion.

2 Literature review

This chapter provides the theoretical background to the field of CSR disclosure and cost of capital (i.e. COE and COD), mainly by comparing and combining different theories and approaches. The structure of this chapter is in the following order. Section 2.1 provides a clear definition of CSR, hence provides a base for the following arguments to build upon. Section 2.2 is dedicated to present the relationship between CSR disclosures, information asymmetry, risk, and transparency. However, the interpretation of the relationship between CSR disclosure, information asymmetry, risk, and transparency depends on the theory that is used to explain that relationship (e.g. agency theory, legitimacy theory, and signaling theory). Therefore, section 2.3 is dedicated to explain the CSR disclosure from these different points of view. Lastly, Section 2.4 briefly represents the broader spectrum of CSR disclosure benefits, then concentrates on investigating the relationship between CSR disclosure and cost of capital (i.e. COE and COD). This structure can be presented as below;

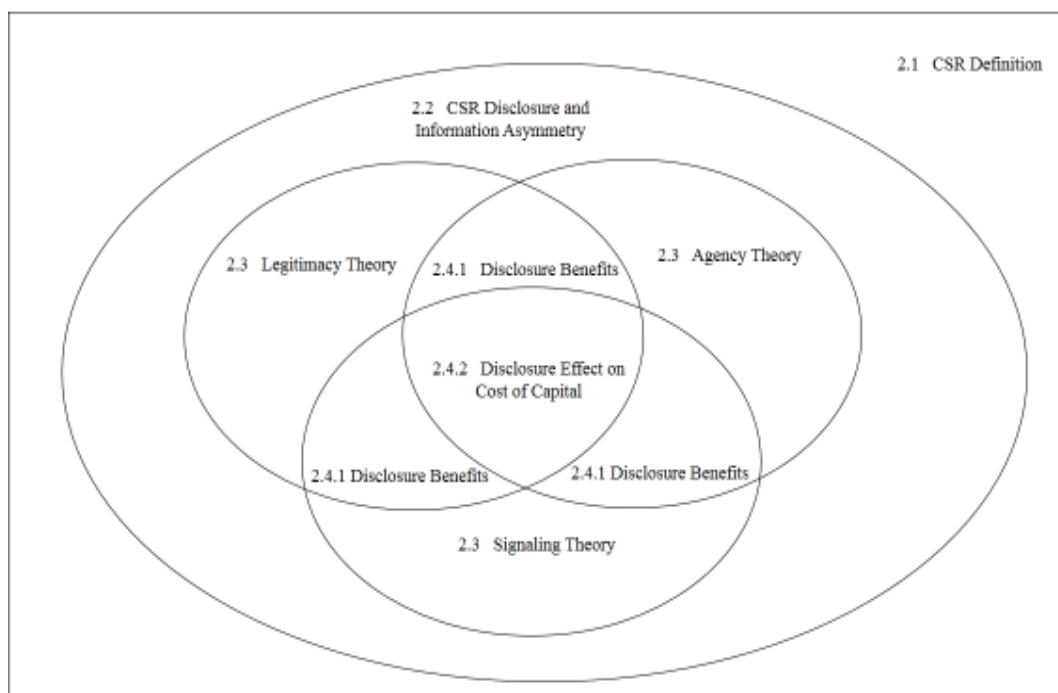


Figure 1: Construction of the literature review

The construction presented in Figure 1 provides the necessary consequential rationale of the concepts and theories that are needed to understand the relationship between CSR disclosure and the cost of capital.

2.1 CSR Definition

Any study of the links between CSR and financial performance must begin with a clear definition of both terms. (Goss & Roberts, 2011, p. 11)

Despite the popularity of the notion of CSR in recent years, there is no agreement among academics over a clear definition (Van Marrewijk, 2003). This is mainly due to the fact that the notion itself has evolved since the 1950s. Through time, the notion has been developed, expanded and adjusted due to the social, political and environmental influences (Carroll, 1999).

Besides that, CSR definition suffers from various problems and limitations. For instance, there are no definite guidelines to achieve the desired outcomes. In addition, there are no definite mechanisms to achieve the optimal behavior (Dahlsrud, 2008). Moreover, CSR may mean many things to many people, which may allow manipulation to fit a predetermined purpose (Van Marrewijk, 2003). Furthermore, there is no unified measure for CSR (Panayiotou et al., 2009). Consequently, some academics have considered CSR as an ambiguous notion with no useful implication (Van Marrewijk, 2003).

Despite the problems facing the CSR definition and applications, there is a general agreement over its societal roots. It demands the adjustment of the firms' position to meet the societal complexity. Therefore, this study makes use of the definition proposed by Davis and Blomstrom (1966) who defines CSR as:

A person's obligation to consider the effects of his decisions and actions on the whole social system. Businessmen apply social responsibility when they consider the needs and interest of others who may be affected by business actions. In so doing, they look beyond their Firm's narrow economic and technical interests⁵. (p. 12)

Choosing this definition as the basis for this study implies some important insights. Firstly, it encourages the consideration of the consequences of a firm's actions on society. Secondly, it urges the firms to look beyond its short term interests. This may benefit the long term sustainable development and may eliminate the idea of bearing the CSR extra cost. This understanding could encourage the adoption of the CSR behavior and disclosure as it suggests a win-win strategy.

⁵This is also in accordance with the definition provided by McWilliams & Siegel (2001) and Lea (2002).

2.2 Information Asymmetry, Risk, and Transparency

Information asymmetry exists when investors are differentially informed about a firm's value and ... can trade profitably at the expense of other investors ... Empirical evidence shows that the level of information asymmetry is positively associated with firms' cost of capital. (Brown et al., 2004, p. 3)

The crisis of Enron has shed the light on many circumstances that led directly to its failure. One of the reasons that are closely related to this study is linked to the information asymmetry problem. The top management of Enron had hidden their compensation plans from the shareholders and the public. Besides that, the top management of Enron had hidden the company's true financial position (Healy & Palepu, 2003). This case besides others has risen the demand for less risk and more transparency (Fox, 2007).

Clearly, information asymmetry can be a source of different kinds of risk. For instance, management can use debt cash as dividends, misallocate funds and involve in high-risk investments. These activities would give a false performance perception and weaken the firm's ability to fulfill its obligations for the benefits of the managers. This can happen due to the fact that managers have more information than the investors. Therefore, more disclosure is supposed to reduce the danger of these risks as it allows for redistributing more information at a lower cost (Healy & Palepu, 2001). This would also allow more accountability which will lead to transparency through the power of shaming and justice (Fox, 2007). In accordance, Godfrey et al., (2009) argued that CSR disclosure may work as an insurance policy that can be used to mitigate the firm's evaluation risk by providing more useful information⁶. In other words, it would reduce the ambiguity of the action when motives are questioned.

Husted (2005) – on the other hand – suggests that CSR disclosure mitigates risk by acting as a real option. In contrast to financial options, real options are reflecting operational assets. In that sense, it helps in the investments' decision-making process, resources allocation and whether to stop or continue investing in specific projects. While ordinary investments weight the cost and benefits in a financial term, CSR disclosure as a real option takes the investment's societal cost and benefit into account. In that context, it reduces the business risk by providing more information that was available to neither the shareholder nor the stakeholder.

Government regulatory influence can also be regarded as a source of risk that can be caused by the risk of information asymmetry and the lack of transparency. In that context, the

⁶However, that would require creditability of the disclosure itself (i.e. signaling theory vs. legitimacy theory)

government can be regarded as a stakeholder that requires compliance from the firm's side. CSR disclosure would provide and distribute more information and therefore convey transparency. Hence, CSR disclosure can be used as a strategic mechanism that reduces the exposure to the regulatory risk which would also provide the firm with a competitive advantage (Roberts, 1992; McGuire et al., 1988).

Altogether, information asymmetry has been regarded as a main source of risk. This is mainly due to fact that it intends to concentrate the information with those who want to benefit from it at the expense of the others. In contrast, CSR disclosure redistributes the information to reduce that risk and allows for a better resource allocation (Liao et al., 2009) and the development of trust between the parties that are interested in the interaction (Kang & Hustvedt, 2014).

2.3 CSR Disclosure

The previous section has demonstrated the benefit of CSR disclosure in regard to reducing the risk of information asymmetry through information distribution and transparency. However, that conclusion is merely the impact of the disclosure process. The interpretation of disclosure process itself falls under the interpretation of agency, legitimacy and the signaling theory. This section explains the definition, assumptions/characteristics, and the rationale behind CSR disclosure.

2.3.1 Agency Theory

Agency theory primarily deals with the principal-agent relationship (also referred to as the agency relationship) existing in the separation of ownership and management, or in the separation of risk bearing, decision making and management. (An et al., 2011, p. 527)

The separation between investors/shareholders (i.e. principal) and management (i.e. the agent) requires a contract in which the agent is involved in performing a task for the principal. Accordingly, the principal gives the agent some authority over the investment, who is then compensated for performing that task. This is supposed to protect the investor from the agents' possible appropriation and hinder the incentive of acting opportunistically. In that context, the principal is usually involved in the monitoring process to ensure the agents' optimal behavior (An et al., 2011; Hill & Jones, 1992). In accordance, the agents are willing to disclose information to the principals as an indication of their optimal performance (Watson et al., 2002).

The underlying assumption of agency theory is that the individuals' behavior is only motivated by self-interest and that they act in an opportunistic manner whenever possible to maximize their utility. This would create a conflict between the principal and the agent, in which aligning the interests of the involved parties seems to be the only possible solution to that conflict. This assumption would feed the information asymmetry assumption which is the second assumption in agency theory. Intuitively, an individual who tries to maximize his/her wealth would keep valuable information private and would not share it with others. Therefore, the principal would have to bear an extra cost for monitoring and ensuring the behavior of the agent (An et al., 2011; Hill & Jones, 1992). Indeed, the evidence suggests that managers only involve in CSR disclosure that maximizes their own welfare (Ness & Mirza, 1991).

However, agency theory may yield benefits in regard to information disclosure. For instance, Watson et al., (2002) argued that although management is driven by a centric self-interest motive, they may provide more information to reduce the cost of capital and uncertainty. In addition, Ho & Wong (2001) argued that agency theory would require more monitoring activities on the board of directors, which in return would yield more voluntary disclosure. Hossain et al., (1995) also suggest that a conflict of interest between management and other parties (e.g. the government) may yield high costs. Therefore, management may provide the voluntary disclosure as an attempt to lower these costs. In other words, under agency theory assumptions, the key motive of CSR disclosure is to align the interests of the involved parties.

2.3.2 Legitimacy Theory

CSR is about managing perceptions and making people inside and outside the company feels good about themselves. (Frynas, 2005, p. 582)

Legitimacy theory assumes that companies seek societal justification for their operations. This can be considered a social contract between firms and the society. Although this can be regarded as a social justification between two parties with mutual interests, it can also be regarded as a source of manipulation. (Campbell, 2000; An et al., 2011; Hahn & Kühnen, 2013; Castelo Branco & Lima Rodrigues, 2006)

In an optimal situation, there are two parties in the social contract, the society, and the firm. In order for the firm to work within a specific society, they need to meet the expectations

of that society. The gap between the societal expectation and the firm's action is called the legitimization gap and the bigger the gap, the bigger the threat to the firm's survival. Therefore, firms usually adopt some mechanism to reduce the legitimization gap. For instance organizations can: (1) Take the effort and inform the public about their operations; (2) Change its behavior to meet the societal expectation; (3) Change the awareness of the public without changing its performance; (4) Manipulate the awareness of the public by diverting their attention away from the firms' operations to another unrelated concern; and (5) Manipulate the public expectation by persuading them that the required justifications are inaccessible. (An et al., 2011)

In accordance, O'Donovan (2002) stated that the environmental disclosure to the public can be understood through legitimization theory. Legitimization tactics are used as a response to the legitimacy threat. The aim of these tactics is to: (1) maintain; (2); gain, and (3) repair legitimacy (see appendix A).

Intuitively, the CSR that is disclosed in accordance with the legitimacy theory would raise many doubts about its motives and intentions. Is it issued to justify or to manipulate? Is it aimed to maintain, gain or repair legitimacy? Fortunately, a 100 years analysis for the Australian prevailed companies suggests the failure of legitimacy theory as a force that is responsible for the CSR disclosure (Guthrie & Parker, 1989). Aside from that, if CSR disclosure was to work under the optimal assumption of legitimacy theory – driven by good intentions and motives –, the disclosure would reduce the business risk as it provides transparency and reduces the number of uncertainties.

2.3.3 Signaling Theory

Signaling theory suggests that in situations of asymmetric distribution of information, one party tries to credibly convey information about itself to a second party. (Hahn & Kühnen, 2013, p. 21)

The underlying assumption of the signaling theory is that the firms are willing to act as a good citizen and in a transparent manner. Therefore, firms would voluntary adopt CSR disclosure (Mahoney et al., 2013). This is particularly related to the problem of resources allocation, where there is no enough information about the best investment. As a result, the investor would assume an average value to all market's investments. However, if investments signal their high

quality, the investors would better allocate their resources. This mechanism ensures the market's efficiency and protects against its failure (Bar-Yosef & Livnat, 1984).

This assumption implies the existence of information asymmetry (i.e. the firm knows more than the investors or the stakeholders). Therefore, the firm will try to signal its performance and behavior to the outsiders as an attempt to distinguish itself from the crowd. In other words, signaling theory assumes redistribution of information and transparency. (Bar-Yosef & Livnat, 1984; Watson et al., 2002; Hahn & Kühnen, 2013; An et al., 2011)

Under these expectations, CSR disclosure would signal societal and environmental assurance to the outsiders. This extra – and voluntary – information is supposed to decrease the firms' information asymmetry, hence increasing the transparency and reducing the business risk by reducing the number of uncertainties. This explains the increasing number of U.S. Companies that engage in CSR disclosure⁷. (Mahoney et al., 2013)

2.3.4 Summary

Agency, legitimacy and signaling theories provide a possible interpretation of the impact of CSR on reducing information asymmetry and risk. Practically, these theories are intertwined and hard to isolate. For instance, signaling theory can reduce the information asymmetry – which is an agency theory assumption – and legitimize the operations of the firm. Nevertheless, these theories provide possible explanations for the effect of CSR disclosure on the business risk and information asymmetry.

2.4 Benefits of CSR Disclosure – Hypothesis

The business case is concerned with the primary question: What do the business community and organizations get out of CSR? (Carroll & Shabana, 2010, p. 85)

Traditionally, the role of management was mainly to ensure producing, selling and making a profit. Therefore, CSR adoption was considered a destructive activity that is beyond their specialization. Consequently, CSR disclosure would yield no competitive advantage that would mitigate its costs (Friedman, 1970). However, empirical evidence suggests that almost all companies that engage in CSR had surpassed or at least had done as good as other companies that are not involved in CSR (Pava & Krausz, 1996; Waddock & Graves, 1997).

⁷Green washing can also explain the increasing number of U.S. companies involve in CSR disclosure. For more information see Mahoney et al., (2013).

The benefits of engaging in CSR Disclosure can be divided into the following categories: (1) reducing both cost and risk; (2) acquire a competitive advantage; (3) creating an image, therefore legitimacy; (4) creating mutual value to all parties by adopting a win-win mentality. It is important to consider that the presence of one category does not mean the absence of the other. For instance, reducing cost and risk would create a competitive advantage by creating a high-quality product at a lower cost (Carroll & Shabana, 2010; Du et al., 2010; Izzo & Magnanelli, 2012; Galbreath, 2008; Branco & Rodrigues, 2006; Luo & Bhattacharya, 2006). In accordance, Asemah et al., (2013) argue that firms with CSR develop many advantages such as;

enhanced brand and reputation, reduction in operation costs, attracting new customers, balancing power with responsibility, discouraging government regulation, improving a company's public image, promoting long run profit, improving relations with the investment community and better access to capital, enhancing employee relations, productivity and innovation and stronger relations within communities through stakeholder engagement. (p. 45)

On this broad spectrum of possible effects, this study investigates the specific effect of CSR disclosure on the cost of capital (i.e. COE and COD). A 401 financial managers' survey reveals that the primary purpose of CSR voluntary disclosure is to acquire capital at a lower cost. In that context, CSR voluntary disclosure provides more information to the market and this information can be used to increase transparency which in return decreases the valuation uncertainties. (Reverte, 2012; Richardson et al., 1999)

In regard to COE, Reverte (2012), as well as El Ghouli et al. (2011), argued that engaging in high quality CSR practices can reduce the COE by decreasing the amount of information asymmetry, hence, communicating more information to the investors (i.e. signaling) which would ultimately reduce the risk of uncertainties. In accordance, Dhaliwal et al. (2011) found that upon the initiation of CSR, firms intend to; (1) raise capital more easily; (2) acquire the equity at a lower cost; (3) attract devoted institutional investors; (4) attract more analysts. Interestingly, these results are consistent with an international level analysis that investigates 31 countries ((Dhaliwal et al., 2014).

Richardson & Welker (2001) – on the other hand – have found a significant positive relationship between CSR disclosure and COE. However, through a mega literature analysis, Lu et al. (2014) argue that most studies have concluded a significant positive relationship

between CSR and financial performance⁸. The same conclusion has also been confirmed by Pava & Krausz (1996). This leads to the following hypothesis;

H₁: There is a significant negative relationship between CSR disclosure and COE.

Driven by the lack of literature in regard to CSR disclosure and COD, this study pays special attention in investigating the effect of CSR disclosure on the COD. Goss & Roberts (2011) have examined the 52 studies that are reviewed by Orlitzky et al. (2003) and the 103 studies reviewed by Margolis & Walsh, (2001) and found no literature in the realm of the relationship between CSR and COD.

In the meantime, Attig et al., (2013) tried to incorporate the COD into the CSR literature by investigating the relationship between the CSR and the credit rating. The findings propose a significant positive relationship between CSR and credit rating. A high debt rating would increase the trustworthiness of the debt and lower its acquiring cost.

Izzo & Magnanelli (2012) – on the other hand – found a significant positive relation between CSR and the cost of debt. These findings convey that banks recognize CSR expenditure as a waste that provides no value⁹. However, Scholtens (2006) argued that the banks would commonly value the nonfinancial information that is provided by the firm, mainly for fund allocation purposes. Furthermore, Scholtens (2005) argues that investing in environmental projects is on a steady progress. For instance, in the Netherlands alone, the Green Project Finance has invested around € 6.5 billion in green projects. In accordance, Moore & Wüstenhagen (2004) demonstrate the increasing investments in the sustainable energy field.

All considered, there is a lack of literature on the link between CSR disclosure and the COD. However, the documented evidence suggests that banks and financial institutions do not only consider the nonfinancial information that is provided by firms but also invest in socially responsible projects. Considering the effect of the provided information on increasing the transparency and decreasing the risk of uncertainties, the second hypothesis can be formulated as below;

H₂: There is a significant negative relationship between CSR disclosure and COD.

⁸Which includes the lowering the cost of capital

⁹However this conclusion maybe flawed. More information is provided in the discussion chapter.

3 Methodology & Results

In order to answer the main research question, the previous chapter proposed the hypotheses that are based on the field's previous literature. Accordingly, this chapter is dedicated mainly to test these hypotheses.

3.1 Sample & Data collection

In order to answer the research question and the related hypotheses, the full list of NASDAQ stock market companies (2540 companies) has been retrieved from DataStream database as a sample. The period of the analysis varies based on the data availability. For instance, the data that is used to examine the effect of CSR disclosure on the COE covers the period of 2011 – 2016, while the data that is used to examine the effect of CSR disclosure on the COD covers only the period of 2015 – 2016¹⁰. Conducting the analysis for more than one time period (through time) would yield better results in regard to consistency and accuracy.

Choosing NASDAQ list¹¹ over others (e.g. S&P500 or fortune list) is supposed to yield more robust results. For instance, companies in S&P500 or fortune list are already doing well economically. Therefore, acquiring capital at a lower cost can be explained by many factors other than the CSR disclosure (e.g. brand, market share, and financial performance). Hence, using the NASDAQ list would yield better results in regard to examining the effect of CSR disclosure on the cost of capital. This is mainly due to the inclusion of a wide range of companies that work in different domains and environments. In other words, the companies that are included as a sample work in different conditions and under different circumstances. Therefore, they provide more accurate results in relation to the disclosure's effect on the cost of capital. Consequently, no further tests in regard to the selection bias problem would be necessary for this study.

3.2 Dependent Variable – COE

This study is mainly exploring the relationship between CSR and the cost of equity and debt. Accordingly, the dependent variables of this study would be the COE and COD. In regard to the COE, Botosan & Plumlee (2005) and Botosan et al. (2011) strongly recommended the usage of the PEG model which has been proposed by Easton (2004; 2007) as a proxy for the COE¹². Besides that, Fama & French (1997) had found that the CAPM model and the three factors

¹⁰Therefore the number of observations that is available for COE test are 3620 while the number of observations that is available for COD test are 2973 (after excluding companies with missing values).

¹¹NASDAQ stock market companies (2540 companies).

¹²For more details, see Easton (2004).

model are providing an uncertain estimation with an approximate standard error of 3%. According to Botosan (1997; 2006), Hail (2002) and Botosan & Plumlee (2002) the CAPM model ignores the investors' predictions uncertainty as well as the disclosure's effect on COE – which is the main concern of this study – as it presumes the Beta to be the only drive for the COE differentiation. Therefore, using the CAPM model (or its derivatives) is not only unsuitable for studying the disclosure's effect on the COE but rather flawed. Notably, the COE data that is provided by the available database (Eikon) is using the Beta in its estimation, therefore using the PEG model as a proxy for measuring COE would require a construction as it is not given by default. According to the PEG model, the COE can be calculated as follows;

$$r_E = \sqrt{\frac{\text{eps}_2 - \text{eps}_1}{P_0}}.$$

Where eps_1 and eps_2 represent the analysts' mean forecast for a firm for one year and two years ahead, while P_0 represents the current stock market price (Francis et al., 2005). The data that is used in the proxy construction has been retrieved from I/B/E/S through DataStream platform.

3.3 Dependent Variable – COD

In regard to the cost of debt, both Izzo & Magnanelli (2012) and Francis et al. (2005) used the debt's interest rate as a proxy that represents the COD¹³, whereas Attig et al. (2013) used the credit rating as a proxy for the COD. Attig et al. (2013) suggest that the credit rating would play an important role in determining the worthiness of debt. Therefore, a higher (better) rating is suggested to lower the cost of capital. Considering credit rating, Attig et al. (2013) use Standard & Poor's credit rating categories and arrange the sample into an ordinal scale. Despite these proxies, this study utilizes the weighted average of the long term interest rate as a proxy for COD which is available through Eikon database for the period 2015 – 2016.

3.4 Independent Variable – CSR

In regard to CSR, prior studies used different CSR measurements. For instance, Attig et al. (2013), Goss & Roberts (2011), Serafeim & Ioannon (2010) and Dhaliwal et al. (2011) used

¹³ Although Izzo & Magnanelli (2012) used the total debt's interest rate (including the short term and long term interest rate) as a proxy that represents the COD. Falck & Heblich (2007), McWilliams & Siegel (2000) and Burke & Logsdon (1996) suggest that, CSR investments aim mainly to improve the future economic performance of the firm (i.e. better future financial performance), therefore requiring a careful long term planning. Consequently, examining CSR effect on COD is supposed to manifest in the long term cost of debt as it reflects its effect on the cost of the future oriented investments. Accordingly, the outcomes of this study support these claims. However, if the total interest rate is used instead – which includes both short term and long term interest rate – the relationship between CSR disclosure and COD loses its significance which also supports the claims of the aforementioned literatures and provides a valid critiques against the usage of the inadequate COD proxy (total debt interest rate).

MSCI ESG STATS – formerly KLD STATS – While, Izzo & Magnanelli (2012), used Dow Jones Sustainability World Index (DJSWI). However, due to data availability, this study uses the CSR information that is provided by Asset4 ESG and available through Eikon database. Considering the analysis, companies that issued a CSR report would be represented by 1 and 0 otherwise. Lastly, this study follows Izzo & Magnanelli (2012) that the disclosure's effect will take place in the following year, therefore this study considers the lagged effect of the CSR disclosure.

3.5 Control Variables – COE

In order to identify the effect of CSR disclosure on COE, a number of variables are used to control for that effect. Following the study of Reverte (2012), market to book value (MB), Beta (BETA) and the firm's size (SIZE) are found to be associated with COE. According to Reverte (2012) as well as Botosan & Plumlee (2005), COE should be negatively associated with the market to book value and size while positively associated with the beta. Furthermore, size has been represented by many proxies, such as; *total assets, market value of equity, total sales, number of employees and market capitalization* (Hail, 2002; Hail & Leuz, 2006). In that regard, this study uses market capitalization to represent the size¹⁴. Besides that, Gebhardt et al. (2001), as well as Gode and Mohanram (2003), found that COE is positively associated with the long term growth. Therefore, the consensus estimation of the long term growth rate that covers a period of five years has been included. The data concerning the aforementioned control variables has been retrieved from Eikon database and its sub-platform DataStream.

3.6 Control Variables – COD

According to Izzo & Magnanelli (2012) as well as Goss & Roberts (2011) profitability is associated negatively with COD. Hence, return on Assets (ROA) is used as a proxy for

¹⁴Although this study uses the raw form of market capitalization as a proxy for size as mentioned, other studies such as Dhaliwal et al. (2011) used the Logarithm of total assets to represent the size of the firm. However, Dhaliwal et al., (2011) does not explain the reasons of using that form of the proxy over the others to represent the firm size. In reference to the form choice of the size proxy (i.e. raw – original – or logarithm), the corporate sustainability literature seems to follow the subjective preferences of the authors without a clear justification. For instance, Blackburn et al. (1994), Dooley & Lerner (1994) used the raw form (i.e. the original form) of numbers of employees while Reimann (1975) used the logarithm form of it to represent the size of the firm. Likewise, Graves & Waddock (1994), Kedia & Kuntz (1981), Marcus & Goodman (1986), McGuire et al. (1988), Pava & Krausz (1995), Trotman & Bradley (1981), Turban & Greening (1997) and Waddock & Graves (1997) used the raw form (i.e. The original form) of total assets while Goodstein (1992) and Dhaliwal et al., (2011) used the logarithm form of total assets to represent the firm's size. Statically, the logarithm form is used instead of the original form in OLS to overcome the data skewedness problem. However, that is not applicable in this study due to nature of the analysis itself (Panel data). In addition, FENG et al. (2014) disapprove the usage of Log transformation of the data and recommended the usage of the modern distribution free methods (e.g. generalized estimating equations – GEE). According to STATA official website XTREG, RE (i.e. random effect estimation's code that is used by STATA application) would represent the same outcomes as GEE only for a balanced data –which is the case of this study's analysis – (“Generalized estimating equations | Stata”, 2017). Altogether, there are no justifications for using the logarithm form for any proxy that is used to represent the firm's size. Moreover, using the logarithm form would hinder the interpretation ability of the relationship between the variables (e.g. the explanatory power of A's effect on B is higher than the one that represents the Log A's effect on B). Aside from that, applying the logarithm form of the size proxy in this study's analysis (e.g. log ASSET or log CAP) would yield an insignificant association between CSR disclosure and COE.

profitability in this study. Besides that, Izzo & Magnanelli (2012) argue that financial leverage (LEV) and Beta (BETA) are found to be positively associated with the COD. Lastly, size¹⁵ (SIZE – as market capitalization) is presumed to be negatively associated with COD. The data concerning the aforementioned control variables has been retrieved from Eikon database and its sub-platform DataStream.

3.7 Model Specification

Based on the data that has been provided in the previous section, the empirical models of this study can be identified as follows;

$$COE_{i,t} = \beta_0 + \beta_1 DISC_{i,t-1} + \beta_2 SIZE_{i,t} + \beta_3 BETA_{i,t} + \beta_4 LTG_{i,t} + \beta_5 MB_{i,t} + \beta_6 IND \quad (1)$$

$$COD_{i,t} = \beta_0 + \beta_1 DISC_{i,t-1} + \beta_2 SIZE_{i,t} + \beta_3 BETA_{i,t} + \beta_4 LEV_{i,t} + \beta_5 ROA_{i,t} + \beta_6 IND \quad (2)$$

As demonstrated in the equations, the models consider the lagged effect of the CSR disclosure on both COE and COD. Besides that, an industry dummy is included (IND) as the default risk may differ between industries. Accordingly, the variables stated in the previous models can be specified as below;

Variable	Measurement	Source	Expected sign
COST OF Equity Model (1)			
COE	Cost of equity based on PEG model	Constructed via I/B/E/S which available through DataStream	
DISC	A dummy is given 1 in case of disclosure	Eikon	(-)
SIZE	Market capitalization	DataStream	(-)
BETA	Represents the market systematic risk	DataStream	(+)
LTG	Median of Long term growth (5 years estimation)	DataStream	(+)
MB	Market to book ratio	DataStream	(-)
IND	A dummy represents the industry group	DataStream	
Cost OF DEBT Model (2)			
COD	Interest rate on debt	DataStream	

¹⁵Size had been presented by many proxies, such as; total assets, market value of equity, total sales, number of employees and market capitalization (Hail, 2002; Hail & Leuz, 2006). In that regard, this study uses market capitalization to represent size. As mentioned earlier using the raw form (the original) would be appropriate for this analysis. In accordance, Izzo & Magnanelli (2012) used market capitalization as a proxy for size in its raw form (the original form).

DISC	A dummy is given 1 in case of disclosure	Eikon	(-)
ROA	Return on assets	DataStream	(-)
SIZE	Market capitalization	DataStream	(-)
BETA	Represent the market systematic risk	DataStream	(+)
LEV	Leverage (total debt/total capital)	DataStream	(+)
IND	A dummy represents the industry group		

In the light of the aforementioned information, the validity and reliability of the provided models and proxies have been grounded. For instance, the PEG model as a proxy for the cost of equity has been regarded by many authors not only as a valid construction but rather superior to the others (Botosan & Plumlee, 2005; Botosan et al. 2011; Easton 2004; 2007). In addition, it has been widely used in many studies, such as; Dhaliwal et al. (2014), de Alencar & Lopes (2008), Reverte (2012), Li (2008) and Francis et al. (2005). Moreover, the interest rate as a proxy for the cost of debt has been used by Izzo & Magnanelli (2012) and Sengupta (1998)¹⁶. Furthermore, this study, as well as Stellner et al. (2015) and Mervelskemper & Streit (2015), uses the CSR information that is provided by Asset4 ESG database¹⁷. Lastly, all models that are used in this study and their relevant control variables follow the studies of Reverte (2012), Izzo & Magnanelli (2012) for the models (1) and (2) respectively. Altogether, the proxies, variables, and models that are used in this study are grounded and can be used further in the analysis.

The following section represents the results in the following order. Firstly, a summary of the descriptive statistics will be provided to give an overview of the variables that are used in the analysis, then all data will be winsorized at level (1: 99) to get rid of the outliers' effect on the sample. Secondly, Pearson correlation matrix is presented to control for multicollinearity and therefore justify the feasibility of using the proposed variables. Lastly, the analysis is conducted using Random effect model – GLS estimation. Choosing the random effect model estimation over the fixed effect model estimation is mainly due to the invariant variables that are used in the analysis (BETA, IND), therefore fixed effect would not be appropriate for this study.

¹⁶However, this study utilizes a different version of the interest rate.

¹⁷However, this study is only interested in the disclosure side of the CSR reporting.

3.8 The Results

The following tables represent the descriptive statistics (Table 1) and Pearson correlation matrix (Table 2) as follows; (Table 2) as follows;

Table 1
Descriptive Statistics

	Count	Mean	SD	Min	Max
DISC	15246	0.1263282	0.3322298	0	1
COE	8010	15.84726	19.80265	0.7719074	797.3628
COD	4667	5.503358	3.077465	0.584	23.904
SIZE	12665	3576465	23300000	11	648000000
BETA	12792	1.036445	1.220982	-17.32	7.96
LTG	4891	15.69023	16.17259	-259.1	312.3
LEV	10407	35.17659	666.3778	-43901.48	27861.29
MB	12147	2.049058	61.76067	-3012.88	4414.82
ROA	13091	-22.47995	248.0899	-20239.48	1204.1
IND	14610	1.710883	1.391494	1	6
N	15246				

Table 1 proposes that the observation numbers differ from one variable to another. Accordingly, the observations will differ between models based on the used observations. In addition, the Minimum and Maximum values of DISC are 0 and 1 as it reflects a dummy variable. Furthermore, the variable IND ranges from 1 to 6, as it reflects a categorical variable (6 categories based on DataStream general industry calcification). The minimum value of the variable SIZE is 11, which reflects a possible outlier¹⁸, therefore winsorize technique would be useful in eliminating that effect. Moreover, Table 2 represents the Pearson correlation matrix between the variables which proposes no collinearity between the variables. In accordance with the literature, Disc has a significant negative association with both COE and COD. BETA and LTG have a significant positive correlation with COE, while SIZE and MB have a significant negative relationship with COE. Likewise, BETA and LEV have a significant positive correlation with COD, while SIZE and ROA have a significant negative relationship with COD. Notably, the outcomes of the correlation matrix are in accordance with the literature which supports the validity and the consistency of the analysis.

Furthermore, the relationship between CSR disclosure and COE will be tested using the model of Reverte (2012). As mentioned earlier, this study constructed/used PEG model as a proxy for COE. On the other hand, the relationship between CSR disclosure and COD is tested using Izzo & Magnanelli (2012) model and uses the weighted average long term interest rate as a proxy for COD. In order to test the relationship between CSR disclosure, COE, and COD, Random effect – GLS regression is used as presented in table 3.

The outcomes represented in Table 3 propose a significant relationship between the COE and all the related variables. There is a significant negative relationship between DISC, size, and MB together with the COE, whereas there is a significant positive relationship between Beta and LTG together with the COE. Besides that, the outcomes of table 3 suggest a significant negative relationship between CSR disclosure and the COD. In accordance with the Izzo & Magnanelli (2012), there is a significant positive relationship between BETA and LEV and the COD, whereas SIZE has a significant negative relationship with the COD. Interestingly, the industry of Banks and Insurance (which is basically responsible for financing the long term debt) has a significant negative association with the COD. Lastly, ROA shows a significant negative relationship with the COD. In short, the analysis outcomes are consistent with the literature in regard to CSR disclosure effect on both COE and COD. The outcomes of the

¹⁸This value had been checked with the help desk of Thomson Reuters (i.e. the provider of EIKON database) as the value differs significantly magnificently from the mean of the sample. However the help desk confirm the legitimacy of the value, therefore it is kept in the sample and treated as an outlier.

analysis represent the significance and identify the direction of the relationship between CSR disclosure and the cost of capital (COE and COD) which is based on the models of Reverte (2012) and Izzo & Magnanelli (2012) and can be summarized in Table 4.

Lastly, a robustness test is performed to check the estimation's reliability using the Breusch Pagan multiplier test. This test is designed to control whether the used estimation (Random effect -GLS) is appropriate or better substituted for the pooled model estimation. In accordance with the performed estimation, the result (not tabulated) suggests that Random effect-GLS estimation is indeed the appropriate one for this study. As mentioned earlier, no tests are needed to choose between the random effect model and fixed effect model (Hausman test) due to the invariant variable that is used in the analysis. In addition, no tests are needed to control for selection bias problems because all firms under NASDAQ have been included without a subjective preference¹⁹. All things considered, the analysis provides a consistent and robust outcome that is grounded in the literature.

¹⁹Exclusion had been only for those with incomplete data.

Table 3
Regression Results

	Cost of Equity	Cost of Debt
DISC	-1.800*** (-4.78)	-0.446** (-2.92)
SIZE	-0.000000158*** (-7.43)	-3.38e-08*** (-4.42)
BETA	1.627*** (4.65)	0.265*** (3.77)
MB	-0.0751*** (-3.77)	- -
LTG	0.0392** (3.11)	- -
IND = INDUSTRIAL	2.712 (1.75)	-0.252 (-0.75)
IND = UTILITY	1.697 (0.68)	-0.565 (-1.06)
IND = TRANSPORTATION	2.159 (0.99)	0.347 (0.69)
IND = BANK	-2.989 (-1.73)	-2.144*** (-5.84)
IND = INSURANCE	-1.317 (-0.50)	-1.308* (-2.21)
LEV	- -	0.0147*** (10.29)
ROA	- -	-0.0168*** (-9.05)
Constant	10.49*** (6.58)	5.529*** (15.99)
Observations	3620	2972

t statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Table 4
Regression Results

	Cost of Equity			Cost of Debt		
	Predicted Sign	Coeffecient Sign	Significance	Predicted Sign	Coeffecient Sign	Significance
DISC	(-)	(-)	***	(-)	(-)	**
SIZE	(-)	(-)	***	(-)	(-)	***
BETA	(+)	(+)	***	(+)	(+)	***
MB	(-)	(-)	***	.	.	.
LTG	(+)	(+)	**	.	.	.
LEV	.	.	.	(+)	(+)	***
ROA	.	.	.	(-)	(-)	***

* p<0.05, ** p<0.01, *** p<0.001

4 Discussion & Conclusion

This chapter discusses the findings of the analysis that is presented in the previous chapter. Therefore it is divided into the following order. Firstly, a summarization of the findings will be presented. Secondly, the hypotheses will be discussed in relation to its related model. Lastly, the relevance – the contribution – of the study is argued and a conclusion is drawn.

The findings of the analysis can be summarized as follows; concerning the model that examines the effect of CSR disclosure on COE. The findings suggest a significant negative association between CSR disclosure (DISC), size (SIZE), market to book ratio (MB) and the COE. However, there is a significant positive association between beta (BETA), long term growth (LTG) and COE.

In respect to the model that examines the effect of CSR disclosure on COD. The findings suggest a significant negative relation between CSR disclosure (DISC), size (SIZE), return on assets (ROA) and the COD. However, there is a significant positive relation between beta (BETA), leverage ratio (LEV) and the COD.

These findings are consistent with the theoretical predictions. For instance, Reverte (2012) suggests that COE associate negatively with market to book ratio (MB) as well as size (Size) while associating positively with beta (Beta). Furthermore, Gebhardt et al. (2001) and Gode and Mohanram (2003) suggested a negative association between long term growth (LTG) and COE. Likewise, Izzo & Magnanelli (2012) has suggested a negative association between return on assets²⁰ (ROA), size (SIZE) and COD. Moreover, Izzo & Magnanelli (2012) suggested a positive association between the financial leverage (LEV), beta (Beta) and the COD.

Concerning the association between the CSR disclosure and the COE, The findings suggest a significant negative relationship between CSR disclosure and the COE. Thus, the first hypothesis is confirmed. This is mainly due to the suggestion that more disclosure would provide more information about the firms' activities, therefore, increase transparency and decrease the uncertainty risk. (Reverte, 2012; Richardson, et al., 1999; El Ghouli et al., 2011; Dhaliwal et al., 2011; Dhaliwal et al., 2014)

In accordance, the findings suggest a significant negative relationship between CSR disclosure and the COD. Therefore, the second hypothesis is confirmed. According to Attig et al.

²⁰As a proxy for profitability.

(2013), more information would be reflected in the trustworthiness of the debt, therefore, reducing the cost of capital. This has been also confirmed by the increasing investments in green projects and sustainability projects. (Scholtens, 2005; Moore & Wüstenhagen, 2004)

It is important to consider that this study has utilized the weighted average long term interest rate as a proxy for the COD, whereas Izzo & Magnanelli (2012) used the total debt interest rate to reflect the COD. This is mainly motivated by the suggestions of Falck & Heblich (2007), McWilliams & Siegel (2000) and Burke & Logsdon (1996)²¹ that firms with CSR disclosure usually acquire finance for long term purposes. Therefore, the effect of CSR long term investments would manifest on the long term cost of debt. A statistical investigation of both assumptions would ensure this suggestion. The analysis that utilizes the weighted average long term interest rate as a proxy outperforms the analysis that utilizes the total debt interest rate as a proxy, in regard to the within, between and overall R-square (see appendix B). All considered, the proxy of weighted average long term interest rate is theoretically and statistically superior to the total interest proxy in studying the effect of CSR disclosure on COD.

The findings of the study suggest several contributions. On a theoretical level, the findings fill the knowledge gap in debt studies. Therefore, provide a better understanding of the relationship between CSR and the COD. Besides that, the findings promote several practical implications. For instance, managers could adopt CSR disclosure in an attempt to reduce cost (including financing cost), improve the firm's image, improve legitimacy, gain a competitive advantage and attract dedicated institutional investors²² (Carroll & Shabana, 2010; Reverte, 2012; Attig et al., 2013; Pava & Krausz, 1996). Furthermore, Analysts/rating agencies interest in the CSR disclosure may increase as a result of using such information for fund allocation purposes. Likewise, investors would use the information that is this provided in the CSR disclosure to reduce the risk of uncertainties (Attig et al., 2013). Realizing the importance of CSR disclosure in reducing the cost of capital, accountants and auditors would have the incentives to provide a high-quality information and disclosures (Scholtens, 2006). Lastly, the government would need to monitor and regulate the disclosed information due to its effect on the market. This would imply helping/rewarding the adequate behavior (e.g. fewer constraints on acquiring finance) and punishing the green washing activities (Reverte, 2012, Dhaliwal et al., 2011; Fombrun, 2005).

²¹More information is provided in the discussion chapter.

²²All these benefits are intertwined and will affect the cost of capital in a direct or indirect manner.

Altogether, the findings convey the effect of CSR disclosure on the cost of capital. Therefore, provide different incentives to different parties to disclose information that reflects their societal behavior.

4.1 Conclusion

This study is driven by the curiosity to understand the effect of CSR disclosure on the cost of capital. Utilizing the concepts of information asymmetry, transparency through the interpretation of agency, legitimacy, and signaling provides the consequential rationale that is needed to understand the effect of CSR disclosure on the cost of capital. In consistency with the literature, the findings suggest a significant negative association between CSR disclosure and the cost of capital (i.e. cost of equity and cost of debt). Therefore, the study contributes to the ongoing debate of CSR by filling the gap in the debt studies. In addition, the findings would increase the interest in CSR disclosure. Accordingly, this study provides the management with the needed rationale for engaging the societal disclosure and behavior.

Nevertheless, this study is subjected to several limitations. The findings are based on the sample from the NASDAQ stock market. Therefore, the findings may differ if applied on a different sample. Besides that, this study used the weighted average long term interest rate as a proxy for the cost of debt. Although justified, the findings may differ with different proxies. In addition, this study utilizes Asset4 ESG data to represent the CSR disclosure. However, different databases may contain different disclosure information (i.e. more or less disclosed companies). Consequently, a careful interpretation of the findings is recommended.

Further research may investigate the effect of the quality and scope of the CSR disclosure on the cost of capital. In addition, more researches are needed in relation to legitimacy theory and CSR. Besides that, future research may need to shift the focus from investigating CSR from the firms' point of view and start to examine its effect on the well-being of the community members who have no direct relation with the business. Lastly, a comparative study between the consequences/effects of voluntary and non-voluntary disclosure (i.e. obligatory) would be beneficial for policy makers.

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Appendix A:

Tactics that are used with the aim of gain, maintain or repair legitimacy

Response/tactic	Sample tactics: oil company involved in a significant oil spill causing environmental damage
A. Avoid	(a) Do not enter public debate on the affects or aftermath of the oil spill; (b) Do not publicise what may be perceived as negative information
B. Attempt to alter social values	Educate the public on the risks associated with transporting oil and the positive uses of oil with respect of standard of living measures
C. Attempt to shape perceptions of the organisation	(a) Reiterate past social and environmental achievements of the company; (b) Indicate the company did not breach any current legislative guidelines for transport oil
D. Conform to conferring publics' values	Announce an immediate inquiry into the cause of the spill and assure the public that any measures necessary to ensure this type of accident does not happen again will be undertaken

Note. Possible response tactics to legitimacy threat. Adapted from "Environmental disclosures in the annual report: Extending the applicability and predictive power of legitimacy theory" by O'Donovan, G, 2002, Accounting, Auditing & Accountability Journal, MCB UP Ltd, 15, 344-371

Appendix B:

Regression analysis of COD model using interest on the long term debt and total interest

Long Term Debt Interest & Total Debt Interest

	LTD	TDI
DISC	-0.446** (-2.92)	-2.585 (-0.12)
SIZE	-3.38e-08*** (-4.42)	-0.000000672 (-0.56)
BETA	0.265*** -3.77	11.54 -0.98
LEV	0.0147*** -10.29	-0.221 (-1.40)
ROA	-0.0168*** (-9.05)	-0.721*** (-3.77)
INDU == INDUSTRIAL	-0.252 (-0.75)	23.36 -0.41
INDU == UTILITY	-0.565 (-1.06)	43.02 -0.45
INDU == TRANSPORTATION	0.347 -0.69	-1.354 (-0.02)
INDU == BANK	-2.144*** (-5.84)	-6.557 (-0.11)
INDU == INSURANCE	-1.308* (-2.21)	-5.755 (-0.06)
Constant	5.529*** -15.99	11.96 -0.21
Observations	2972	6631
R - Sq		
Within	0.0006	0.0002
Between	0.2374	0.0157
Overall	0.177	0.0151

t statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001